

## Our Portfolio



## LAKESIDE PROCESS CONTROLS

Lakeside is an employee-owned Canadian company with over 70 years as a process automation industry leader. Since 1952, we have been providing innovative automation solutions with superior customer service and a paramount standard for safety. Lakeside operates as the highest value channel partner for Emerson Automation Solutions' technology. As an Emerson Impact Partner, we take pride in being the exclusive and locally-accessible singular point of contact for leveraging the full breath of Emerson's integrated solutions and expertise across Central-Canada.

We understand that you face constant pressure to cut costs, increase output, reduce energy use, and improve safety and emissions, all with fewer experienced workers than ever before. That is why companies turn to Lakeside for technologies, services and our expertise to solve pressing problems to keep your operations running better, longer, and safer.

### We provide a wide range of industry specific products and services:

#### MEASUREMENT INSTRUMENTATION

The broadest range of measurement and analytical technologies for process clarity and insight.

#### FINAL CONTROL

Reliable final control technologies to help you regulate and isolate your process with certainty.

#### CONTROL & SAFETY SYSTEMS

The systems and tools that provide the decision integrity to run your operation at its full potential.

#### RELIABILITY & ASSET MANAGEMENT

If you know the health of your rotating mechanical assets, you are able to plan for repairs rather than react to unexpected failures.

#### SOLVE & SUPPORT

Expertise and local resources to help you define, implement, and support a strategy to maximize returns from your assets through their lifecycle.

## INDUSTRIES

- Chemical
- Oil & Gas
- Power
- Refining
- Alternative Energy
- Metals & Mining
- Industrial Energy
- Food & Beverage
- Pulp & Paper
- Institutional
- Nuclear
- Water & Wastewater
- Life Sciences & Pharma
- Automotive
- Gas Distribution



## EMERSON PARTNERSHIP

Lakeside's long-standing partnership with Emerson has enabled us to develop an organization that can provide value to our local customers through our people and the power of Emerson's technology – regardless of industry or location. Our long-term collaborative relationship with Emerson certifies Lakeside to deliver the highest level of customer support for our proven solutions, capabilities, local accessibility and consistent engineering practices.

Distinct from traditional manufacturer-to-third-party representative and distributor relationships, Emerson Impact Partners have a tightly integrated culture with Emerson and with each other that ensures consistent engineering practices and services across the Network to provide customers with the broadest, most responsive support organization in the industry. Combining local support with proven processes and technologies from Emerson ensures the appropriate technical resources, methods and best practices are applied to deliver improved and measurable business results for Emerson's customers.

### The Emerson Impact Partner Network Locally-accessible expertise and support wherever you are



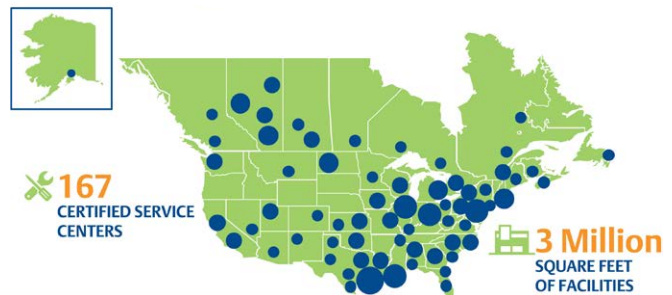
**5,117**  
EMPLOYEES



**2,342**  
SALES PROFESSIONALS



**1,477**  
SYSTEMS ENGINEERING  
& FIELD SERVICE



## TRAINING & SEMINARS

We realize that formal education is just a small part to how adults learn and more importantly how you will retain new information. Studies continually support that if you complement formal training with learning from watching others and by doing, the adoption of new practices significantly increases. Lakeside has industry experts with 20+ years experience.

Hands-on training and experiential learning bring out questions and solidify ideas for students. Lakeside delivers comprehensive, hands-on blended training programs — including on-site instructor led training, eLearning, and more. Hands-on training provides practical application skills with dedicated hardware at regional training centres across Ontario and Manitoba.

### Seminars:

- Control Valve
- Regulator
- Flow
- Reliability
- Temperature
- Liquid Analytical
- Asset Condition Monitoring
- Isolation & Actuation
- Level
- Wireless
- Lubrication Best Practices
- Operational Certainty
- Pressure Protection
- Tank Gauging
- + many more!

### Training:

- DeltaV Implementation
- Process Controls Techniques
- MicroMotion
- Basic Instrumentation for Operations
- AMS Machinery Health
- Ultrasound
- AMS Machinery Health
- Basic Vibration Analysis
- + many more!





# MEASUREMENT INSTRUMENTATION



ROSEMOUNT™ MICRO MOTION™  
MAGTECH™ DANIEL™

Complementary Brands



## PRESSURE

- Gage, Absolute & Differential Transmitters
- Multivariable Transmitters & Flow Meters
- Factory Assembled & Tested Manifolds
- Diaphragm Remote Seals
- Hygienic Sanitary Transmitters

## TEMPERATURE

- Single Point Transmitters
- High Density Multipoint Transmitters
- RTD & Thermocouple Sensors
- Thermowells
- Multipoint & High Temperature Sensors
- Non-Intrusive Sensors
- Hygienic Sanitary Transmitters

## LEVEL

- Differential Pressure Level Transmitters with Diaphragm Seal Systems
- Electronic Remote Sensor (ERS™) System
- Guided Wave Radar Level Transmitters
- Non-Contacting Radar Level Transmitters
- Ultrasonic Point & Continuous Level Transmitters
- Electromechanical Float Level Switches
- Level Transmitters for Solids
- Level & Flow Switches for Solids
- Vibrating Fork Liquid Level Switches
- Magnetic Level Indicators & Magnetostrictive Level Transmitters
- Non-Contacting Radiometric Level Transmitters
- Hygienic Sanitary Transmitters

## FLOW, DENSITY & VISCOSITY

- Differential Pressure Flowmeters
- Magnetic & Ultrasonic Flow Meters
- Standard, Reducer & Multivariable Vortex Flowmeters
- Liquid, Gas & Slurry Coriolis Flow & Density Meters
- Gas Density & Gas Specific Gravity Meters
- Liquid Density & Concentration Meters
- Liquid Viscosity Direct Insertion Meters
- Custody Transfer Approved Flow Meters
- Hygienic & Low Flow Applications
- Non-Contacting Radiometric Density Transmitters
- Non-Contacting Radiometric Bulk Flow Meters

## TANK GAUGING

- Inventory & Custody Transfer Radar Level Gauges
- Multi-Input Temperature Transmitters
- Cool Down & Leak Detection Sensors for use with Cryogenic & LNG Tanks
- Water Level Sensors
- Terminal Automation & Logistics Software

## IIOT & WIRELESS SOLUTIONS

- Predictive Intelligence Monitoring Software
- Corrosion & Erosion Monitoring
- Switch Gear Monitoring Systems
- Acoustic Transmitters (Steam Trap & Relief Valve Monitoring)
- Pressure, Level, Temperature & Flow Transmitters
- Gateways & Adaptors
- Gas Detection Sensors
- Location Awareness - Personnel Tracking



# MEASUREMENT INSTRUMENTATION

## PRESSURE GAUGES & THERMOMETERS

- Pressure Gauges
- Temperature Gauges
- Non-Contacting Thermometers
- Wireless Pressure Gauges

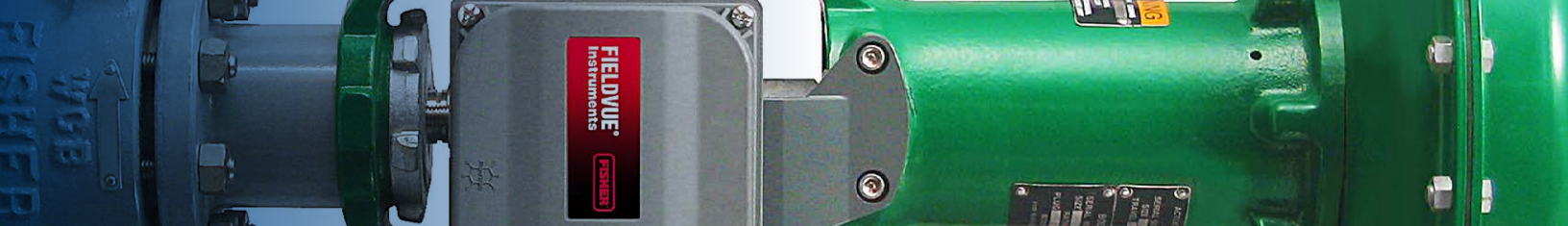
## ANALYTICAL

- Sensors for Continuous Process Monitoring of pH, ORP, Conductivity, Resistivity, Oxygen, Chlorine, Ozone, & Turbidity
- Packaged Gas Leak Detection Systems Solutions
- Combustion Flue Gas Analyzers for In Situ Oxygen, Carbon Monoxide & Opacity Dust Density Applications
- Process Gas Analysis (Oxygen, NDIR, Ultraviolet, Thermal Conductivity)
- Customized & Pre-Engineered Continuous Emissions Monitoring Systems
- NO & NOx Analyzers
- Process Hydrocarbon Analyzers
- Process & Natural Gas Chromatographs
- Hygienic Sanitary Sensors
- Quantum Cascade Laser Based Analyzers for H<sub>2</sub>S & Trace Moisture

## FLAME & GAS

- Combustible Gas Detection
- Toxic Gas Detection
- Flame Detectors
- Wireless & Wired Gas Leak Detectors
- Line-of-Sight Gas Detection
- Open Path Laser Gas Detection for Safety, Environmental or Mobile Monitoring Applications





# FINAL CONTROL



**FISHER™ BETTIS™ ASCO™**  
**ENARDO™ VANESSA™ CLARKSON™ EIM™ TOPWORX™ KEYSTONE™**  
**KUNKLE™ BAUMANN™ BIFFI™ ANDERSON GREENWOOD™**  
**SHAFER™ NEOTECHA™ EL-O-MATIC™ YARWAY™ KTM™**  
**CROSBY™ SEMPELL™ PENBERTHY™ VAREC™** Hancock™ FieldQ™

Complementary Brands



## CONTROL VALVES

### Sliding Stem Valves

- General Service
- Low Flow

### Rotary Valves

- Vee Ball (Segmented Ball)
- Butterfly
- Plug Valves

### Special Applications

- Sanitary Valves
- Severe Service Valves
- Desuperheaters & Steam Conditioning
- Nuclear

### Accessories

- Digital Valve Controllers
- Pneumatic Controllers
- Electro-Pneumatic Positioners

## PRESSURE MANAGEMENT

### Relief Valves

- Direct Spring Relief Valves
- Pilot Relief Valves
- Change Over Devices (Safety Selector Valves)

### Regulators

- Process Pressure Regulators
- Liquids Pressure Regulators
- Steam Pressure Regulators
- Natural Gas Pressure Regulators
- Tank Blanketing Regulators

### Tank Protection

- Pressure/Vacuum Relief Valves
- Tank Vents
- Flame Arrestors

### Steam Traps

- Process Thermodynamic Steam Traps
- Repairable Drip and Tracer Steam Traps
- Process Thermostatic Steam Traps
- Disc Steam Traps
- Drip and Tracer Steam Traps
- Wye Type Strainer

### Rupture Disks

- Rupture Disks & Safety Heads





# FINAL CONTROL

## ISOLATION VALVES

### Butterfly Valves

- Resilient Seated
- High Performance
- Lined

### Triple Offset Valves

### Ball Valves

- Floating
- Trunnion
- Severe Service
- Lined

### Gate, Globe & Check Valves

### Knife Gate Valves

### Fuel Gas Isolation Valves

### Diaphragm Valves

## ACTUATION TECHNOLOGIES

### Pneumatic Actuators

- Rack & Pinion
- Scotch Yoke

### Electric Actuators

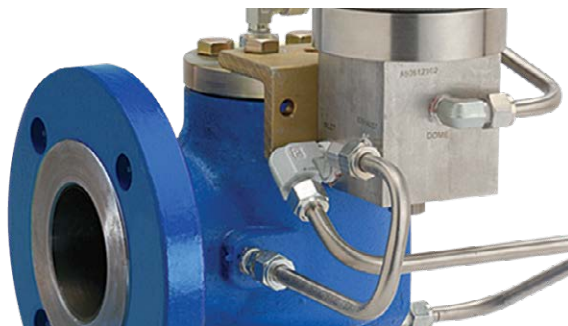
- Multi-Turn, Quarter-Turn & Linear
- Fail Last & Fail Safe
- Intrusive & Non-Intrusive

### Hydraulic Actuators

- Electro-Hydraulic
- Gas-Hydraulic

### Accessories

- Solenoid Valves
- Switches & Valve Controllers





# CONTROL & SAFETY SYSTEMS



**DELTA<sup>V</sup>** **Ovation<sup>™</sup>**

**AMS** DeltaV SIS<sup>™</sup> DeltaV PK<sup>™</sup> Mimic<sup>™</sup>  
Syncade<sup>™</sup> OpenEnterprise<sup>™</sup> FloBoss<sup>™</sup> ROC<sup>™</sup>

Complementary Brands

**YASKAWA**

## PROCESS CONTROL SYSTEMS

- Distributed Control System
- DeltaV PK Stand Alone Control
  - Scaleable for Smaller Skid Control

## SAFETY INSTRUMENTED SYSTEMS (SIS)

- Stand Alone Safety Instrumented System
- Integrated Control & Safety System
  - Burner Management (BMS)
  - Emergency Shutdown (ESD)
  - Fire & Gas (FGS)
  - High Integrity Pressure Protection (HIPPS)

## PROCESS SIMULATION SYSTEMS

- Virtual Plant: Real Time Process Simulation
- Scenario-based Operator Training
- High Performance Simulation

## SCADA SYSTEMS

- Complete Monitor and Control SCADA

## OPERATIONS & BUSINESS MANAGEMENT

- Operation Improvement Software
- Manufacturing Execution System
- Terminal Operations Management
- Energy Management

## INDUSTRIAL DRIVES

- Multi-Purpose Drives
- Microdrives
- Fan & Pump Drives
- System Components
- Industrial Network & software

## POWER INDUSTRY AUTOMATION SOLUTIONS

- Turbine Control Solutions
- Excitation Control Solutions
- Industry focused DCS for Power & Water
- Industry focused SIS for Power & Water
- Industry focused SCADA for Power & Water

## COMPLETE AUTOMATION SOLUTIONS

- Custom Electrical, Mechanical Design & Fabrication
- Industrial Uninterruptable Power
- Project Management & Construction Management
- Automation Design, Development & Commissioning
- Specialized in Control System Modernization
- Process Performance Optimization
- Advanced Controls & Control Strategy Improvement
- Lifecycle Support of Automation Assets

## REMOTE AUTOMATION SYSTEMS

- Remote Terminal Units
- Flow Metering & Computing





# RELIABILITY & ASSET MANAGEMENT



AMS

Complementary Brands



## ONLINE MACHINERY HEALTH MONITORING

- Machinery Online Protection System
- Machinery Online Prediction System
- Protection & Prediction for Reciprocating Equipment
- Online Prediction, Protection & Process Monitor
- Digital Overspeed Protection System

## PORTABLE TECHNOLOGIES

- Route-Based Vibration Analyzer
- Wireless Vibration Transmitter
- Wireless Vibration Monitor
- Machinery Health Monitoring Sensors
- Infrared Thermography
- Airborne & Structural Ultrasonic
- Precision Lubrication
- Portable Oil Analyzer

## ASSET MANAGEMENT

- Field Device Management Software
- Machinery Health Management Software
- Handheld Field Device Communicators
- Asset Performance Platform
- Process Data Analytics Software

## RELIABILITY SOLUTIONS

- Consulting for Maintenance & Reliability Implementation
- Maintenance & Reliability Training or Mentoring
- Condition Monitoring PdM Services
- Advanced Diagnostic Services
- Operational Certainty Consulting
- Digital Transformation



# SOLVE & SUPPORT



## ASSET RELIABILITY SERVICES

- Criticality Assessment
- Maintenance Strategy Development
- KPI Development
- Reliability Centred Maintenance Facilitation
- Inventory Management
- Scheduling & Planning
- Outage Management
- Asset Obsolescence Planning
- Root Cause Analysis
- Failure Modes Effect Analysis
- Preventive & Predictive Maintenance Optimization
- Energy Audits

## AUTOMATION SYSTEMS

- Guardian Support
- System Upgrade
- Scheduled On-Site Service
- Factory Module Replacement
- Patch Management
- Preventative & Reliability Maintenance
- Local Spares Support
- Emergency Service
- Automated Backup & Recovery
- System Health Monitoring
- Alarm Maintenance & Operations Service

## INSTRUMENTATION

- Calibration
- Scheduled Maintenance
- Outage Management
- Emergency Support
- Evaluations
- Predictive Diagnostics
- SmartMeter Verification Services
- Smart Start Startup Services

## ELECTRICAL

- Power & Grounding Audits
- Thermography
- Power Quality Audits
- Automation Installation
- Communications Installation & Testing

## MACHINERY HEALTH

- Vibration Analysis
- Dynamic Balancing
- Laser Alignment
- Machinery Troubleshooting
- Modal & ODS Analysis
- Training & Mentorship
- Oil Analysis
- Acceptance Testing



# SOLVE & SUPPORT

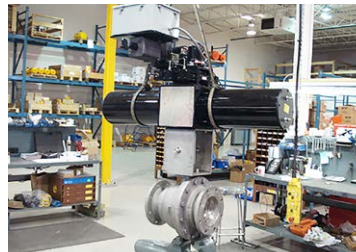
## MECHANICAL SERVICES | FIELD & IN-HOUSE



- Actuator Rebuilds
- Upgrades & Conversions
- On-Site Relief Valve Services
- Steam Testing & Certifications
- Asset Management Services
- Repairs & Preventative Maintenance of Electric & Electro Hydraulic Actuators
- Recommended Spares, Drawings & Wiring Diagrams Available
- Start-up & Calibration Services
- Cleaning (O<sub>2</sub>), Sandblasting & Repainting

### CAPABILITIES INCLUDE:

- Repairs & certifications of all Manufacturer's Relief Valves, Sizes 1/2" through 8"
- Set Pressures up to 3000 psi
- Air, Gas and Liquid Services





# ENERGY & COMBUSTION



## CAPABILITIES & RESULTS

Arctic (A Division of Lakeside) provides a wide range of services designed to solve Industrial Combustion & Energy Management needs.

### Areas of Expertise:

- Combustion Appliances
  - Water Tube & Fire Tube Boilers
  - Process Furnaces, Dryers, & Air Heaters
  - Heat Recovery Steam Generation (HRSG)
  - Rotating Kilns, Thermal Oxidizers, & Fluidized Bed Applications
  - Natural Gas Letdown Pre-heat Stations
- Heat Recovery & Steam Conditioning
  - Feedwater Economizer
  - Waste Heat Condensing Economizer
  - Superheaters
  - Desuperheaters
  - Flash Tank/Make-Up Water Pre-Heat System
- Combined Heat & Power (CHP)
  - HRSG Duct Burners
  - Gas and Steam Turbine
  - Electrical Generation
- Control Systems
  - Burner Management Systems (BMS)
  - Combustion Control Systems (CCS)
  - Balance of Plant (BOP) Controls
- Auxiliary Equipment
  - Burner Fuel Skids
  - Burners, Igniters, & Flame Detection
  - Combustion Air Fans, Dampers, Variable Frequency Drives (VFD), Silencers and Flow Measurement
  - Flue Gas Stacks, Analyzers, & Continuous Emissions Monitoring (CEM)
  - Feedwater/Condensate/Oil Pump Skids
  - Steam Vent Valves & Silencers
  - Steam PRV Stations
  - Intermittent & Continuous Blowdown Systems
  - Natural Gas Letdown Stations
  - Deaerator & Condensate

## FABRICATION & APPROVALS

Arctic offers the following services and products related to regulation and approvals:

- TSSA/OFC Registration:
  - Fuel Safety Contractor
  - Fuel Safety (Appliance) Approvals
  - Boiler Pressure Vessel (BPV) Approvals
  - Repair and Alteration of Boilers, Pressure Vessels, Piping, and A/B/E/H Fittings
  - Fabrication of ASME B31.1 Power Piping
  - Fabrication of ASME B31.3 Process Piping
  - Fabrication of Category E/H fittings
- CSA & CEC Electrical Approvals



# ENERGY & COMBUSTION

## DESIGN & ENGINEERING SERVICES

Our group of engineers and designers produce design documentation that provides our customers peace of mind, knowing that every detail has been considered and incorporated into the final design.

- Consulting Engineering
- Process Flow Drawings
- Piping & Instrumentation Diagrams (P&ID)
- 3-Dimension Models – Major Equipment, Fuel Trains, Buildings, Power and Process Piping
- 2-Dimension Drawings – Mechanical Assembly and Electrical and Control Panel Fabrication
- BMS Logic Diagrams
- CCS SAMA Drawings
- Process Narratives & Standard Operating Procedures (SOP)
- Field Installation Design - Power Distribution, Cable Schedules, & Loop/Termination Drawings

## INSTALLATION & COMMISSIONING SERVICES

Our services group can provide support for nearly all professional trades within the industry which allows Arctic to self-perform projects of any size. This enables us to provide a one-stop shop for our customers.

- Construction & Project Management
- Project Engineering
- Boiler & Burner Specialist
- Licensed Gas (G1) & Oil (OBT1) Combustion Technicians
- Boiler Makers, Welders, and Mechanical Assemble & Installation
- Electrical Infrastructure & Installation Services
- Automation Engineering & Site Technicians
- Instrument Technicians
- Control and Isolation Valve Repair Technicians
- National Board Certified Safety Relief Service and Repair Technicians
- Steam PSV In-Situ (AVK) Testing
- Steam Trap Monitoring/Audits
- Reliability Technicians

## VALUES

Lakeside has a strong history of providing quality and superior customer service. Our people and processes are customer oriented which fosters a culture of excellence and collaboration in everything we do.

### Act with Character

We are accountable for our actions and results. Conducting ourselves with a high degree of integrity and ethical standards is critical to our success. We are entrepreneurial and look for opportunities to grow and serve our customers better. We take pride in what we do.

### Be a Team Player

We are dedicated to building and maintaining relationships with each other. Our internal customers are as important as our external customers. We respect our colleagues and consistently act in an open and professional manner.

### Continually Improve

We do what is right and we do what it takes. We build on good ideas and learn from our experiences, constantly challenging ourselves to be better. Our standards are high and we drive to exceed expectations.

## VISION

To be a leading contributor to the Canadian economy by enabling the industry and our served markets to be sustainable and more competitive.

## MISSION

To create long-term value for our customers by leveraging the strength of Emerson, the excellence of our people and the robustness of our business operations.

## INDIGENOUS RELATIONS



### Our Commitment to Indigenous People and Communities

Lakeside believes taking strides towards building trust, collaborating and supporting the Indigenous community is both a privilege and a responsibility. While we are in the beginning stages of transforming our corporate responsibility strategy, we are committed to improving our performance in Aboriginal relations, and continuously directing our initiatives towards collaborating, and sharing knowledge and resources with Aboriginal communities and its people.

PAR is the only credible certification program in Canada with an exclusive focus on Indigenous relations, and is endorsed by the Legislative Assembly of The Federation of Saskatchewan Indian Nation, and officially recognized by the Assembly of First Nations, Chiefs of Ontario and Métis Nation of Ontario. PAR Committed participation, indicates Lakeside's commitment to continual improvement in Aboriginal relations and our intention to undergo external verification of our performance in the future.

### Aboriginal Policy Statement

To further strengthen our commitment as a PAR participant, Lakeside is in the process of developing an Aboriginal Policy Statement that will be both aligned and reflective of PAR values, shaping and enhancing our business strategy and corporate culture.



## CERTIFICATIONS & COMPLIANCE



CSA N299.3

## SOCIAL RESPONSIBILITY

Contribution to the community through participation in social events and charities is an integral part of the Lakeside culture. Lakeside consistently participates in and contributes to various events and charities that promote the well-being of our community.



First Robotics Canada is Lakeside's flagship charity - inspiring young people to pursue further studies and careers in the field of science, technology, engineering and math.

Lakeside is also a proud supporter of the following charities:



## AWARDS

At Lakeside, our success is cultivated by our people. We take pride in fostering an organization that continuously strives for excellence and world-class business practices.





Emerson Impact Partner



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