

PRODUCT DESCRIPTION

- Single probe designed for sampling and siphoning applications.
- Two (2) Sample Probes can be installed across a pressure drop to create a bypass for a customer sampler or sampling system.

For probe calculation information, please call our Service Department: 281.207.1887

SPECIFICATIONS

Products Sampled

Gases and Liquids Compatible With the Materials of Construction

Materials of Construction

316/316L Stainless Steel

Maximum Allowable Operating Pressure

$\frac{1}{2}$ " MNPT: 7700 psig (530.8 barg)
Others Available

Temperature Range

-50 °F to 300 °F (-45.5 °C to 148.8 °C)

Connections

Pipeline: $\frac{1}{2}$ ", $\frac{3}{4}$ ", 1", or 2" MNPT

Others Available

Outlet: $\frac{1}{4}$ " (Standard), $\frac{3}{8}$ ", $\frac{1}{2}$ ", $\frac{3}{4}$ ", or 1"

Insertion Length

2", 4", 6", 8", 10", or 12"

Others Available

Probe Diameter

$\frac{1}{4}$ ", $\frac{3}{8}$ " (Standard), $\frac{1}{2}$ "

Others Available

Approximate Weight

1 lb (Weight Varies With Insertion Length)

Maintenance Schedule

Maintenance is necessary if a leak occurs at the customer-supplied outlet valve.

Feature

NACE Compliance

Options

45° Beveled Probe Tip

Scooped Probe Tip

Sulfinert®-Treated Sample-Exposed Parts

CE Compliance

CRN Certification

The following procedures have been written for use with standard Welker® parts and equipment. Assemblies that have been modified might have additional requirements and specifications that are not listed in this document.

If you received a damaged SP-1 Sample Probe, please contact a Welker® representative immediately.

For all product inquiries, please contact our Service Department: 281.207.1887



INSTALLATION, OPERATION, AND MAINTENANCE MANUAL

WELKER® SP-1 SAMPLE PROBE

IOM-273 | REV. 0 | 03/07/2025



The installation, operation, and maintenance liability for this equipment becomes that of the purchaser at the time of receipt. Reading the instructions that comprise IOM-273 prior to installation and operation of this equipment is required for a full understanding of its application and performance prior to use.

SP-1: INSTALLATION AND OPERATION

Before You Begin

1. For sampling applications, Welker® recommends that the unit be inserted into the center one-third ($\frac{1}{3}$) of the pipeline in a location where the product is well mixed and will yield an accurate, representative sample.
2. For siphoning applications, Welker® recommends that the unit be inserted into the liquids in the pipeline.
3. For gas sampling and siphoning applications, Welker® recommends installing the unit in the top of the pipeline.
4. For liquid sampling applications, Welker® recommends installing the unit in the side of the pipeline.
5. For liquid sampling applications, locate the unit two to four pipe diameters downstream (2–4D) of an inline static mixer or other flow conditioning system.
6. Handle the SP-1 Sample Probe with care.
7. The customer MUST install a valve to the SP-1 sample outlet (*Figure 1*). This valve will be referred to in this *IOM* as outlet valve A.

Installing and Operating the SP-1 Sample Probe

1. Ensure that customer-supplied outlet valve A is closed.



The pipeline MUST BE depressurized prior to installing and removing the unit.

2. Depressurize the pipeline.
3. Wrap the threads of the SP-1's threaded pipeline connection with PTFE tape. Refer to the proper sealing instructions for the brand used.
4. Install the SP-1 Sample Probe to the mating connection on the pipeline and tighten.
5. Pressurize the pipeline and check for leaks. Repair or replace where necessary.
6. Use appropriately sized tubing to connect from customer-supplied outlet valve A to the customer equipment.
7. Open customer-supplied outlet valve A to begin operation.

Removing the SP-1 Sample Probe

1. Close customer-supplied outlet valve A.

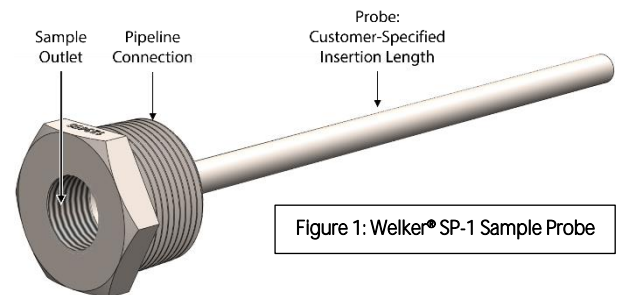


The pipeline MUST BE depressurized prior to installing and removing the unit.

2. Depressurize the pipeline.
3. Disconnect customer equipment from the outlet.
4. Remove the SP-1 Sample Probe from the pipeline.

SP-1: MAINTENANCE

1. Maintenance is necessary if a leak occurs at customer-supplied outlet valve A.
2. All maintenance and cleaning of the unit should be performed on a smooth, clean surface.
3. Prior to performing maintenance, the SP-1 Sample Probe must be removed from the pipeline. See *Removing the SP-1 Sample Probe* for instructions on removing the SP-1 Sample Probe from the pipeline.



Although the SP-1 Sample Probe has no seals, most likely customer-supplied outlet valve A will. Welker® recommends new seals be lightly lubricated to ease their installation and reduce the risk of damage when positioning them. Wipe excess lubricant from the seals because it could adversely affect analytical instrument results.



For sample-exposed seals, Welker® recommends non-hydrocarbon-based lubricants, such as Krytox®. For non-sample-exposed seals, Welker® recommends either non-hydrocarbon-based lubricants or silicone-based lubricants, such as Molykote® 111.

4. Unscrew customer-supplied outlet valve A from the SP-1 sample outlet (*Figure 1*).
5. Debris might have collected in the valve. In addition, the valve O-rings and/or seat might be worn or damaged. To perform maintenance on customer-supplied outlet valve A, refer to the **manufacturer's IOM** for the valve.
6. As necessary, carefully clean the probe.
7. Reinstall customer-supplied outlet valve A to the SP-1 sample outlet.
8. Maintenance is now complete. Reinstall the SP-1 Sample Probe according to the instructions above.

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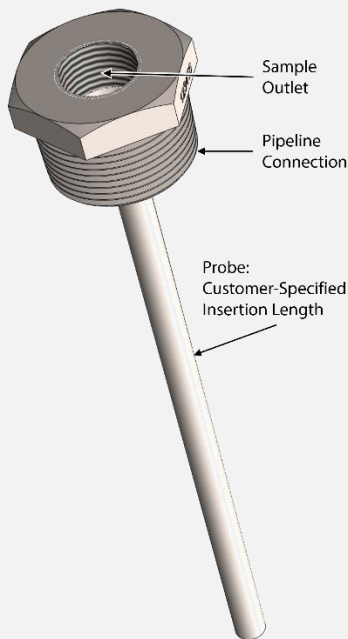
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IMPORTANT SAFETY INSTRUCTIONS WELKER® SP-1 SAMPLE PROBE IOM-273 | REV. 0 | 03/07/2025

BEFORE YOU BEGIN

Read These Instructions Completely and Carefully



NOTES emphasize information and/or provide additional information to assist the user.



CAUTION messages appear before procedures that could result in damage to equipment if not observed.



WARNING messages appear before procedures that could result in personal injury if not observed.

The instructions that comprise IOM-273 are intended to be used as basic setup and installation guidelines for the Welker® Sample Probe, Model SP-1. The information in IOM-273 has been carefully checked for accuracy and is intended to be used as guidelines for the setup and installation of the Welker® equipment described in IOM-273. Correct setup, installation, and operation, however, are the responsibility of the end user. Welker® reserves the right to make changes to IOM-273 and all products in order to improve performance and reliability.

SAVE INSTRUCTIONS

Save these Safety instructions and the instructions that comprise IOM-273 for local inspectors' use.

OBSERVE

Observe all governing codes and ordinances.

NOTE TO INSTALLER

Leave these Safety instructions and the instructions that comprise IOM-273 with the end user.

NOTE TO END USER

Keep these Safety instructions and the instructions that comprise IOM-273 for future reference.

NATURE OF INSTALLATION

Installation of this SP-1 Sample Probe is of a mechanical nature.

INSTALLATION RESPONSIBILITY

Proper installation is the responsibility of the installer. Product failure due to improper installation is not covered under the warranty.

