



The Expert Fit[®]
a SunSource Company



Industrial Repair and Service

Electronic
Mechanical
Fluid Process
Hydraulic



GHXINC.com
713.222.2231

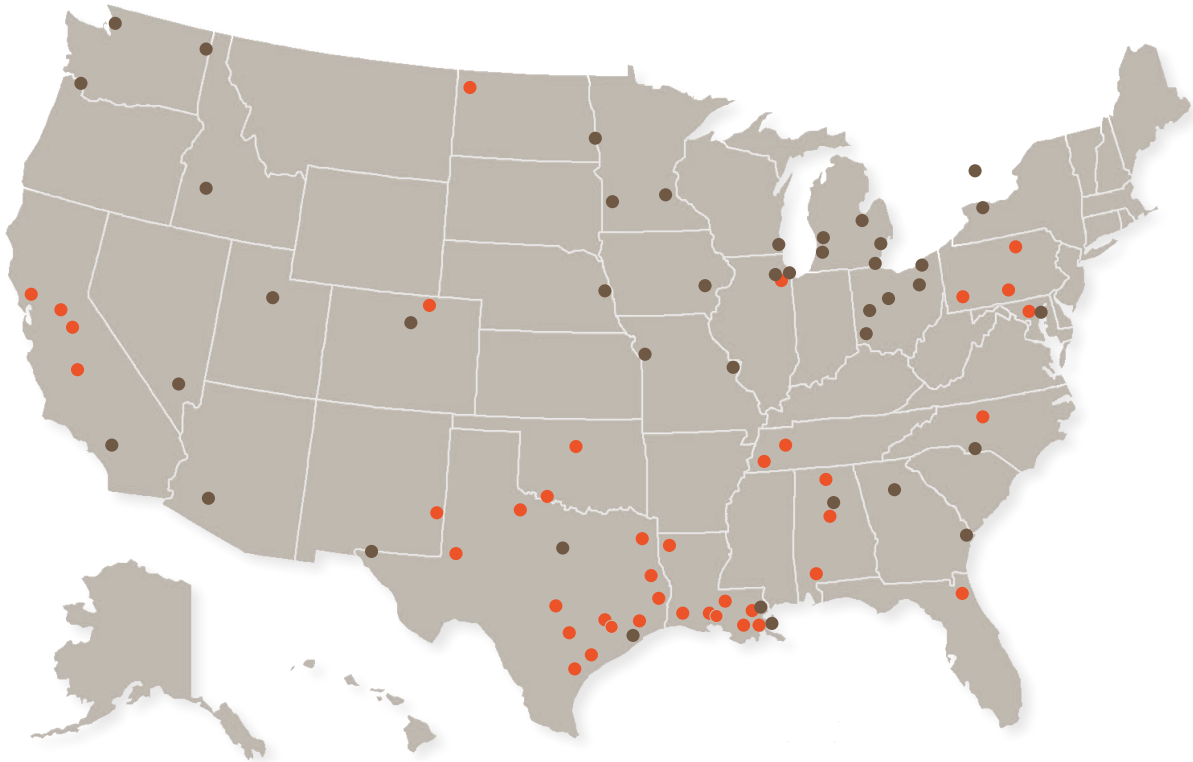
What is the GHX Industrial, LLC Advantage?

It's a group of highly trained associates, backed by industry leading systems and decades of product and application knowledge working for you. As a national distributor with a local presence, **GHX Industrial, LLC** fills a unique position as a full-service resource for you our customer. The GHX Industrial Advantage is not just limited to providing you a broad range of critical fluid handling products from the world-class manufacturers you trust. We provide system-wide solutions for your toughest applications, bringing together products, technical knowledge, and service and support. From assistance in the design phase, through start-up and operation, ongoing maintenance and post-sales support, and now component service and repair, GHX Industrial is your partner and your competitive advantage.

The **GHX Industrial Advantage** is now stronger and better than ever! Our people, systems and capabilities make the difference and will get you the **Right Product** to the **Right Place** at the **Right Time** and at the **Right Price** to keep you running efficiently and trouble-free!

GHX Industrial, LLC - People, Products, and Solutions. When Expertise Counts.

Locations Nationwide



Legend: ● GHX Industrial Locations ● GHX Industrial & SunSource Repair Locations



SunSource Family of Companies

For over 85 years, SunSource has provided quality components, designed and engineered systems, and maintained a high level of customer service to the mobile hydraulic and industrial markets. Like GHX Industrial, SunSource is dedicated to further strengthening our capabilities to serve our customers by providing a broader array of repair services for industrial hydraulics, fluid process equipment and electronic components. Now that GHX Industrial, LLC has joined forces with SunSource, our associates have access to even more wide ranging capabilities than before and we are committed to providing the products, services and support our customers expect, ensuring a long successful relationship.

What is Industrial Service and Repair?

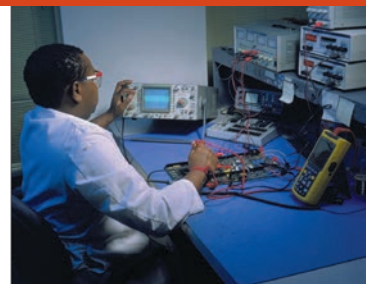
Today's workplace and factories utilize systems that range from simple to highly sophisticated. Hydraulic, electronic, and mechanical systems are everywhere – and they periodically breakdown. When that happens your system can come to a complete halt, costing you precious time and money.

GHX Industrial, LLC and **SunSource** are your answer in these emergency situations by providing quick evaluations and expert repair of a wide range of systems and components. If it's not an emergency, our repair capabilities can keep your spares in like-new condition providing you with an insurance policy against the inevitable.

Each repair can include the following services to ensure a hassle-free, thorough, and complete repair:

- ✓ Free evaluations
- ✓ Experienced factory trained technicians
- ✓ 12 month operational warranty on the entire unit
- ✓ Free pick-up and delivery service in most areas
- ✓ Emergency services available
- ✓ System testing of all repairs (where applicable)
- ✓ Failure Analysis and Test Reporting
- ✓ On-Line order status tracking and reporting
- ✓ Remanufactured and surplus spares available

Using a network of **ISO 9001:2008 certified repair facilities** across the United States, GHX Industrial / SunSource has the facilities and know-how to repair your failed components. You can rest assured that we will complete your repair using factory trained, professional technicians with years of experience and an uncompromising attention to detail. We are so confident in our abilities and our processes, that we provide an industry leading **1 Year Operational Warranty** with every repair. This is just one more piece of the GHX Advantage.



Electronic Repair



• ALLEN BRADLEY • RELIANCE • FANUC
• MODICON • TEXAS INSTRUMENTS

A Drives

Our Electronics Repair Department specializes in industrial drive components and their applications. We have the expertise and equipment to clean, check and dynamically test your component to replicate its malfunction, and the skilled technicians to fix it. Once the unit is approved for completion it is repaired and load tested on one of our custom built test stands to simulate your application under working conditions.

We service all major brands including: Allen Bradley, Reliance, GE, Fanuc, Indramat, Siemens, ABB, Mitsubishi, Yaskawa and many more.



B PLCs

PLCs have become the nerve center of the modern manufacturing facility, and it only takes one board failure to bring production to a halt. GHX not only offers emergency repair service but in many cases we can offer an exchange board for immediate delivery. Whether you have an I/O card, Processor or Power Supply, our standard 3-5 day service covers all **major brands of PLCs including:** Allen Bradley, GE, Modicon, Texas Instruments, Reliance, Mitsubishi, and Siemens.

All PLCs are closed loop, system tested on a matching rack to ensure a quality repair.





• ABB • SIEMENS • YASKAWA • GE
• TOSHIBA • XYCOM

C HMIs, Industrial Computers, & Touch Screens

The convenience of Human Machine Interface control panels has made them indispensable on the plant floor. Unfortunately, they are one of the most fragile components in your entire system. GHX has a staff of trained technicians who will clean, static-check, and test your HMI to evaluate its condition. Upon your approval, we will repair and test your unit. Every HMI repair carries our 1-year operational warranty.



D LCD Upgrades

We offer energy-efficient LCD display upgrades for legacy CRT monitors in your facility.

We provide expert service to the following brands: Allen Bradley, Eaton, Fanuc, Siemens, Toshiba, Xycom and more.



E Encoders

We have experience with over 150 brands of encoders, pulse coders, pulse generators, resolvers and tachometers. We offer complete electrical and mechanical repair on your encoders with all repairs fully tested and guaranteed.



Electronic Repair *cont'd*



F Welders & Weld Controls

Our certified technicians can repair your welder or weld controller and bring your equipment back up to full OEM-specifications. With our load testing capabilities and our attention to detail, we can ensure your unit's peak performance.

We provide expert service to the following welder and weld control brands: Miller, Lincoln, Yaskawa Motoweld, ESAB, Panasonic, OTC Daihen, WTC Weltronic, Dengensha, and Robotron.



G Light Curtains

All light curtains are thoroughly evaluated and rigorously tested by our experienced technicians. After the initial test, every unit is then duration tested for at least 8 hours to verify the proper operation of the unit before it's returned to you.

Common brands include: STI, Sick Optic, Banner, Dolan Jenner, and many more.



H Teach Pendants

When your teach pendants fail, you need them repaired fast so your vital equipment isn't sitting idle any longer than necessary. We system test every teach pendant repair on the matching robotic controller to ensure proper operation. We stock many replacement membranes, E-stops, and displays for prompt service.



ISO 9001-2008 Certified

I Power Supplies







A failure in a power supply can stop an entire line. Rely on GHX to clean, static-check, and load test your power supply. Upon your approval, repair time is usually 10 days or less and emergency service is always available.



J Robotics Repair

GHX Industrial repair has over 20 robotic manipulators and controllers to be able to system test your robotic components. Devices such as teach pendants, servo amplifiers, power supplies, and control boards are closed loop system tested on the exact same type robotic system that you use in your manufacturing process. This allows us to not only verify that the original problem with the unit has been corrected, but to also verify that all other working parameters are correct.

A Sample of the Robots We Service

					
					
ABB S2	Comau C3G	Fanuc RJ	Kawasaki FS Series	Kuka KR 150	Motoman ERC
ABB S3	Comau C5G	Fanuc RJ2	Kawasaki FD Series	Kuka KR 6	Motoman MRC
ABB S4	Comau Smart 3	Fanuc RJ 3	Kawasaki M Series	Kuka KR 15	Motoman XRC
ABB S4C	Comau Smart S2	Fanuc RJ 3iB	Kawasaki UT 150	Kuka KR 30	Motoman NX

Our Robotic Fleet is Dedicated to Test the Following:

- CPU/Power Supplies and I/O Cards
- Servo Drives/Multi Axis Amplifiers
- Servo Motors
- Teach Pendants
- Wrist Assemblies

Mechanical Repair



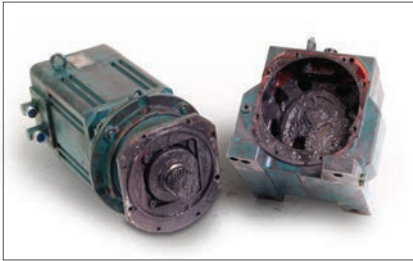
FALK • SEW • ALLEN BRADLEY • YASKAWA
• FOOTE JONES • DODGE

A Gear Boxes

Rely on GHX Industrial when it comes to remanufacturing gear boxes and rotary drives. Our customers have come to expect the same level of quality and service that we have delivered throughout three decades of hydraulic and electronic component repair.

Common manufacturers include: Falk, Rexnord, Flender, SEW, Dodge and many more.

Before



After



C Spindles

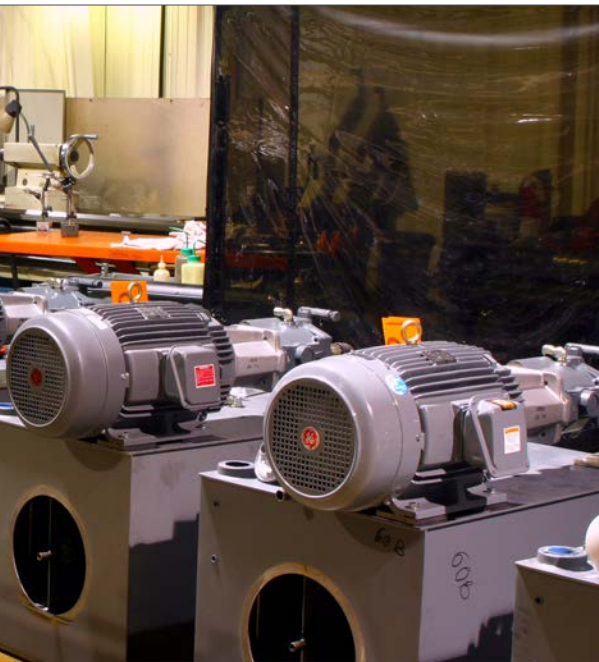


As our reputation for quality and service has grown, so too have our capabilities. We have the equipment to analyze, balance, remanufacture, and test nearly every brand of spindle on the market today.

B MECHANICAL SEALS



GHX has over 40 years experience reconditioning used seals of nearly all manufacturers' makes and models. We will breakdown and quote, at no charge, the complete refurbishment of your seal back to original OEM specs.



- MITSUBISHI • CLEVELAND
- PHILADELPHIA

D Ballscrews

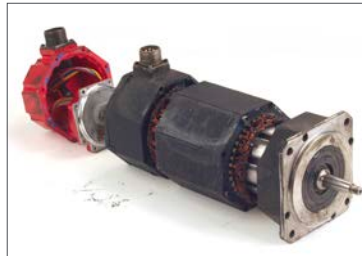
GHX Industrial specializes in remanufacturing precision ballscrew assemblies as well as manufacturing from print or reverse engineering. We will evaluate your ballscrew to identify possible misalignment, excessive load, or heat related issues. We pride ourselves on prompt deliveries, and emergency service is always available to help get your machine back up and running fast!



E Servo Motors

Our Industrial Repair group has been focusing on servo and spindle motor repair as a core competency since day one. Every incoming unit is thoroughly cleaned, inspected, diagnosed, and repaired by skilled technicians. Our in-house machining and rewind capabilities allow us to provide high-quality and fast turn-around, with normal turnaround of 10 days or less on most repairs depending on the failure of the motor. All motors are closed-loop system tested, under load, to meet or exceed OEM specification prior to return and come with a service report letting you know what was repaired and our 1-year operational warranty.

Before



After



F Gear Reducers



We're well-versed in the total repair of all types of gear reducers, gear increasers and power transmissions of every variety, be they helical, spur, worm, planetary, spiral bevel, hypoid gearboxes or traction drives. Our highly trained and experienced technicians can get your product operating back to original OEM specifications fast, reducing your downtime and eliminating the need for costly replacements, regardless of who manufactured it.

Fluid Process Repair

The **GHX Industrial, LLC** and **SunSource** proudly serves the Automotive, Biofuels/Ethanol, CAFO Biogas, Chemical, Industrial, Sanitary, Food & Beverage, Pharmaceutical, Pulp & Paper, OEM, Municipal Water & Wastewater Treatment Markets.

We have several facilities across the US available to service and repair your pump and related equipment. Our repair operations are fully equipped with machinery capable of handling every step of the process, including:

A Fluid Process Pumps

- ANSI Pumps
- Double Suction Pumps
- Multi Stage Pumps

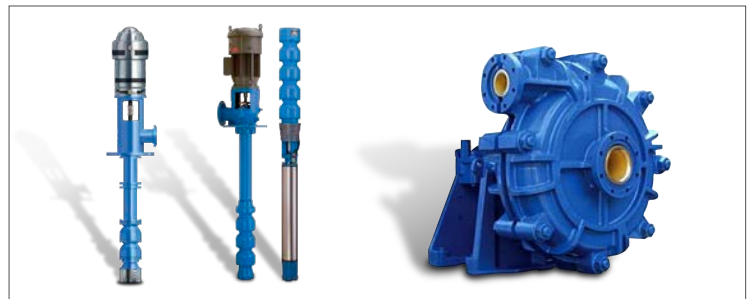


- Complete Refurbishment and Reconditioning
- Machining & Welding
- Dynamic Balancing
- Fabrication & Assembly
- Pump and Motor Alignment
- Part Reproduction for Damaged or Obsolete Part Replacement

• AMPCO • BRINKMANN • FYBROC • IWAKI • IMO
• MOYNO • SULZER • YAMADA • NOV-MISSION
• GARDNER DENVER • NASH • SIEMENS • DRESSER

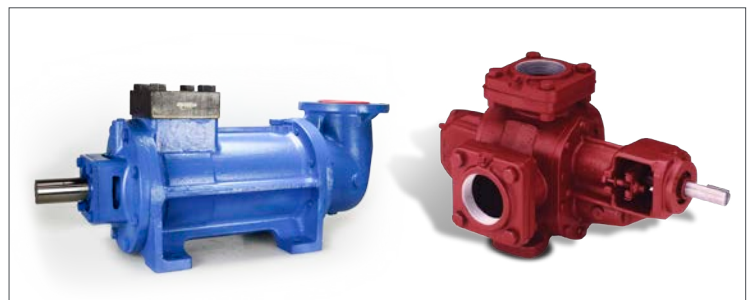
B Vertical & Horizontal Pumps

- High Temp / Hot Oil Pumps
- Boiler Feed Pumps
- Slurry Pumps
- Vertical Turbine Pumps



C Positive Displacement Pumps

- Progressive Cavity Pumps
- Screw Pumps
- Sanitary Pumps
- Paint Pumps

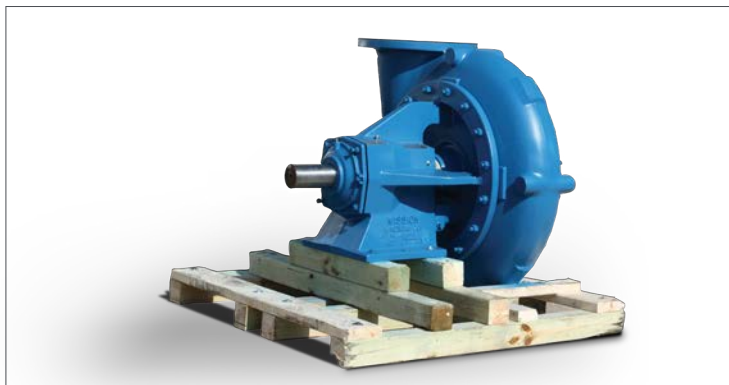


Specializing in repair of: Ampco, ARO, Brinkmann, Dean, Durco, Flowserve, Fybroc, Gorman-Rupp, Goulds, Hydra Cell, Ingersoll Rand, Iwaki, IMO, Knoll, Liestriz, Mono, Moyno, Peerless, Sandpiper, Scott, Sulzer, Tarby, Tuthill, Yamada, Viking, Waukesha, Wilden, and many more.

D Centrifugal Pumps

GHX has the capability to remanufacture your centrifugal pump to a like-new condition – any size, any brand. We offer complete inspection of shaft, frame, bearings, packing, stuff box, impeller, volute, and front cover to ensure a high quality repair.

We service all brands of pumps including: Goulds, Flowserve, Worthington, Ingersoll-Rand, Byron Jackson, Johnson, NOV - Mission, Gardner Denver, Gorman-Rupp, O'Drill-MCM.



E Vacuum Pumps

We understand the value of keeping your equipment running, so when you are having issues with your vacuum pump, you can rely on GHX to service your unit and minimize your downtime. We have expertise with the kinds of vacuum pumps found throughout manufacturing industries including rotary vane, liquid ring, scroll, piston and lobe.

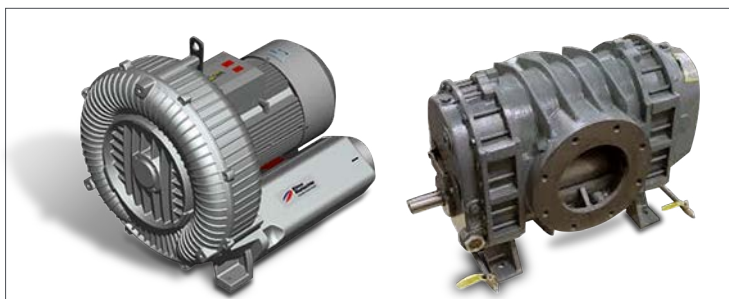
We service all brands of pumps including: Gardner Denver, Nash, BOC Edwards, Kinney, Leybold, Stokes, Varian, Siemens, Somarakis, and many more.



F Blowers

GHX specializes in many types of blower reconditioning, including Positive Displacement, and Centrifugal. We have in-house machining and dynamic balancing equipment to restore peak performance to your unit.

We specialize in the repair of these brands: Roots, Siemens, Dresser, Leybold, and many more.



Machining



Welding



Sand Blasting



Parts Washing



Hydraulic Repair

ISO 9001-2008 Certified

The GHX Industrial, LLC and SunSource team is the most complete and comprehensive hydraulic pump, motor, and cylinder repair organization in the USA.

We have over 35 years experience in the remanufacturing and repairing of hydraulic components from nearly every OEM in business over the last half century. We have developed an in-depth series of procedures to catalog, evaluate, estimate, repair, test and return ship your equipment utilizing the highest quality craftsmanship with the quickest turnaround.



OILGEAR • VICKERS • BOSCH/REXROTH • RACINE
• MILLER • MTS • HYDRO-LINES

Our Process Includes:

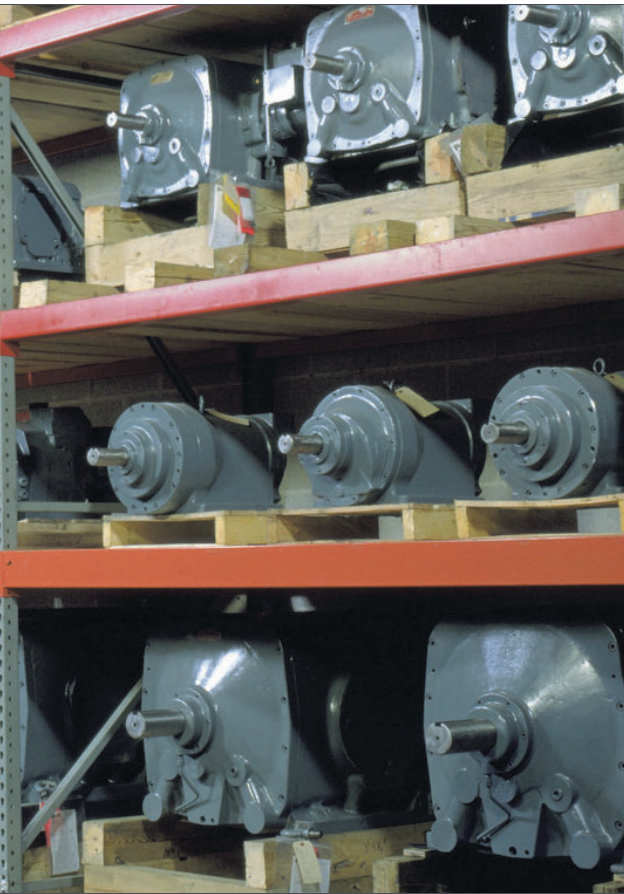
- STEP 1:** Customer's units are assigned a unique job number and all OEM information is recorded.
- STEP 2:** Units are completely torn down by highly trained technicians for evaluation. The hydraulic technicians analyze the components to look for signs of wear, excessive heat, and contamination, in effort to hypothesize how this component failed.
- STEP 3:** Once it has been determined which parts require replacement, the parts are sourced and a quote is generated for the customer. No work is performed until GHX receives approval from the customer.
- STEP 4:** Upon approval, the parts are ordered and the repairs are performed.
- STEP 5:** Unit is tested on our custom hydraulic test stands and the unit's performance is measured against OEM specifications. Units do not pass test if they do not meet OEM tolerances.
- STEP 6:** Unit is securely packaged or banded to a skid for shipment.

All parts and materials guaranteed for one full year after installation. Our workmanship and labor are unconditionally guaranteed.

ISO 9001-2008 Certified

A Pumps & Motors

We service hundreds of hydraulic pumps every week. Every unit is completely disassembled and evaluated so that we can identify possible root causes of failure. Damaged parts are replaced or remanufactured, and the unit is rebuilt. The final product is load tested to confirm that it performs to OEM-specific standards before being painted and packaged for return.

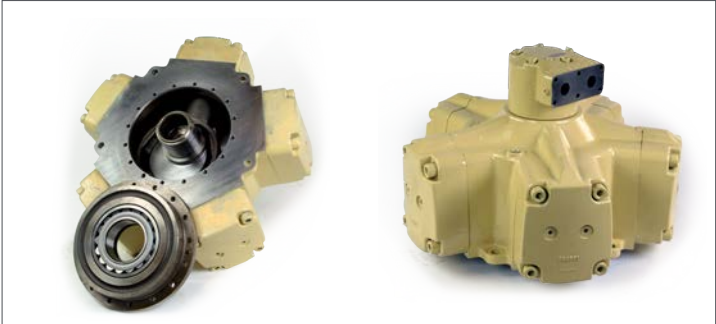
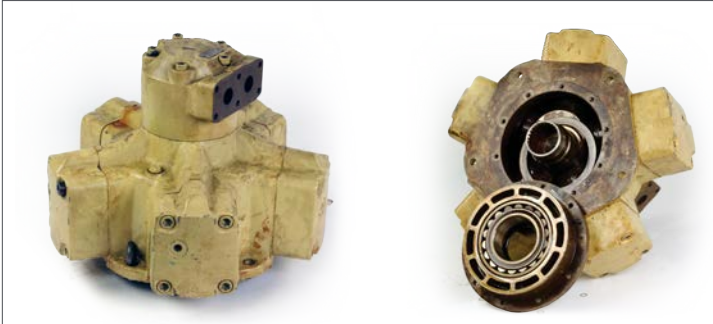
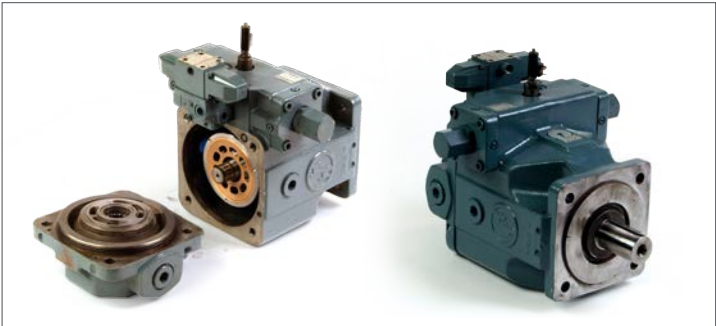


- DENISON • MOOG • PARKER • PEGASUS
- INSTRON • VICKERS TJ



Before

After



Hydraulic Repair *cont'd*



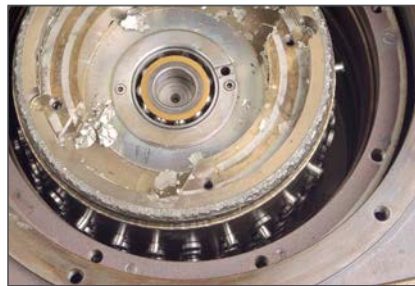
B OilGear Pumps



ONE CALL GETS IT ALL!

Our repair group is widely recognized as the aftermarket leader in Oilgear repairs and exchanges. To meet the needs of our customers, we stock hundreds of rebuilt oilgear pumps. Most of the time we can have a rebuilt Oilgear pump on the way to you in 1-2 days, and all rebuilt exchanges carry a 2-year operational warranty.

Before



After





ISO 9001-2008 Certified

C Valves

GHX Industrial's repair team has been repairing all major brands of servo valves, proportional valves, and directional valves for over **35 years**. Our skilled technicians average over 15 years experience and will thoroughly test, evaluate, and repair your valve to OEM specifications in under 5 working days. If your need is critical, we can offer emergency turnaround. All valves are static and dynamically system tested to ensure a quality repair, complete with our 1-year operational warranty.

— Servo Valves

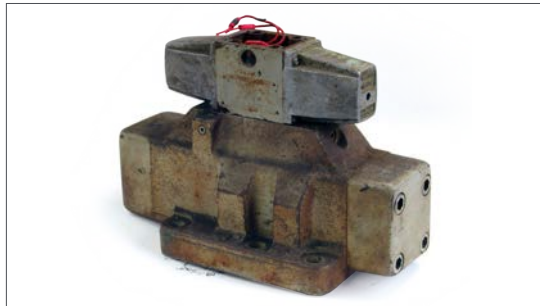
Before



After



— Directional Valves



— Proportional Valves



Hydraulic Repair *cont'd*

D Cylinders/Actuators

GHX Industrial can repair and remanufacture all of your hydraulic cylinders. Our in-house machining department cuts down the lead time of repairs significantly, and allows us to produce parts for your damaged cylinders. We have the capability to manufacture new rods, pistons, bushings, and tubes. Every cylinder we repair leaves our facilities operating like a brand new cylinder.

Our experienced technicians can repair cylinders up to 32 ft. in length and 36 in. diameter, up to 40,000 lbs. in weight. Whether it is repair work or manufacturing a new unit, fast turn around and quality work is our objective for all customers.

All incoming units are thoroughly inspected, cleaned, diagnosed, and repaired by skilled technicians, who average over 20 years of experience. A typical repair of a precision actuator includes such work as grinding and chroming the rod, honing the tube, installing new seals, calibrating the LVDT and testing the actuator with its servo valves.



Before



After



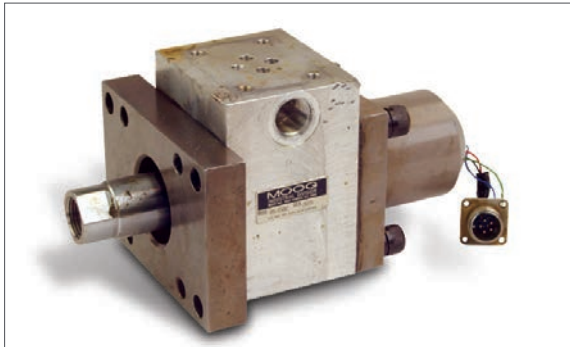
ISO 9001-2008 Certified

E Precision Servo Actuators

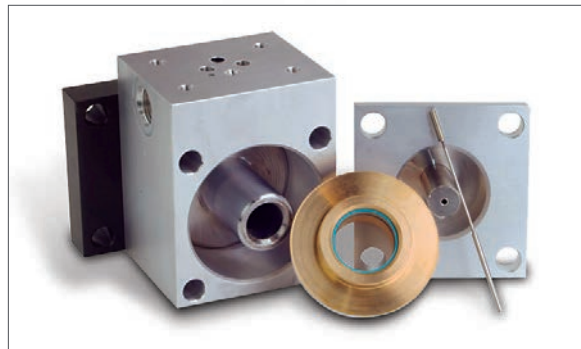
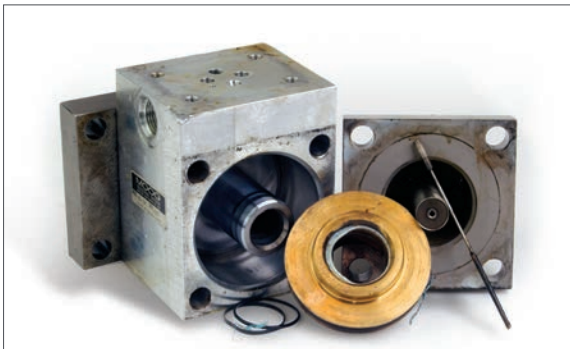
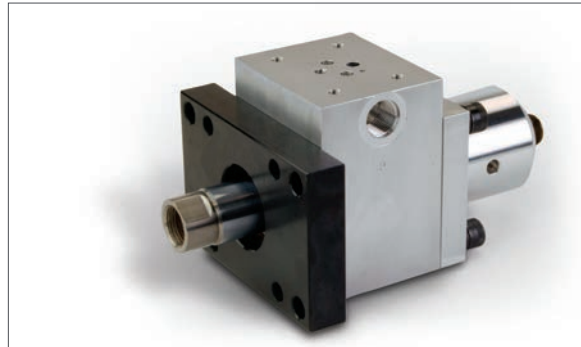
GHX Industrial services all makes and models of rotary and linear precision actuators. We have repaired actuators as small as 2.3 kip and as large as 250 kip for many different applications within the testing industry. All units sent in for repair are thoroughly inspected, cleaned, diagnosed and repaired by skilled technicians. Your unit will be returned in like-new condition. As with every repair at GHX repair, all actuators are returned with our 1-year operational warranty.



Before



After



Electronic, Mechanical, Fluid Process,

Electronic Repair

Drives



PLCs



HMI's, Industrial Computers & Touch Screens



LCD Upgrades



Light Curtains



Teach Pendants



Power Supplies



Robotic Repair



Mechanical Repair

Gear Boxes



Ballscrews



Spindles



Pneumatics & Vacuum



Fluid Process Repair

Fluid Process Pumps



Vertical & Horizontal Pumps



Positive Displacement Pumps



Centrifugal Pumps



Hydraulic Repair

Pumps



Motors



Servo Valves



Directional & Proportional Valves



Also Specializing In :

- Rexroth
- DynaPower
- OilGear
- Denison
- Parker
- Vickers

Hydraulic Repair & Service

Brand Names Include

Encoder



Keeping Industrial America Running!

- | | | |
|--------------------|---------------------|-------------------|
| ABB | Fincor | Modicon |
| Allen Bradley | Fuji Electric | OkumaPacific |
| Baldor | GE | Reliance |
| Baumuller | Giddings & Lewis | Saftronics |
| Compumotor | Inland Motor Drives | Scientific |
| Control Techniques | Kollmorgen | TB Woods |
| Cutler Hammer | Lambda | Telemecanique |
| Dynamic | Lenze | Texas Instruments |
| Emerson | Indramat | Toshiba |
| Eurotherm | Magnetek | Yaskawa |
| Fanuc | Mitsubishi | |

Welders & Weld Controls

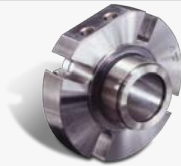


Brand Names Include

Servo Motors



Mechanical Seals



- | | | | |
|------------|----------------|------------|---------------|
| AES | Falk | Mori Seike | Setco |
| Alcatel | Fellows | Nash | Sew-Eurodrive |
| Bryant | Flowserve | Norgen | SMC |
| Chesterton | Gardner-Denver | Numatics | Stokes |
| Cincinnati | Haskel | Oerlikon | Sumitomo |
| Desoutter | John Crane | Okuma | Tol-O-Matic |
| Dodge | Kinney | Rexnold | Toyoda |
| Duplomatic | Leybold | Ross | Varian |
| Edwards | Mazak | SEPCO | |

Brand Names Include

Vacuum Pumps



Blowers



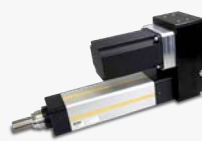
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|---------------|----------------|-----------|-------------|
| Ampco | Gardner Denver | Leybold | Sulzer |
| ARO | Gorman-Rupp | Liestritz | Tarby |
| Brinkmann | Goulds | Mono | Tuthill |
| Byron Jackson | Hydra Cell | Moyno | Viking |
| Dean | IMO | Peerless | Waukesha |
| Dresser | Ingersoll-Rand | Roots | Wilden |
| Durco | Iwaki | Sandpiper | Worthington |
| Flowserve | Johnson | Scott | Yamada |
| Fybroc | Knoll | Siemens | |

Brand Names Include

Cylinders



Actuators



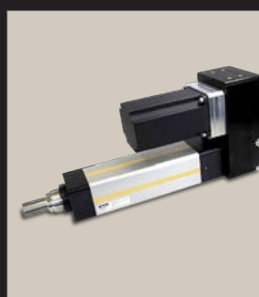
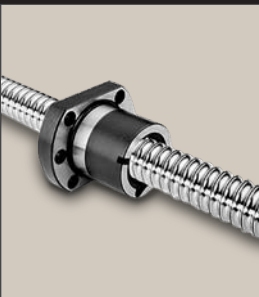
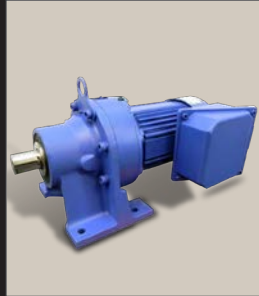
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|------------|--------------|-----------------|-----------------|
| Abex | Dynex Rivett | MTS | Tokimec |
| Atchley | Hagglund | Nachi | Tokyo Precision |
| Bosch | Hanna | Oilgear | Towler |
| Calzoni | HPM | Parker Hannifin | Voith |
| Cincinnati | Hydro-line | Pegasus | Wagner |
| Daikin | Hydura | Racine | Yuken |
| Denison | Milwaukee | Rexroth | |
| Dynapower | Moog | Sumitomo | |

FACTORY AUTHORIZED WARRANTY & REPAIR CENTER FOR:

- Sauer-Danfoss
- Rotary Power
- Permco
- Haldex Barnes
- Vickers
- Linde
- Kawasaki
- Poclairn
- Eaton
- Hartmann
- Staffa
- Fairfield

GHXINC.com
713.222.2231

People,
Products, and
Solutions
when
Fluid Control
Expertise
Counts



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