

POWER & ENERGY SOLUTIONS



Your Partner in Power and Energy

At Vector Controls and Automation Group, our goal is to forge longterm partnerships where our diverse portfolio can help reduce costs while increasing safety and reliability. Our engineered solutions are driven by innovation and industry knowledge. We continually focus on sustainability and increasing efficiency in the power and energy segments.

We Are The Power Behind The Plant Providing You With

- Wide Portfolio of Solutions to Minimize Unscheduled Downtime
- Process Optimization
- Reduced Maintenance and Operating Costs
- Custom Engineered Solutions

Vector Controls and Automation Group is a leading manufacturing representative, distributor, and valued partner for your power and energy solutions. We look forward to working with you on your next project to solve your most difficult issues.

At Vector Controls and Automation Group We

- Create engineered solutions
- Offer a single source of equipment for customers
- Work and partner with top manufacturers in the industry
- Provide strong technical support, versatile knowledge and integration of many engineering platforms



We have developed four (4) core business units within our organization to better serve our power & energy customers.

Instrumentation and Automation

- Measurement Solutions for Gas, Liquid Flow and Level
- Fire and Gas Detection
- Surge Protection and Wireless Capabilities
- Heat Trace

Service Solutions

- Start-Up, Commissioning and Calibration
- Product and Process Training
- Turnaround Support
- Service and PM Contracts for: Dryers and Compressors, Heat Trace, Valves, Fire and Gas Detection Systems, Liquid and Gas Analytics

Mechanical Solutions

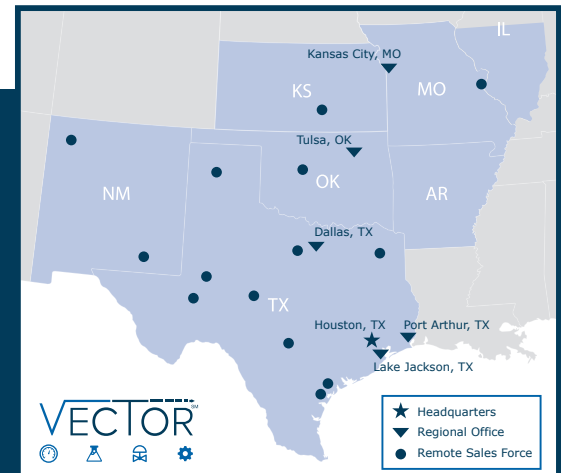
- Valve Automation
- Compressed Air Systems
- Control Valves
- Turbine Bypass Valves

Analytical Solutions

- Combustion Process Analytics
- Pollution Control
- Emissions Monitoring
- Data Acquisition Systems (DAS)

Vector Key Facts

- Main facility in the Houston, TX area includes Sales, Business Development, Customer Service, Administrative and Technical Services
- 6 Regional Centers and over 35 Account Managers throughout the territory
- The PTU (Process Training Unit) located in the Houston, TX area, is a fully functional “mini” process plant providing a unique hands on training experience
- Vector University curriculum offers basic and advanced instrumentation, fire and gas equipment as well as liquid and gas analytics training
- As experts in the industry, Vector Technical Services provides the market with more efficient and timely service results
- Extensive product portfolio offering a single source of equipment and turnkey solutions for customers
- Provides engineered solutions for a variety of industries including Oil & Gas; Chemical & Petrochemical; Water/Wastewater; Food & Beverage and Power & Energy



SERVICE SOLUTIONS

At **Vector CAG** we understand the need for a manufacturing facility to maintain peak production while minimizing down time and unscheduled outages. That's why we offer a large variety of services to help you in an unexpected time of need and be a **Service, Calibration & Training** partner during turn around and planned outages.



Calibration Services

Fast Turnaround Time to Meet Your Requirements

Instruments that are not part of a regular calibration program run the risk of operating out of tolerance. Small deviations can add up to tens of thousands of dollars of losses depending on the materials, throughput and production schedule. Calibration ensures instrument measurement is accurate and within the limits required to produce a quality product. This helps reduce overall business costs by minimizing quality fluctuations and associated costs. For some processes, periodic calibration to NIST standards is a requirement to comply with both quality and safety standards.

For example, a temperature transmitter that indicates 284°F steam temperature when the actual temperature is 286°F can cost a company \$10,000 per year. The 2°F temperature difference would amount to 44 lb. of wasted steam per hour. If the unit operated for 5,000 hours per year, the inaccuracy would cost 44 lb./ hr. x 5000 hr. x \$0.045/ lb. of steam equal to \$10,120 per year.

On-site Calibration Benefits

- Instruments remain at their place of operation – plant availability is increased
- Fast turnaround time! Calibration can include immediate adjustments, repairs, instrument exchanges and other maintenance work – this saves time and money
- Time saving by effective planning! Depending on the plant topology, many measuring points may be calibrated without any interruption of the process in a very brief period of time

Training

Providing Customers With the Knowledge to Keep Their Processes Running Safely, Optimally and Cost Effectively.

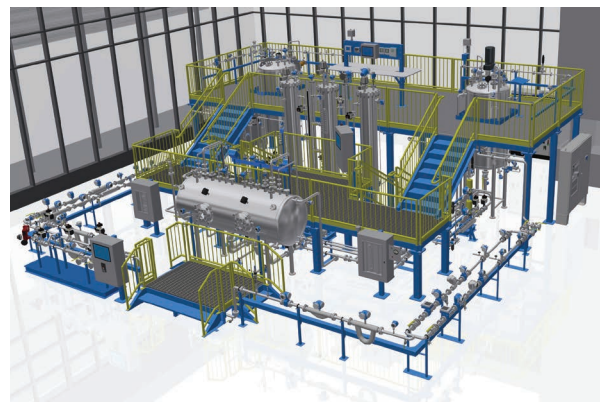


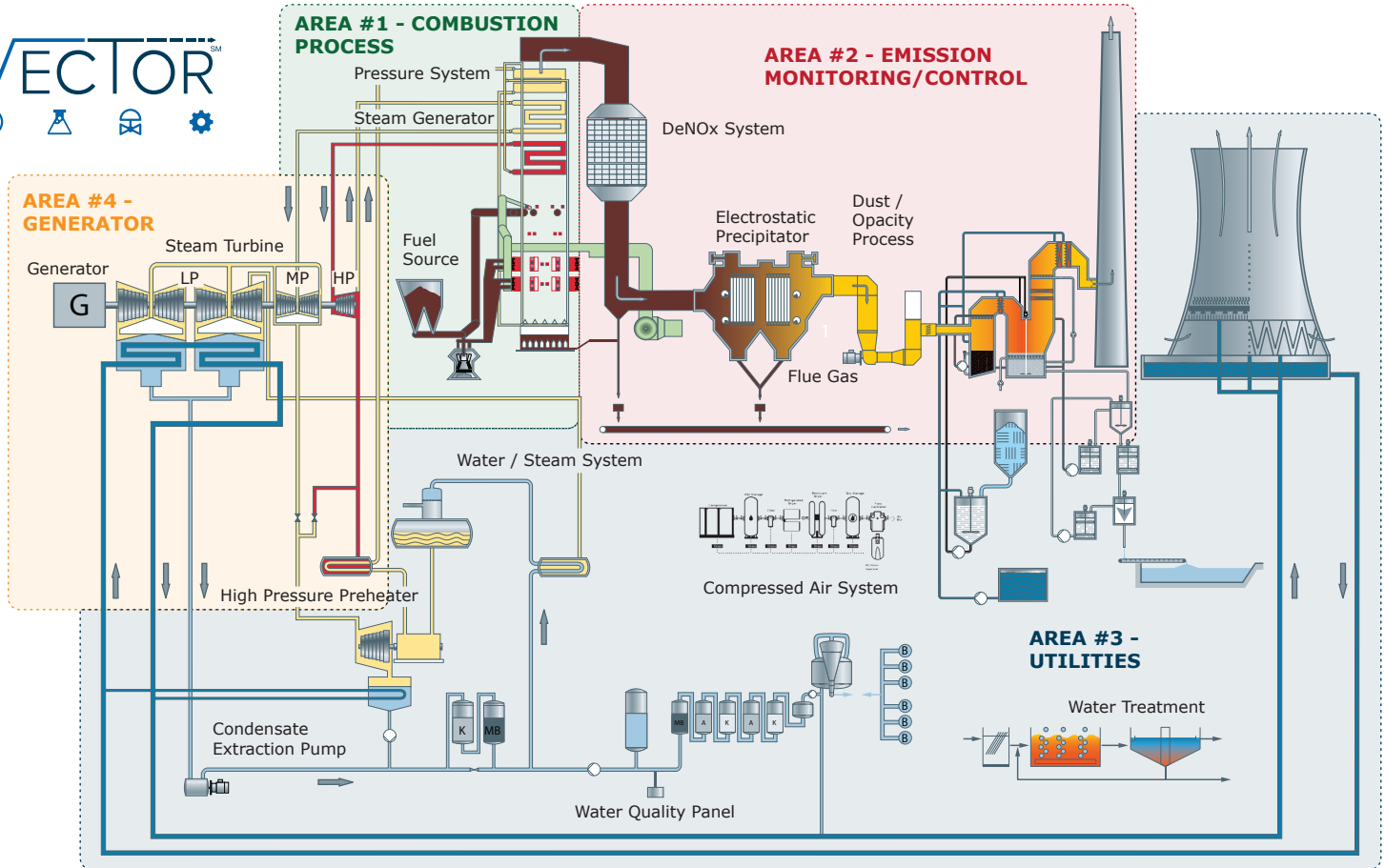
As well as being an on-site service provider, Vector CAG is a premier training provider. Through our training division, Vector University we can provide you a large offering of courses to choose from. Starting with courses like Basic Instrumentation all the way through Advanced Level and Flow. We will also work one on one with you to develop a custom training program. With classes designed specifically to your process.

Some of the Courses We Offer Include:

- Basic Instrumentation
- Introduction to Level
- Introduction to Flow
- Advanced Differential Pressure
- PLC Training
- Fire & Gas Detection
- Analytical, Liquid and Gas

You are invited to visit our website at <https://vectorcag.com/vector-university/> for a current schedule of available course offerings including detailed information on each session, pricing and further information on our trainers.





CAPABILITIES AND SOLUTIONS

AREA #1 - COMBUSTION PROCESS

- Combustion Air
- Flow Monitoring
- Fuel/Air Ratio Control
- Combustion EFG Monitoring
- Visual Combustion Optimization
- Attemperation (Interstage, Final Stage Attemperators)
- Feedwater Regulators
- Pump Recirculation

AREA #2 - EMISSION MONITORING/CONTROL

- Selective Catalytic Convertor Reduction (SCR)
- Dust Opacity
- Continuous Emissions Monitoring Systems (CEMS)
- Vent Valves
- Silencers

AREA #3 - UTILITIES

- Water Treatment
- Steam Quality
- Compressed Air Systems
- Recirculation Valves
- Level Control Valves
- Isolation Valves

AREA #4 - GENERATOR

- Valves
- Hydrogen Purity
- Hydrogen Leak Detection
- Steam Turbine Bypass Valves
- Steam Isolation Valves
- Condenser Dump Devices

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