

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

GENERAL

- Valves are designed with reduced leak paths.
- Parts are cleaned, assembled and tested in an enclosed room (“Controlled Area”) that is kept under positive pressure with HEPA filtered air. (Seals are cleaned and out-gassed in a separate area.)
- Access to Controlled Area is restricted to trained Clippard personnel.
- Gloves are used to handle all cleaned parts.
- 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.
- Seals are cleaned ultrasonically with high purity alcohol, then heated to outgas.
- Non-elastomeric parts are ultrasonically cleaned in a heated aqueous cleaning solution 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 clean for later assembly.

LUBRICATION

- Components are lubricated with isopropyl alcohol, 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.
- Valves are pressure decay leak tested.

PACKAGING & IDENTIFICATION

- Finished valves are double bagged in heat sealed polyethylene bags and labeled “Analytically Clean.”

USAGE NOTES

- Valves should remain in their sealed bags until ready for assembly.
- Care must be taken to avoid contaminating parts during assembly.
- 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.