PRODUCT DESCRIPTION

- Designed for use in systems that require filtering of entrained liquids from process gas.
- Maintains steady pressure from the supply source to the unit's connected instrumentation.
- As product enters the device, free liquids are dropped to a float at the bottom of the ALD-1.
- As liquids fill the ALD-1, the float will begin to be buoyed up.
- The float is connected to the dump port and eventually the float's buoyancy will cause the dump port to open, allowing the liquids to be drained.
- The ALD-1 incorporates a coalescing device for product high in aerosols. The device coalesces the aerosols into liquid droplets, which will then drop around the float.

SPECIFICATIONS

Products Sampled

Gases / Liquids

Materials of Construction

Carbon Steel and NBR, PTFE
Others Available

Maximum Allowable Operating Pressure

1500 psig (*103.42 barg*) @ -20 °F to 100 °F (*-28.8 °C to 37.7 °C*)

Connections

Inlet: ¼" FNPT
Outlet: ¼" FNPT
Dump: ¼" FNPT
Drain: ¼" FNPT

Capacity

15 gallons per hour at Atmospheric Pressure
25 gallons per hour Dumping at 500 psig (34.47 barg) to Atmospheric Pressure

Feature

Coalescing Device

Maintenance Schedule

Welker® recommends that the unit have standard maintenance every twelve (12) months under normal operating conditions. In cases of severe service, dirty conditions, excessive usage, or other unique applications that might lead to excess wear on the unit, a more frequent maintenance schedule might be appropriate.

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 not listed in this document.

If you received a damaged ALD-1 Automatic Liquid Dump, please contact a Welker® representative immediately.

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

INSTALLATION, OPERATION, AND MAINTENANCE MANUAL
WELKER® ALD-1 AUTOMATIC LIQUID DUMP
IOM-280 | REV. 0 | 07/31/2025

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-280 prior to installation and operation of this equipment is required for a full understanding of its application and performance prior to use.

ALD-1: INSTALLATION AND OPERATION

When the ALD-1 will be located where ambient temperatures would cause liquids to freeze, pour a light oil into the outlet port of the unit (*Figure 2*) until the oil begins to fall through the dump port. The excess oil will pool at the bottom of the device, and any liquid that collects will almost immediately fall through the oil and out the dump port.

1. Install a valve on the manual drain port at the bottom of the unit (*Figure 2*).
2. Ensure the valve you install is closed.
3. Use tubing to connect the dump port to an atmospheric container or to a safe and environmentally responsible sump location.
4. If it is desired to connect the dump port to the pipeline, this can be done ONLY if pipeline pressure is below the pressure entering the ALD-1.
5. Connect appropriate instrumentation to the unit's outlet port (*Figure 2*).
6. Use tubing to connect the product supply to the unit's inlet port (*Figure 2*).
7. *SLOWLY* open the product supply valve to pressurize the unit. The unit is now in operation.

ALD-1: Disassembly Instructions

1. Turn off product flow to the ALD-1.
2. Depressurize the ALD-1 by opening the valve you installed to the manual drain port.
3. Disconnect and remove the product supply from the device's inlet port (*Figure 2*).
4. Disconnect and remove instrumentation connected to the device.
5. Remove tubing connected to the dump port.
6. Unscrew the base and remove it from the body (*Figure 1*). The float assembly is attached to the base (*Figure 2*).
7. Loosen and remove the jam nut (*Figure 1*) from the top of the unit. With the ALD-1 lying horizontally, gently push out the coalescing device (*Figure 1*) from the inlet port (*Figure 2*). It will fall out of the port. Remove it from the cylinder.

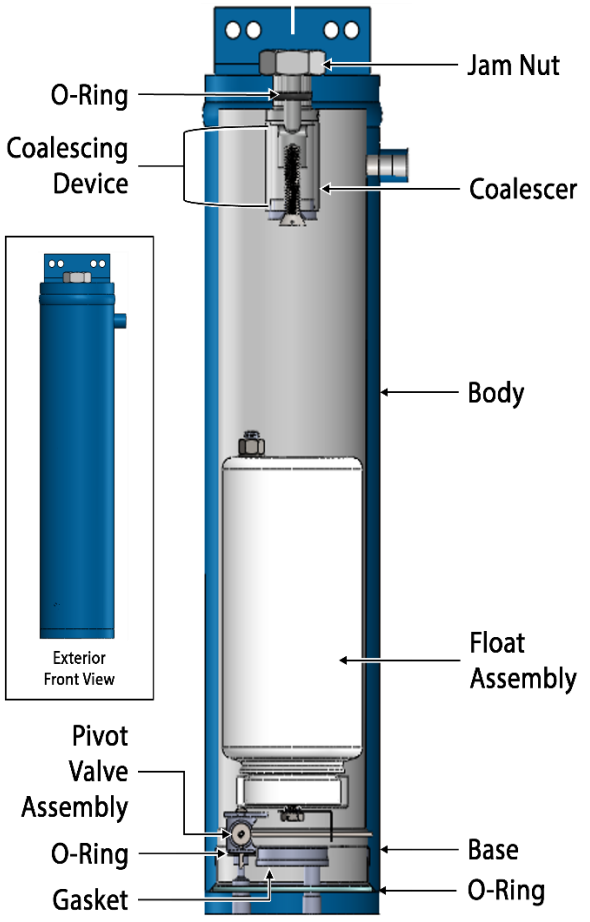

Figure 1: Welker® ALD-1 Automatic Liquid Dump – Interior Front View

ALD-1: MAINTENANCE

1. Replace the O-ring around the coalescing device (*Figure 1* and *Figure 2*).

- The new seals should be lightly lubricated before being installed to ease the seals' installation and reduce the risk of damage when positioning them on parts. Wipe excess lubricant from the seals because it might 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.

2. Replace the coalescer (*Figure 1*).
3. Replace the O-ring on the base.
4. Replace the gasket on the pivot valve assembly (*Figure 1*).
5. Replace the O-ring on the pivot valve assembly (*Figure 1*).
6. Use a socket wrench with an extension to reinsert the coalescing device into the inlet port (*Figure 1* and *Figure 2*).
7. Reattach the base (*Figure 1*).
8. Maintenance is complete. Refer to the *Installation and Operation* section above as needed to put the ALD-1 back in operation.

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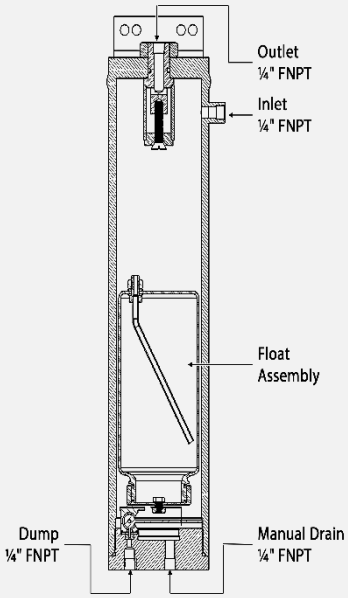
Welker® ALD-1 – Front View: Figure 2



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IMPORTANT SAFETY INSTRUCTIONS
WELKER® ALD-1 AUTOMATIC LIQUID DUMP
IOM-280 | REV. 0 | 07/31/2025

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-280 are intended to be used as basic setup and installation guidelines for the Welker® Automatic Liquid Dump, Model ALD-1. The information in IOM-280 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-280. Correct setup, installation, and operation, however, are the responsibility of the end user. Welker® reserves the right to make changes to IOM-280 and all products in order to improve performance and reliability.

SAVE INSTRUCTIONS

Save these Safety instructions and the instructions that comprise IOM-280 for local inspectors' use.

OBSERVE

Observe all governing codes and ordinances.

NOTE TO INSTALLER

Leave these Safety instructions and the instructions that comprise IOM-280 with the end user.

NOTE TO END USER

Keep these Safety instructions and the instructions that comprise IOM-280 for future reference.

NATURE OF INSTALLATION

Installation of this ALD-1 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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