

Service Center Pump Maintenance Programs Result in Less Cost, Less Downtime, and Increased Safety

Maintenance programs at Cryogenic Industries Service Centers have been demonstrated to reduce customers' repair costs as well as improve cryogenic pump reliability. Safety is also maximized by the rigorous quality control and testing performed on each repair.

Different types of programs are available to provide a best "fit" for a customer's maintenance requirements. For example, the Service Centers offer an exchange program with either complete pumps or major subassemblies (warm or cold ends) immediately available on an exchange basis. This exchange program provides a cost-effective, regularly-scheduled standard maintenance, to head off potential problems, disruption of production schedules and possible downtime, and to help extend the life of a pump.

Pump Exchange Program Benefits

- Cost effective
- Less than 24 hour delivery
- Replacement schedules
- Extensive Spare parts inventory
- Service is guaranteed
- Cryogenic equipment repairs
- 90 day warranty on exchanged items



Maintenance contracts (service agreements) are another option offered. These contracts include quarterly reports which provide repair costs and histories, as well as any recommendations of service. Custom programs can be designed to achieve the most flexibility and lowest cost for a given situation.

Regardless of the program chosen by the customer, the Service Centers maintain inventories of parts and assemblies to reduce turnaround time to a minimum.



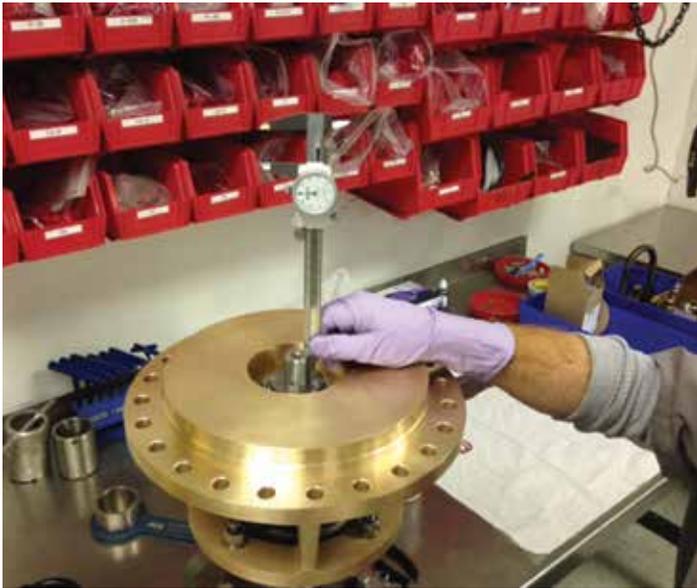
Repair costs are reduced by returning the pump to original factory specifications and performance, then keeping it in that condition in a maintenance program. Not only are the direct repair costs reduced, but indirect costs due to poor pump performance and lack of availability are also significantly reduced.

The Service Centers strive to maintain a consistently high level of quality in all repairs. Quality control measures and tools in place to accomplish this include:

Factory training and support for technicians

- Computer monitors at work stations which display the latest revisions of drawings involved in the repair
- Specialized inspection equipment such as black light (UV) inspection for contaminants in oxygen-cleaned parts and flatness inspection using helium light band technology for verifying flatness of seal mating surfaces to at least 35 millionths (.000035) of an inch
- Specialized cleaning equipment including vapor degreasers and ultrasonic cleaners
- All hand measurement tools (such as micrometers) are calibrated annually
- Completed assemblies are pressure tested for leakage
- Where applicable, seal leakage rates are checked for excessive flow





pump with a bar-coded serial number with which to track the pump. The pump's repair history with costs is then recorded for effective equipment management by the customer.

Service centers are located at the major base of customer locations in key market areas around the globe, allowing us to service our products and our customers on a regional level, rather than from one location. These strategic locations allow us to provide local service, stock inventory specific to the needs of the customers in the region, and to turn around a pump in 24 hours or less. With local facilities your staff can pick up parts, or we can ship them over-night to your facility.

Lastly, on-site training of the customer's maintenance staff can be part of a maintenance program. Training programs can be customer-specific as well as product-specific. Such training enhances site safety and improves productivity.

Customers are also provided with tools to view and compare repair costs and trends. To achieve this, the Service Centers provide each

For further information, visit www.cryoindservice.com.

CRYOGENIC PUMP TRAINING

Our no-charge, two-day pump training workshops are held twice a year at our service facilities.

Offered to managers, engineers and technicians, they are designed to provide the knowledge and experience needed to maximize product performance.

Email Dwayne Ferraro at dferraro@cihouston.com for further information or to register to attend.

2015 TRAINING SCHEDULE

March 24-25	Pittsburgh, PA
April 7-8	Atlanta, GA
April 14-15	Houston, TX
April 21-22	CAL Santa Ana, CA
Sept 1-2	Pittsburgh, PA
Sept 15-16	Atlanta, GA
Sept 22-23	Houston, TX
Oct 6-7	CAL Santa Ana, CA