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 (Standard)
Others Available

Maximum Allowable Operating Pressure
300 Rating Stainless Steel: 720 psig (*49.6 barg*)
Others Available

Temperature Range
-20 °F to 100 °F *(-28.8 °C to 37.7 °C)*

Pipeline Connection
Size: 1" or 2"
Rating: 150, 300, or 600
Facing: RF, RFSF, or RTJ
Others Available

Insertion Length
Customer-Specified

Probe Diameter
$\frac{3}{8}$" (Standard), ½", $\frac{5}{8}$", ¾", 1", 1¼"
Others Available

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

Features
Handle
90° Scoop on Probe Tip

Options
45° Beveled Probe Tip
Flow Arrow Stamped on Handle
Sulfinert®-Treated Sample-Exposed Parts
CE Compliance
NACE Compliance

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-1W 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-1W SAMPLE PROBE
IOM-274 | 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-274 prior to installation and operation of this equipment is required for a full understanding of its application and performance prior to use.

SP-1W: 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. The SP-1W has a wafer-style pipeline connection. Note that the upper mating flange connection MUST have a valve installed. This valve will be referred to in this *IOM* as "customer-supplied outlet valve A."
7. Handle the SP-1W with care.

Installing and Operating the SP-1W Sample Probe

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

1. Depressurize the pipeline.
2. Because the probe tip is scooped or beveled, you will need to determine the direction of product flow in the pipeline and orient the probe according to company policy and procedure. As appropriate, refer to the flow direction stamped on the handle to determine correct orientation.
3. Position an appropriately sized gasket on the mating flange connection.
4. Install the SP-W Sample Probe to the lower mating flange connection.
5. Position an appropriately sized gasket to the top of the SP-W Sample Probe.
6. Install the upper mating flange connection—with the customer-supplied outlet valve A attached AND in the closed position—to the SP-1W Sample Probe.
7. Follow a cross-bolting sequence to install bolts and nuts to the flanges. Tighten all bolts to the appropriate torque.
8. Pressurize the pipeline and check for leaks. Repair or replace as necessary.
9. Use appropriately sized tubing to connect from the customer-supplied outlet valve A to the customer equipment.
10. Open customer-supplied outlet valve A to begin operation.

Removing the SP-1W Sample Probe

1. Close customer-supplied outlet valve A.
2. Depressurize the pipeline.
3. Disconnect customer equipment from outlet valve A.
4. Remove the SP-1W Sample Probe from the pipeline.

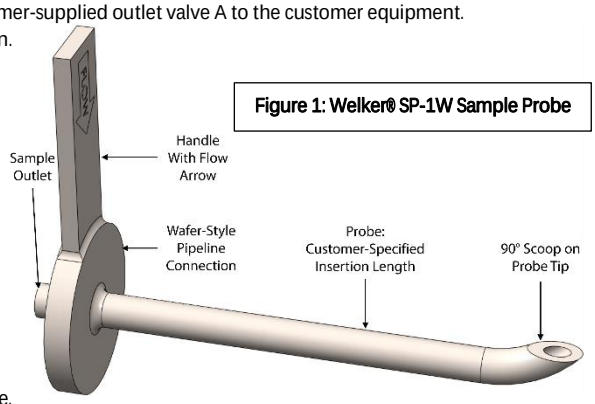

Figure 1: Welker® SP-1W Sample Probe

SP-1W: 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, follow the steps outlined above to remove the SP-1W Sample Probe from the pipeline.

Although the SP-1W contains no seals, customer-supplied outlet valve A does. Welker® recommends new seals be lightly lubricated before being installed 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-1W upper mating flange connection.
5. Debris might have collected in valve A. The valve's O-rings and/or seat might also 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-1W upper mating flange connection.
8. Maintenance is now complete. Reinstall the SP-1W Sample Probe according to the instructions above.

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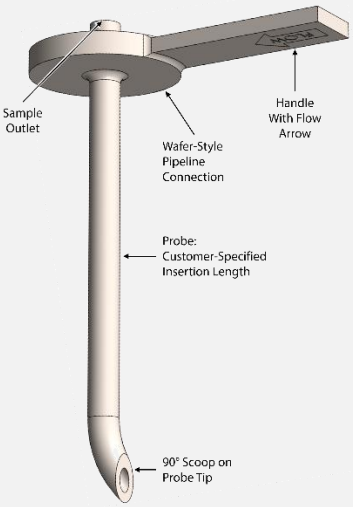
Welker® SP-1W Sample Probe



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

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

IMPORTANT SAFETY INSTRUCTIONS
WELKER® SP-1W SAMPLE PROBE
IOM-274 | 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-274 are intended to be used as basic setup and installation guidelines for the Welker® Sample Probe, Model SP-1W. The information in IOM-274 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-274. Correct setup, installation, and operation, however, are the responsibility of the end user. Welker® reserves the right to make changes to IOM-274 and all products in order to improve performance and reliability.

SAVE INSTRUCTIONS
Save these Safety instructions and the instructions that comprise IOM-274 for local inspectors' use.

OBSERVE
Observe all governing codes and ordinances.

NOTE TO INSTALLER
Leave these Safety instructions and the instructions that comprise IOM-274 with the end user.

NOTE TO END USER
Keep these Safety instructions and the instructions that comprise IOM-274 for future reference.

NATURE OF INSTALLATION
Installation of this SP-1W 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.

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