

Hydrogen solution technologies from Sugino

Hydrogen Tank Pressure Test



This system allows the pressure in the tank to pressurize and decrease repeatedly in the maximum condition that is 140MPa and 40s/cycle by water. Rapture test of tank by pressurization up to 380 MPa can be carried out.

Applications :
Pressurization test
Fatigue test
Rapture test of the hydrogen tank, Valve and hose.

Pressure Test Machine (61L/stroke)

Delivery machine for Hydrogen Energy Test and research Center in Japan

Composite Cutting



The water jet by injecting pressurized water through a nozzle can cut many materials such as, metal, resin, rubber, ceramics, and composite materials (such as CFRP, etc.). Processing of complex shapes is also possible.

Applications :
Cutting of electrodes for Fuel Cells.
Cutting of separators for Fuel Cells.
Cutting of Hydrogen Storage Tanks for estimation.

Water Jet Cutter

Component Washing



Water jet technology is applied to washing of various components. It becomes possible to remove burrs, chips, and other unwanted debris by adjusting injection pressure.

Applications :
Deburring of parts.
Washing of separators for Fuel Cells.
Removal of the coating agents.
Washing items for reuse.

Washing and Deburring Machine

Atomization



Objects dispersed in a liquid are pressurized and miniaturized by ejecting through nozzles opposite each other with contamination-free. This increases the specific surface area of the processed objects and improves material properties.

Wet Atomization Machine

Applications :
Atomization of material for electrodes.
High Dispersion of Platinum-carrying-Carbon Catalysts for Polymer Electrolyte Fuel Cells.

Fittings with Perfect Seal



Roller Burnishing Tool creates a mirror-like finish to metallic surfaces by crushing the surface using precision rollers. This tool forms a mirror finish up to Rz 0.1 ~ 0.8 μm making it ideal for seal to couplings and fittings products of low molecular weight, such as hydrogen. Moreover, since the surface is plastically deformed, the wear resistance and fatigue strength are improved.

Roller Burnishing Tool

Application :
Perfect seal for Hydrogen fittings.