PRODUCT DESCRIPTION

- Designed to create a product loop from the pipeline, through a connected sampler or sampling system, and back to the pipeline.
- When the PP-2's product outlet and return are connected to a sampler or sampling system, the circulation pump and/or kinetic energy from flow velocity creates a circulation loop, called a "hot loop."
- During operation, product circulates through the hot loop, consistently presenting fresh product to the sampler or sampling system, allowing for collection of representative samples.

SPECIFICATIONS

Products Sampled

Gases and Liquids Compatible With the Materials of Construction

Materials of Construction

316/316L Stainless Steel
Others Available

Maximum Allowable Operating Pressure

3600 psig (*248.21 barg*) @ -20 °F to 120 °F (*-28.8 °C to 48.8 °C*)
Governed by NPT and Valve Rating

Connections

Pipeline: ½", ¾", or 1" MNPT
Product Inlet and Return: ¼" FNPT

Probe Diameter

¼" (Standard)

Approximate Weight

5 lb

Approximate Dimensions

8" x 2" x 11" (L x W x H)
Customer to Specify Probe Length

Features

Ball Valves
Scooped Tip on Inlet Probe

Options

45° Beveled Inlet Probe
Sulfinert®-Treated Sample Exposed Parts
Tungsten Carbide and Sulfinert®-Treated Sample Exposed Parts
CRN Certification
NACE Compliance

Maintenance Alerts

Maintenance is REQUIRED if a leak occurs at one or both valves. All maintenance and cleaning of the PP-2 should be performed on a smooth, clean surface. Welker® recommends having adjustable wrenches available for maintenance. Always handle the PP-2 Pitot Probe with care.

The following procedures have been written for use with standard Welker® parts and equipment. Assemblies that have been modified might have additional requirements

If you received a damaged PP-2 Pitot 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® PP-2 PITOT PROBE
IOM-286 | REV. 0 | 07/16/2025

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-286 prior to installation, operation, and maintenance of this equipment is required for a full understanding of its application and performance prior to use.

PP-2: INSTALLATION AND OPERATION

- Welker® recommends inserting the PP-2 into the center ⅓ of the pipeline, where product is well-mixed and will yield an accurate and representative sample.
- For gas sampling, Welker® recommends installing the PP-2 in the top of the pipe.
- For liquid sampling, Welker® recommends installing the PP-2 in the side of the pipe and locating it 2 to 4 pipe diameters (2–4D) downstream of an inline static mixer or other flow conditioning system.

If applicable, refer to the flow direction stamped on the pipeline connection or handle to determine correct orientation before installing the PP-2 Pitot Probe to the pipeline.

1. The pipeline **MUST BE DEPRESSURIZED** prior to performing maintenance on, installing, and removing the PP-2 Pitot Probe.
2. Ensure product outlet (P_1) valve A and product return (P_2) valve B (*Figure 2*) are closed. As necessary, cut off excess tubing from the probe. Using tubing cutters, remove the excess tubing. Then file and smooth the cut edge of the probe.
3. Determine the direction of product flow in the pipeline. For the PP-2 to function correctly, it MUST BE installed so the scooped or beveled probe tip is open against the direction of product flow.
4. Wrap the threads of the threaded pipeline connection with PTFE tape. Refer to the proper sealing instructions for the brand used.
5. Install the PP-2 to the mating connection on the pipeline and tighten.
6. Pressurize the pipeline and check for leaks.
7. Use appropriately sized tubing to connect from product outlet (P_1) valve A to the customer equipment.
8. Use appropriately sized tubing to connect from the customer equipment to product return (P_2) valve B.
9. Open product outlet (P_1) valve A and product return (P_2) valve B to begin operation.

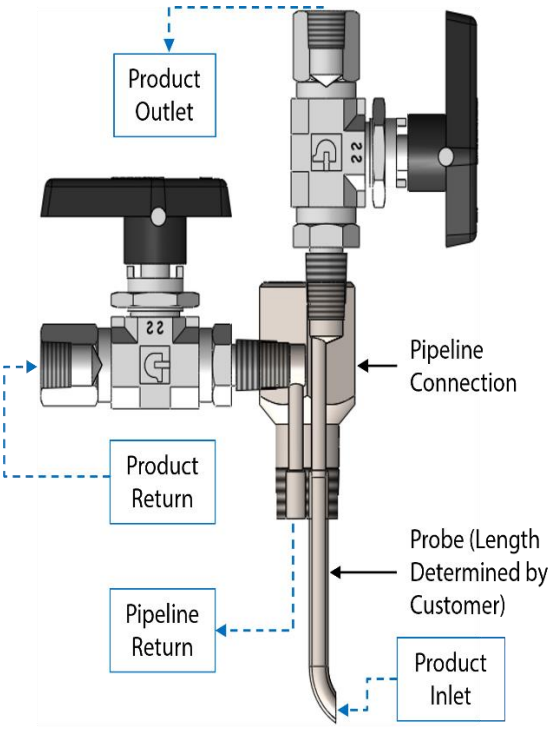

Figure 1: Welker® PP-2 Pitot Probe

PP-2: Removing the Pitot Probe

1. The pipeline **MUST FIRST BE DEPRESSURIZED** before performing maintenance on, installing, and removing the Welker® PP-2 Pitot Probe.
2. Close both product outlet (P_1) valve A and product return (P_2) valve B.
3. Disconnect customer equipment from the outlet and return.
4. Remove the PP-2 Pitot Probe from the pipeline.

- Maintenance is **REQUIRED** when a leak occurs at product outlet (P_1) valve A and/or product return (P_2) valve B.
- Check valves for leaks during reinstallation. Repair or replace as necessary.

The pipeline **MUST FIRST BE DEPRESSURIZED** before performing maintenance on, installing, and removing the PP-2.

PP-2: MAINTENANCE

1. The pipeline **MUST FIRST BE DEPRESSURIZED** before performing maintenance on, installing, and removing the PP-2.
2. Then the PP-2 must be removed from the pipeline. See *Removing the Pitot Probe* above for instructions on removing the PP-2.
1. Unscrew product outlet (P_1) valve A and/or product return (P_2) valve B (*Figure 2*) from the pipeline connection.
2. To perform maintenance on product outlet (P_1) valve A and/or product return (P_2) valve B, refer to the *IOM(s)* for the valve(s).
3. As necessary, clean the probe.
4. Reinstall product outlet (P_1) valve A and/or product return (P_2) valve B to the pipeline connection.

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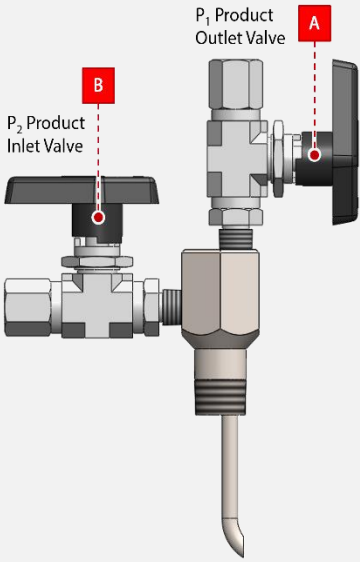
Welker® PP-2 Pitot Probe: Figure 2



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IMPORTANT SAFETY INSTRUCTIONS
WELKER® PP-2 PITOT PROBE
IOM-286 | REV. 0 | 07/16/2025

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.

STOP

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

The instructions that comprise IOM-286 are intended to be used as basic setup and installation guidelines for the Welker® Pitot Probe, Model PP-2. The information in IOM-286 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-286. Correct setup, installation, and operation, however, are the responsibility of the end user. Welker® reserves the right to make changes to IOM-286 and all products in order to improve performance and reliability.

SAVE INSTRUCTIONS

Save these Safety instructions and the instructions that comprise IOM-286 for local inspectors' use.

OBSERVE

Observe all governing codes and ordinances.

NOTE TO INSTALLER

Leave these Safety instructions and the instructions that comprise IOM-286 with the end user.

NOTE TO END USER

Keep these Safety instructions and the instructions that comprise IOM-286 for future reference.

NATURE OF INSTALLATION

Installation of this PP-2 Pitot 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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