

Product Application brief

Facts about Oxygen cleaning applications using Kinetic cleaning equipment

Application:

Cleaning of in service airborne Oxygen cylinders and valves after hydrostatic testing and prior to refilling. Oxygen service cleaning is more critical than other cleaning applications. Particles left as a residue may hinder operation of valves, sensors, and controls or otherwise cause excessive friction in moving parts. Friction causes heat and may be a potential ignition source. Another concern is explosion potential. Combustible materials ignite more rapidly in an oxygen rich atmosphere. Particles and residual hydrocarbons have a high potential for explosion in an oxygen atmosphere. Some metals may burn in the presence of an ignition source in an oxygen atmosphere. Cleanliness requirements may differ depending on fixed or moving surfaces coming in contact with oxygen and whether the oxygen is in the form of a liquid or a gas. Oxygen service cleaning is more critical and demands the use of a solvent that is oxygen compatible.

Vapor Degreasing

This method uses the vapors of heated solvent to remove contaminants from intricate, irregular, and hard-to-access locations. Spraying with vapor condensation is also used to further remove contaminants from surfaces. In a typical two-sump degreaser, components are rinsed in pure solvent condensate with ultrasonic energy to remove fine particulate. As the parts equilibrate to the temperature of the solvent vapor, condensation ceases and the parts are clean, dry, and safe to handle. This method typically combines all steps necessary for cleaning, rinsing, and drying.

Vertrel MCA is a low boiling point LOX compatible solvent that leaves no residue.



Flushing

Flushing forces solvent through or upon the surface to be cleaned with a sufficient flow rate to remove residual contamination. This method is typically used as a final rinse, after a preliminary cleaning process and before drying.

Immersion

In this method, components are submerged in solvent for a specified time to dissolve and lift surface contaminants.



Solvent agitation and ultrasonic energy are often used to dislodge particles and break up difficult-to-remove soils.

Kinetic critical cleaning equipment manufactured by Novaline is versatile to be used with all Liquid Oxygen compatible cleaning

solvents and economical to provide affordable state of the art cleaning for valves gauges bottles and components in this most critical of precision cleaning applications.

On Board Solvent Recycling

Kinetic cleaning equipment has unique containment and reclaim abilities which ensure that the fluid which is in contact with the critical O₂ components is continuously 99.9% as pure as when it was first introduced to the equipment.. After all an item cannot be cleaner than the solvent in which it was cleaned. Kinetic cleaning equipment continually out performs all comparable

cleaning equipment with state of the art ultrasonic cleaning and solvent containment together with solvent purity and reclamation in Critical cleaning applications like O₂ components.

