PRODUCT DESCRIPTION

- Acts as a final defense that protects analyzers from damage and contamination caused by liquids in gas samples.
- Gas flows freely through the ALS-4 Analyzer Liquid Shutoff. But if liquid tries to pass through, the internal floating ball will seal, thereby shutting off the flow of liquid to the analyzer.

SPECIFICATIONS

Products

Gases Compatible With the Materials of Construction

Materials of Construction

316/316L Stainless Steel, PTFE, FKM (Others Available)

Maximum Allowable Inlet Pressure

2160 psig (*148.9 barg*)

Temperature Range

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

Connections

Inlet: ¼" FNPT or ⅛" FNPT (Standard)
Outlet: ¼" FNPT or ⅛" FNPT (Standard)

Approximate Dimensions

2¼" x 2" x 2" (L x W x H)

Approximate Weight

1½ lb

Maintenance Schedule

Every 12 Months
Severe Service, Dirty Conditions, Excessive Usage: More Frequently

Option

High Capacity

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.

Maintenance Tip

When installing new seals supplied in spare parts kits, 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.

If you received a damaged ALS-4 Analyzer Liquid Shutoff, please contact a Welker® representative immediately.

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

INSTALLATION, OPERATION, AND MAINTENANCE MANUAL
WELKER® ALS-4 ANALYZER LIQUID SHUTOFF
IOM-272 | REV. 0 | 02/10/2025

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-272 prior to installation and operation of this equipment is required for a full understanding of its application and performance prior to use.

ALS-4: INSTALLATION AND OPERATION

Installing and Operating the ALS-4 Analyzer Liquid Shutoff

1. Halt all product flow to the analyzer.
2. Be certain that there is a valve between the ALS-4 and the analyzer and also a valve upstream of the ALS-4.

Upstream and downstream valves are necessary in order to purge the sample line of liquids in the event liquids reach the ALS-4 and shut off flow to the analyzer.

For this manual, the term "purge valve" refers to the valve installed downstream of the ALS-4.
For this manual, the term "purge drain valve" refers to the valve installed upstream of the ALS-4.

3. Connect the product supply to the inlet port of the ALS-4 (*Figure 1*).

The ALS-4 must be installed vertically with the inlet port pointing down..

Welker® recommends installing a Welker® LE-2 Liquid Eliminator upstream of the ALS-4.

4. Connect the outlet of the ALS-4 to the analyzer (*Figure 1*).
5. Purge the sample line prior to beginning operation. See *Purging the Sample Line*, below.
6. After the sample line has been purged, begin product flow to the ALS-4, thereby putting it into service.
7. Whenever liquids reach the ALS-4, it will shut off all flow to the analyzer. Therefore, the sample line must then be purged before flow can be resumed.

Purging the Sample Line

1. Be certain that the purge valve and the purge drain valve are closed.
2. Connect a safe auxiliary pneumatic supply to the purge valve. Welker® recommends using helium as the auxiliary pneumatic supply because helium will purge AND dry the sample line. However, nitrogen or natural gas from the pipeline may also be used.
3. If any sample devices are installed between the ALS-4 and the purge drain valve, make certain that their outlet valves are open. This will allow any liquids present in the ALS-4 to be purged to the drain.
4. Open the outlet valve on the auxiliary pneumatic supply.
5. Open the purge valve. This applies pressure to the ALS-4, and any liquids in the ALS-4 will be forced to the purge drain valve.
6. Open the purge drain valve in order to drain any liquid from the system.
7. When all liquids have been drained from the purge drain valve, close the outlet valve on the pneumatic supply. Then close the purge valve and purge drain valve.
8. Disconnect the auxiliary pneumatic supply from the purge valve.
9. Purging is now complete. The ALS-4 may be returned to operation.

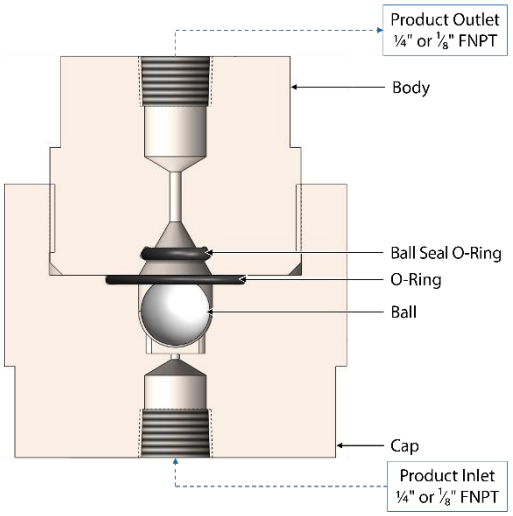

Figure 1: Welker® ALS-4 Analyzer Liquid Shutoff Diagram – Interior View

ALS-4: MAINTENANCE

1. Halt product flow to the ALS-4.
2. Depressurize the ALS-4.
3. Disconnect all tubing from the ALS-4 and remove the ALS-4 from the system.
4. Unscrew the body from the cap (*Figure 1*).
5. Replace the ball seal O-ring (*Figure 1*) in the body.
6. DO NOT lubricate the ball seal O-ring.
7. Replace the O-ring in the cap (*Figure 1*).
8. Inspect the ball for scratches or wear. Replace as necessary.
9. Return the ball to the cap.
10. Return the body to the cap. Tighten firmly.
11. The unit is now ready for reinstallation.

New seals supplied in spare parts kits should be lightly lubricated (for lubricant recommendations, see *Maintenance Tip*) 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.

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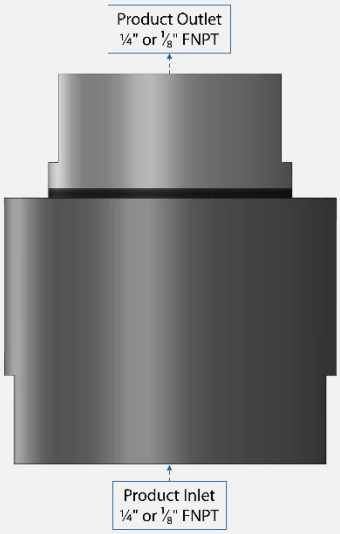
The installation, operation, and maintenance liability for this equipment becomes that of the purchaser at the time of receipt.
Reading the instructions that comprise IOM-272 prior to installation and operation of this equipment is required for a full understanding of its application and performance prior to use.

Welker® ALS-4 Analyzer Liquid Shutoff – Exterior View



If you received a damaged ALS-4 Analyzer Liquid Shutoff, please contact a Welker® representative immediately.

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

IMPORTANT SAFETY INSTRUCTIONS
WELKER® ALS-4 ANALYZER LIQUID SHUTOFF
IOM-272 | REV. 0 | 02/10/2025

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-272 are intended to be used as basic setup and installation guidelines for the Welker® Analyzer Liquid Shutoff, Model ALS-4. The information in IOM-272 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-272. Correct setup, installation, and operation, however, are the responsibility of the end user. Welker® reserves the right to make changes to IOM-272 and all products in order to improve performance and reliability.

SAVE INSTRUCTIONS
Save these Safety instructions and the instructions that comprise IOM-272 for local inspectors' use.

OBSERVE
Observe all governing codes and ordinances.

NOTE TO INSTALLER
Leave these Safety instructions and the instructions that comprise IOM-272 with the end user.

NOTE TO END USER
Keep these Safety instructions and the instructions that comprise IOM-272 for future reference.

NATURE OF INSTALLATION
Installation of this Analyzer Liquid Shutoff 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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