

## OUR SERVICE & SOLUTION EXPERTS

Caltron is made up of our service and solution experts. Our engineers are available to offer comprehensive, integrated solutions designed to meet the toughest process control challenges.

## EMERSON LIFECYCLE SERVICES

- FM Certification Program of local service centers provides FM compliant repair capability
- Emerson sponsored service center Quality Audits
- ISO 9001 Certified QuickShip Manufacturing for specialty/short lead-time products
- Factory specified and certified NIST traceable calibration/test equipment
- Inline Maching capabilities
- Only utilize OEM parts for repairs
- State-of-the-art Diagnostic tools:
- AMS™ Suite: Intelligent Device Manager
- ValveLink™ Software
- FlowScanner™ 6000/QL2
- Valve Seat Leak Detection
- TREX Handheld Communicators
- Spray Nozzle Tester

## AIR-OPERATED VALVE SERVICES

- Diagnostic Testing: data collection and analysis. Remote monitoring and analysis also available for customers who have implemented Emerson's Valve Asset Monitoring
- Factory Engineering Support with access to OEM drawings
- Tubing and fittings – removal and installation
- Actuator removal and installation
- Actuator Inspections, PM's, and rebuilds
- AOV Accessories: PM's, Troubleshooting, and replacements (Positioner, Trip Valve, I/ P, Regulator, Solenoid, Limit Switches, etc.)
- Calibrate, Bench Set, & Stroke Actuator & Accessories
- Valve and Actuator Troubleshooting & Repair

## REPAIR PROCEDURES

- Our Technicians follow repair procedures that are performed to OEM specifications and Manufacturer's recommendations

## GLOBAL VALVE TRACKER

- Online portal access to asset repair status, documentation, and history

## MOTOR-OPERATED VALVE SERVICES

- Electrical Terminations / Determinations
- Actuator Removal and Installation
- Electric Actuator PM's: external inspection, grease samples, stem lube, switch compartment inspection, mounting bolt torque
- Electric Actuator Rebuilds
- Actuator Accessory PM's
- Install Local Controlling Devices i.e. Dead-Man Switches & Jumpers
- Set-up Operator electrically using M&TE, Limit Switch and Torque Switch adjustments
- Valve and Actuator Troubleshooting & Repair

## PROCESS PRESSURE & SAFETY RELIEF VALVES

- National Board Certified Safety/Relief Valve Repair
- Vacuum Relief Valves
- Natural Gas, Steam, Liquid, Sanitary Regulators
- Tank Blanketing Regulators
- Detonation & Flame Arrestors
- Explosion Vents
- Tank Hatches & Vent Valves
- Rupture Disks

## INSTRUMENT CALIBRATIONS AND VALIDATIONS

- Precise calibration at your local Emerson Service Center or onsite
  - Obtain Calibration Certificates as required by your industry
  - Ensure calibration is consistent with ISO 10474 3.1B or EN 10204 3.1
  - In-house systems are designed to meet the intent of ANSI Z540-
  - 1-1994
  - Receive "as found" inspection and "as left" data results
  - Ensure calibration and validation is consistent with ISO 10474 2.1 or EN 10204.2.1
- Measuring methods and test equipment used in inspection and validation are traceable to NIST

## ASSET OPTIMIZATION PROGRAM

- Storage and inventory management of spare valve and actuator assets

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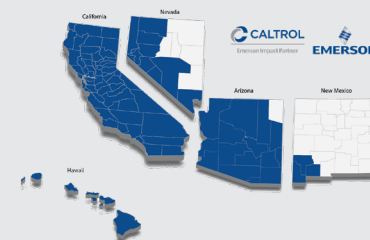
## ACTUATION AND VALVE SERVICES

- Manual and Automated Gate, Globe & Check Valve Repair
- High-Pressure Pressure Seal Valve Repair
- Ball & Butterfly Valve Repair
- Lubricated and Lined Plug Valve Repair
- Check Valve repair and Diagnostic testing
- ASME Section IX Certified Welders
- Post-Weld Heat-Treat Services
- Hydraulic Bolt-Torque Capabilities
- PMI, UT Thickness, and Hardness Testing Capabilities
- Part Fabrication
- Pressure Seal (metal) and gasket fabrication
- Start Up & Commissioning Services

## ENGINEERED SOLUTIONS

- Bad Actor Application Review
- Predictive Maintenance Optimization
- Packing Program Evaluation
- Obsolescence Planning
- Severe Service Review
- System Controllability and Variability reduction services

## SERVING THE SOUTHWEST US & HAWAII



Emerson Lifecycle Service Locations  
Benicia, CA | Paramount CA

## INDUSTRY PRODUCTS & SOLUTIONS

CONTROL & SAFETY SYSTEM SOLUTIONS

MECHANICAL RELIABILITY SOLUTIONS

VALVES & AUTOMATION INSTRUMENTATION

PRESSURE REGULATORS

FLOW & MEASUREMENT SOLUTIONS

WATER & WASTEWATER SOLUTIONS

PROCESS PUMPS & EQUIPMENT

ENGINE & COMPRESSOR CONTROLS:  
(Through SPARTECH, Caltron's Joint Venture with Spartan Controls)

ASSET MANAGEMENT EDUCATIONAL SERVICES

24/7 SERVICE

(877) 827-8131

WWW.CALTRON.COM



Emerson Impact Partner



## Caltron Service & Support Locations

**Corporate Office**  
1385 Pama Lane, Suite 111  
Las Vegas, NV 89119

**Benicia Office**  
531 Getty Ct, Suite A  
Benicia, CA 94510

**Chandler Office**  
2900 S Gilbert Rd #6  
Chandler, AZ 85286

**Santa Fe Springs Office**  
11904 Burke St.  
Santa Fe Springs, CA 90670

**Taft Office**  
801 Black Gold Ct  
Taft, CA 93268

**Irvine Office**  
300 Commerce #100  
Irvine, CA 92602

**Livermore Office**  
2685 Collier Canyon Rd  
Livermore, CA 94551

**Ontario Office**  
1609 S Grove Ave #106  
Irvine, CA 91761

**Hawaii Office**  
94-432 Maikoiko  
Waipahu, HI 967

8AM-5PM M-F AND EMERGENCY 24/7 SUPPORT CALL TOLL FREE (877) 827-8131

## WORLD-CLASS CUSTOMER SERVICE

- Dedicated Repair Coordinators and Repair Sales
- 24/7/365 on-call support
- Multiple service facilities
- Local technicians are immediately available, on short notice, year-round.
- We can provide very fast response times during unplanned events.

## OEM CERTIFIED REPAIRS

- OEM Certified repairs for all Emerson brand valves and actuators
- Fisher, Bettis, Vanessa, Yarway, Clarkson, KTM, K-Lok, Keystone, Sempell, Hancock, Neotecha, Fasani, Raimondi, Rovalve, Morin, A.E. Valves, Biffi, EI
- Anderson Greenwood, Crosby, Enardo, Varec, Penberthy

## FIELD SERVICE TRAILERS

- Dedicated Outage Managers, Repair Coordinators & Service Sales
- 24/7/365 on-call support
- Multiple service facilities
- Local technicians available, on short notice, year-round.
- Fast response times during unplanned events.
- NBIC VR Certified: Technicians can test, repair and re-certify as required using calibrated instruments.
- Full field repair capabilities including valve industry specialized testing and in-line repair equipment, mobile machine shop with lathe, portable lapping equipment, calibration instruments, and maintenance reliability software.
- 45' Gooseneck trailer- full capacity mobile unit with lathe and sandblaster
- 25' trailer- full capacity mobile unit with lathe and sandblaster
- 4- Utility trucks with test stands
- 3 Ton Crane Truck



## OUTCOME-BASED SERVICES

### WHAT IS IT?

- A unique, 7-step outage planning process for scope identification, quoting and execution.
- Accurate health reports of both actuator and valve.
- Focus on which actuators / valves need to be pulled or repaired rather than pulling or repairing all
- Identify parts needed and scope of repairs
- Improved budget and schedule accuracy; scope growth and discovery items are significantly reduced
- Decreased unscheduled, unexpected, and non-budgeted repairs by detecting problem valves prior to failure

### DESIRED OUTCOMES

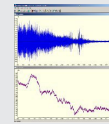
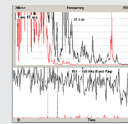
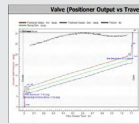
- Predictability – Outage scope, schedule, and budget
- Reliability - Early detection of failures
- Efficiency – Improved asset performance
- Root cause analysis, empirical test data, solutions

### ADDRESS KEY MILESTONES WHEN PREPARING FOR AN OUTAGE

- Work Scope Defined
- Work Package Planning
- Scheduling
- Budget development
- Resource loading

### NON-INTRUSIVE DIAGNOSTIC TEST METHODS:

- Ultrasonic Seat Leak Detection
- AOV Diagnostics
- MOV Diagnostics
- Check Valve Diagnostics
- Relief Valve Set Pressure Verification and Re-certification



## OUTAGE EXCELLENCE PROGRAM

With our time-proven maintenance programs and resources, we can help to implement an outage excellence plan that includes:

### PROJECT MANAGEMENT

- Pre-outage planning for all valve types
- Work-scope scrub
- Work package development
- Schedule Development
- Readiness assessments
- Walk down
- Parts verification
- BOM and Spec Sheet updates
- Risk Assessments and contingency planning
- HIT (High Impact Team) meetings

### OUTAGE EXECUTION

- Field and Shop repairs for all valve types
- Diagnostic Testing
- Status Reporting
- Pre-job briefs
- Turnover
- Behavior Observations
- Condition Reporting
- Schedule adherence
- Schedule optimization

### REPORTING

- Realtime status updates through online portal
- Digital Repair condition reporting with pictures
- Internal QC verification documentation
- Delay reporting to be used for constraint removal
- Real-time Budget Forecasting
- Internal burn-down curve reporting

### INTEGRATED VALVE TEAM WAR ROOM - CONTINUOUS IMPROVEMENT

- Ongoing documentation of lessons learned
- Gap analysis with action plan implementation
- Post-Outage Critiques to capture lessons learned
- Fleet Summit meetings to include all sites/ corporate for information sharing
- Procedure Adherence Program
- Human Performance Improvement Plan

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