

## 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

3600 psig (248.2 barg)

### Temperature Range

-20 °F to 120 °F (-28.8 °C to 48.8 °C)

### Connections

**Pipeline:** ½", ¾", 1" MNPT, Blind Flange for 1" MNPT

**Outlet:** ¼" FNPT (Standard)

### Insertion Length

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

Others Available

### Approximate Weight

1 lb (Weight Will Vary With Insertion Length)

### Probe Diameter

¾" (Standard) or 1"

### Maintenance Schedule

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

### Feature

Outlet Ball Valve

### Option

45° Beveled Probe Tip

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-5 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-5 SAMPLE PROBE

IOM-277 | REV. 0 | 03/10/2025



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-277 prior to installation and operation of this equipment is required for a full understanding of its application and performance prior to use.

## SP-5: 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-5 Sample Probe with care.

### Installing and Operating the SP-5 Sample Probe

1. Ensure that outlet valve A is closed (*Figure 1*).



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

2. Depressurize the pipeline.
3. If the probe tip is beveled, determine the direction of product flow in the pipeline. Install the SP-5 Sample Probe with the beveled tip oriented according to company policy and procedure.
4. Wrap the threaded pipeline connection threads with PTFE tape. Refer to the proper sealing instructions for the brand used.
5. Install the SP-5 Sample Probe to the mating connection and tighten.
6. Use appropriately sized tubing to connect from outlet valve A to the customer equipment.
7. Pressurize the pipeline and check for leaks. Repair or replace as necessary.
8. Open outlet valve A to begin operation.



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

### Removing the SP-5 Sample Probe

1. Close outlet valve A.
2. Depressurize the pipeline.
3. Disconnect customer equipment from the outlet.
4. Remove the SP-5 Sample Probe from the pipeline.

## SP-5: MAINTENANCE

1. Maintenance is necessary if a leak occurs at 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 in *Removing the SP-5 Sample Probe* to remove the SP-5 Sample Probe from the pipeline.



Outlet valve A (ball valve) contains seals and seats. Welker® recommends that new seals should 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 outlet valve A (*Figure 1*).
5. Debris might have collected in the valve. In addition, the valve O-rings and/or seats might have become worn or damaged. To perform maintenance on outlet valve A, please refer to **the manufacturer's Installation, Operation, and Maintenance (IOM) Manual**.
6. As necessary, carefully clean the probe.
7. Reinstall outlet valve A to the SP-5 sample outlet (*Figure 1*).
8. Maintenance is now complete. Reinstall the SP-5 Sample Probe according to the instructions above.

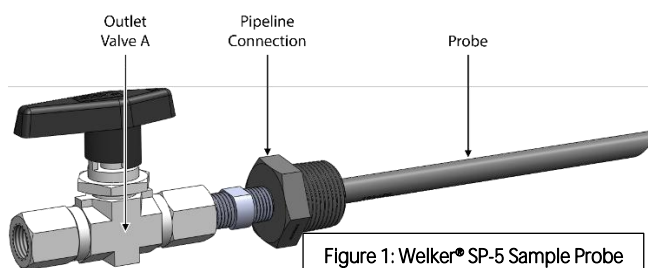


Figure 1: Welker® SP-5 Sample Probe

## PRODUCT DESCRIPTION

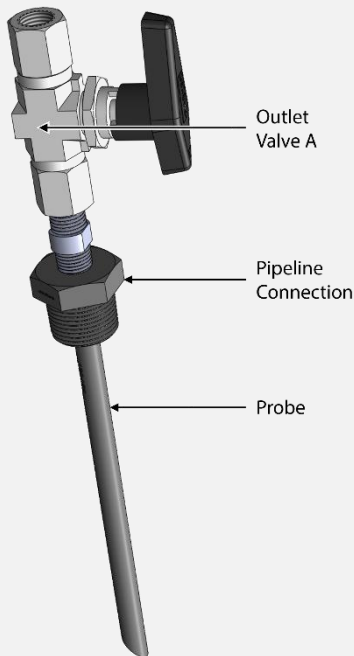
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Welker® SP-5 Sample Probe



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## IMPORTANT SAFETY INSTRUCTIONS WELKER® SP-5 SAMPLE PROBE IOM-277 | REV. 0 | 03/10/2025

## 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-277 are intended to be used as basic setup and installation guidelines for the Welker® Sample Probe, Model SP-5. The information in IOM-277 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-277. Correct setup, installation, and operation, however, are the responsibility of the end user. Welker® reserves the right to make changes to IOM-277 and all products in order to improve performance and reliability.

## SAVE INSTRUCTIONS

Save these Safety instructions and the instructions that comprise IOM-277 for local inspectors' use.

## OBSERVE

Observe all governing codes and ordinances.

## NOTE TO INSTALLER

Leave these Safety instructions and the instructions that comprise IOM-277 with the end user.

## NOTE TO END USER

Keep these Safety instructions and the instructions that comprise IOM-277 for future reference.

## NATURE OF INSTALLATION

Installation of this SP-5 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.

