

## PRODUCT DESCRIPTION

- Designed to protect analyzers from damage and contamination by removing liquids from gas samples.
- As gas enters the LE-2, any free liquids present are separated from the sample stream by centripetal force and a replaceable cartridge assembly. The separated free liquids drain from the LE-2, which allows the dry gas stream to flow to the analyzer.

## SPECIFICATIONS

### Application

Liquid Removal

### Products

Gases Compatible With the Materials of Construction

### Materials of Construction

316/316L Stainless Steel, PEEK, and PTFE (Others Available)

### Maximum Allowable Operating Pressure

1440 psig @ -20 °F to 300 °F (99 barg @ -28 °C to 148 °C)

### Maximum Allowable Outlet Flow Rate

4200 cc per Minute @ 25 psig (1 barg)  
Inlet (Resulting in Approximately 2 psid on Filter Cartridge Assembly)  
11000 cc per Minute @ 740 psig (51 barg)  
Inlet (Resulting in Approximately 2 psid on Filter Cartridge Assembly)

### Connections

Inlet: ¼" FNPT

Outlet: ¼" FNPT

Drain: ¼" FNPT

### Filter Media

25-Micron Copolymer Filter Cartridge Assembly

### Recommended Maintenance Schedule

Standard—every 6 months AND anytime liquid is present at the disposable filter cartridge or the product outlet

### Approximate Dimensions

3½" x 3" x 3¼" (L x W x H)

### Approximate Weight

4 lb

### Features

Mounting Bracket

Replaceable Cartridge Assembly

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 LE-2 Liquid Eliminator, please contact a Welker® representative immediately.

For all product inquiries, please contact our Service Department: 281.207.1879



# INSTALLATION, OPERATION, AND MAINTENANCE MANUAL

## WELKER® LE-2 LIQUID ELIMINATOR

IOM-262 | REV. B | 04/23/2025



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-262 prior to installation and operation of this equipment is required for a full understanding of its application and performance prior to use.



When sealing fittings with PTFE tape, refer to the proper sealing instructions for the brand used.

## LE-2 LIQUID ELIMINATOR: INSTALLATION AND OPERATION

1. Ensure that the cap screws are tightened.
2. Securely mount the LE-2 as close to the sample point as possible.



The LE-2 must be installed such that the liquid drain / gas bypass is pointing downward (*Figure 1*).



Welker® recommends installing a regulator and heater between the sample point and the inlet of the LE-2 and the downstream instrumentation. This is to ensure the gas sample stream is provided at the temperature and pressure required for the instrumentation. A heater is recommended to recover heat lost during regulation. Applying heat helps maintain the gas phase of the sample stream.



DO NOT exceed the maximum allowable flow rate through the replaceable filter cartridge assembly.

5. Using ¼" tubing, connect from the outlet on the customer sample probe to the inlet port of the LE-2 (*Figure 1*).
6. Using ¼" tubing, connect from the outlet port of the LE-2 (*Figure 1*) to the analyzer.
7. Using ¼" tubing, connect a device to the liquid drain / gas bypass port of the LE-2 to continuously vent and drain any liquids separated from the sample stream. This device should be compatible with the maximum allowable operating pressure of the LE-2.



Welker® can install a rotameter with valve to the liquid drain / gas bypass port if requested at the time of order. Welker® recommends installing a Welker® Bypass Recovery System to the liquid drain / gas bypass port.

3. Put the LE-2 into service by beginning product flow.
4. Slightly open the drain valve to allow separated liquids to drain and ensure fresh gas is presented to the analyzer. If liquids are present at the cartridge assembly or at the product outlet, the cartridge assembly must be replaced. See *Maintenance*.



To prevent liquid backup inside the LE-2, fluids MUST drain at a minimum of 22 cc per minute. The liquid drain / gas bypass flow rate will vary by application. A minimum of 500 cc per minute is required for proper drainage.

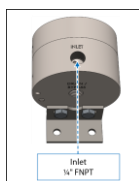
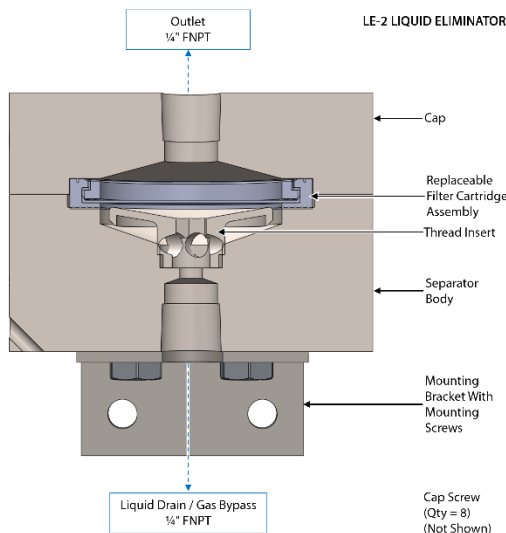


Figure 1: Welker® LE-2 Liquid Eliminator Diagram

## LE-2 LIQUID ELIMINATOR: MAINTENANCE

1. Halt product flow to the LE-2.
2. Depressurize the LE-2.
3. Disconnect all tubing from the LE-2.
4. Unscrew the cap screws from the LE-2.
5. Remove the cap from the separator body.
6. Remove the cartridge assembly from the separator body.
7. Using a solvent—such as rubbing alcohol, that does not leave a film and will not affect analytical results—and clean rags, carefully wipe the inside of the separator body and porting.
8. Install a replacement cartridge assembly to the separator body (*Figure 1* and *Figure 2*). Ensure that the grooved side of the cartridge body faces up to the outlet.
9. Align the screw holes in the cap with the screw holes in the separator body. Then return the cap to the separator body.
10. Following a cross-bolting sequence, install the eight (8) cap screws to the cap of the LE-2. Tighten the screws to 5 ft-lb.
11. The LE-2 is now ready for reinstallation.

HIGH PRESSURE CARTRIDGE ASSEMBLY (WITH SCREEN)



LOW PRESSURE CARTRIDGE ASSEMBLY (WITHOUT SCREEN)

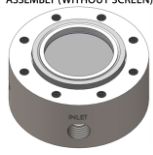


Figure 2: Correct Cartridge Assembly Installation

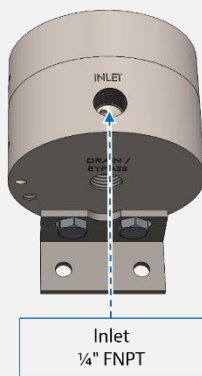
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Welker® LE-2 Liquid Eliminator  
Diagram – External View



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## IMPORTANT SAFETY INSTRUCTIONS WELKER® LE-2 LIQUID ELIMINATOR IOM-262 | REV. B | 04/23/2025

## 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-262 are intended to be used as basic setup and installation guidelines for the Welker® LE-2 Liquid Eliminator. The information in IOM-262 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-262. Correct setup, installation, and operation, however, are the responsibility of the end user. Welker® reserves the right to make changes to IOM-262 and all products in order to improve performance and reliability.

## SAVE INSTRUCTIONS

Save these Safety instructions and the instructions that comprise IOM-262 for local inspectors' use.

## OBSERVE

Observe all governing codes and ordinances.

## NOTE TO INSTALLER

Leave these Safety instructions and the instructions that comprise IOM-262 with the end user.

## NOTE TO END USER

Keep these Safety instructions and the instructions that comprise IOM-262 for future reference.

## NATURE OF INSTALLATION

Installation of this LE-2 Liquid Eliminator 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.

