

# Cryodynamics<sup>®</sup> Pump and Expander Repairs in Asia Pacific

# Servicing cryogenic pumps and cryogenic liquid expanders to achieve optimum performance

When your Cryodynamics<sup>®</sup> pumps and expanders require repairs, it is imperative that your service center has experienced personnel and proven processes to perform the highest quality and most reliable repairs.

Elliott's Asia Pacific service centers have the required expertise, qualified technicians, effective procedures, and proper tools to repair all of your cryogenic pumps and cryogenic liquid expanders to meet performance requirements.

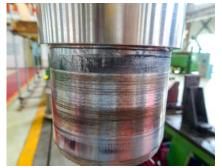
#### **Proven Repair Process**

Prior to any repair, our technicians thoroughly inspect each Cryodynamics pump and expander. The equipment is disassembled, cleaned, and inspected to diagnose any issues and determine the required scope of work. The service center teams routinely perform dimensional inspections, mechanical runouts, and non-destructive tests (NDTs) on specific components. We also complete comprehensive electrical tests on the stator and motor armature, as well as cryogenic temperature inspections on the shaft assembly. This includes growler testing to determine if there is discontinuity of the motor bars.

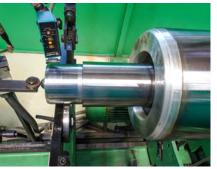
Upon reviewing inspection results, the teams follow our proven processes and procedures to repair the cryogenic equipment. Once complete, the service centers balance the shaft rotor and impellers, reassemble the equipment, record final clearances, purge the unit with nitrogen to prevent moisture from entering the equipment during transportation, and safely package the equipment for final shipment.

Our service center teams are dedicated to completing all repairs as quickly as possible, and will work around the clock when necessary to minimize downtime.

# Shaft Repair - Chrome Plating Repair



Damaged shaft before chrome plating repair.



Shaft after chrome plating repair.



Dynamic balance check

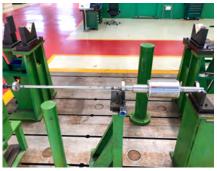
# Shaft Cryo Cycling Process



Shaft cryo cycling process.



Removal of rotor from cryo tank



Shaft total runout check.

### **Replacement of Impeller and Casing Wear Ring**



Replacement of impeller wear ring.

#### Motor and Stator Electrical Test



Replacement of impeller wear ring.



Replacement of casing wear ring.



Motor electrical test.



Probe electrical test.

Stator electrical test.

#### **Highest Quality Standards**

Our service centers uphold the highest quality standards for inspections and repairs. All cryogenic pumps and cryogenic liquid expanders are repaired by qualified mechanics and technicians who have the necessary training and experience to work on your equipment. We use proven repair methods and techniques. We also only use genuine, Elliott-certified parts for all repairs. This provides the added assurance that your equipment was repaired with the most reliable components, and will meet your performance standards.

Turn to Elliott's Asia Pacific service centers for all of your cryogenic pump and expander repairs. We have the right people with the necessary experience and commitment to quality to ensure that your cryogenic pumps and expanders operate at peak performance after your equipment is repaired and returned to your facility.

Contact us today to learn more. Complete our online form to request more information: elliott-turbo.com/aftermarketservices



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