



Cleaning For Oxygen Service Specification ES-3.41

The purpose of this document is to describe the materials and methods Clippard Instrument Laboratory, Inc. uses to clean EV, ET, and EC valves intended for use in oxygen-enriched environments.

General

- All parts are cleaned, assembled and tested in an enclosed room (“Controlled Area”) that is kept under positive pressure with HEPA filtered air.
- Access to Controlled Area is restricted to trained Clippard personnel.
- Gloves are used to handle all cleaned parts.
- No organic sealants, adhesives or lubricants are used in the manufacture or assembly of these products.
- All assembly tools and test equipment are designed and cleaned to avoid contamination of product.

Cleaning

- All parts are cleaned to normal production standards before being brought into the Controlled Area.
- Parts are ultrasonically cleaned in a hot, dilute solution of oxygen-compatible cleaner in purified water for at least 10 minutes.
- Parts are rinsed in purified water, then dried with heat and/or forced (ambient) air or compressed nitrogen.

Post-Cleaning Inspection

- Cleaned parts are inspected under white and ultraviolet light to insure the absence of particulate and hydrocarbon contamination.
- After inspection, parts are either assembled immediately, or bagged and labeled as “Cleaned for Oxygen service” for later assembly.

Lubrication

- Components are lubricated with oxygen compatible PFPE grease, only as needed for assembly.

Assembly/Testing

- All assembly tools and test equipment are designed and cleaned to avoid contamination of product.
- Assembled valves are tested using compressed nitrogen.

Packaging & Identification

- Finished valves are double bagged in heat sealed polyethylene bags and labeled “Cleaned for Oxygen Service.”

Usage

- Valves should remain in their sealed bags until ready for assembly.
- Care must be taken to avoid contaminating parts during assembly.
- Any lubricants or thread sealants used with this valve must be compatible with oxygen.
- Purchaser is responsible for safely applying these valves in an oxygen environment.
- Clippard reserves the right to change this specification without notice.
- Purchaser assumes complete and total responsibility and liability for any and all penalties, remedies, or any other form of claim arising from the installation and/or use of this product.
- The extent of Clippard’s liability shall not exceed the cost of the actual part and/or part replacement as stated in Clippard’s standard terms and condition of sale.