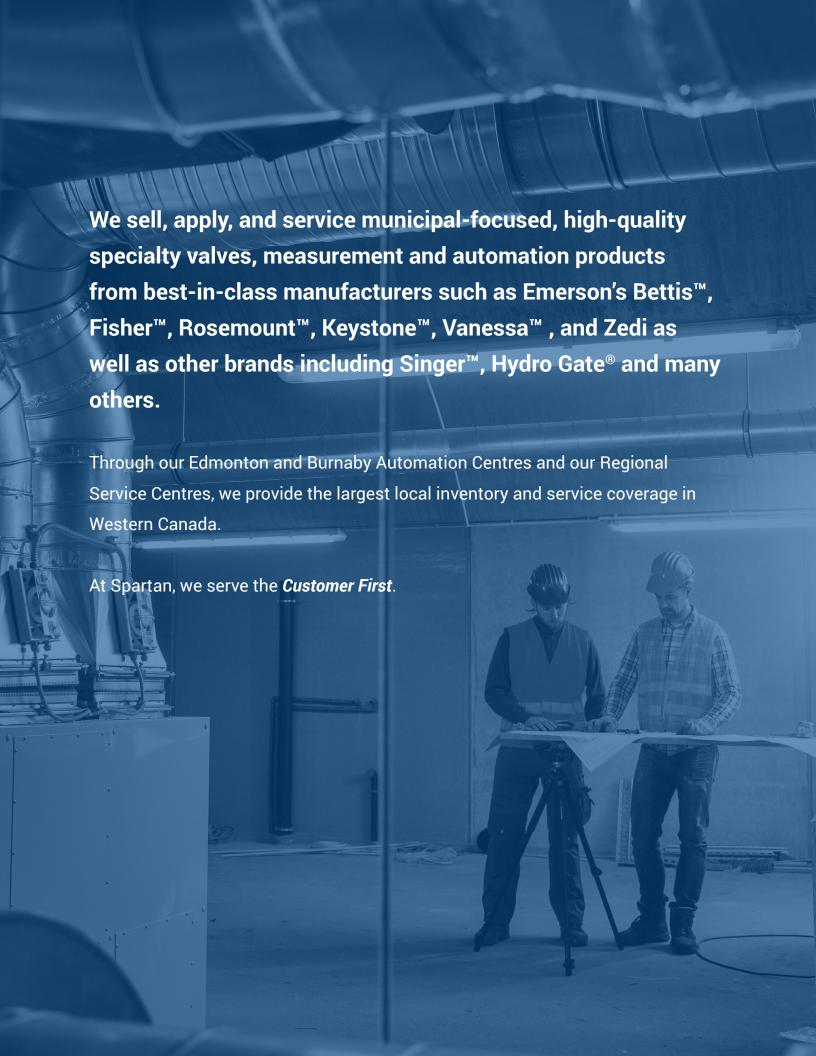


Automation | Valves | Measurement | Process Control

Waste & Wastewater Product Line Card











EMERSON. KEYSTONE VANESSA





Keystone™

- · Resilient seated butterfly valves in wafer, lug, and flanged body configurations
- High performance double offset butterfly valves
- Full line of direct mount actuation including electric, pneumatic, and hydraulic







Keystone™ Series GRF



Keystone™ Series 36/

Vanessa™

- High performance triple offset valves
- Large size range and high pressure capability
- Metal seat design with zero leakage (bubble tight, drip tight)
- Water, lug, double flanged, long pattern flanged, or welded ends



Vanessa™ Series 30,000 Flanged Body



Vanessa™ Series 30,000 Lug Body

Singer™

- Pressure reducing and pressure relief valves
- Surge control, pump control, and level control valves
- Flow control and flow metering valves
- Electronic control valves
- Smart pressure management and water loss prevention
- Cavitation mitigation



Singer™ 106-PR Pressure Reducing Valve



Singer™ 106-2SC-PCO Dual Solenoid Control Valve



Singer™ 106-PR-SM Pressure Reducing Valve

Hydro Gate®

- Stainless steel, aluminum, and cast iron water control gates
- Slide and weir gates
- Radial/tainter, overshot, and roller gates
- Flap, fabricated butterfly gates
- Stop logs, bulkheads, and handpull gates
- Manual, electric, pneumatic, and hydraulic operator options



Hydro Gate[®] Model HG560 Heavy Duty Slide Gate



Hydro Gate® Model HG561 Fabricated Slide Gate



Hydro Gate® Model 50 Flap Gate

RF Valves

- High performance pinch valves
- Non-stretch elastomer tube technology
- Smart valve wear sensor technology



RF Valves aiRFlex Pinch Valve



RF Valves Manual Pinch Valve



RF Valves
Pneumatic Pinch Valve

Vent-O-Mat Valves

- Four function air valve design (initial and continuous air release/vacuum/surge)
- Full port design for maximum pipeline protection under vacuum condition
- Premium materials
- Stainless steel construction
- HDPE floats
- High pressure design up to 1,000 psi
- 10-year warranty



Vent-O-Mat RBX Clean Water Valve







EMERSON... ASCO BETTIS EIM EL-O-MATIC KEYSTONE TOPWORX

ASCO™

- Solenoid valves
- Pressure switches
- Temperature switches



Series 8320



Bettis™

- Electric, pneumatic, and hydraulic valve actuators
- Multi-turn and quarter-turn configurations
- Hydraulic and electro-hydraulic mechanical fail-safe/emergency shut down configurations
- Standard and smart actuators
- Discrete, 4-20mA, and bus communications (HART, Modbus, Foundation Fieldbus, Profibus, Ethernet TCP-IP)
- · Remote display modules



El-O-Matic™

- Pneumatic and electric valve actuators
- Rack and pinion actuators

Positions, limit switches and position indicators



El-O-Matic™ F-Series Rack and Pinion Pneumatic Actuator

Keystone™

- Pneumatic and electric quarter turn valve actuators
- Open/closed and modulating service
- 4-20mA, Profibus DP, DeviceNet communication options
- Direct mount to Keystone[™] butterfly valves



Keystone™ EPI-2 Electric Actuators



Keystone™ F89 Pneumatic Actuator

Topworx™

- Field networking
- Valve limit switches and position indicators
- Position sensing



Topworx™ TVF Valve Switch Pack



Topworx™ DXP Valve Switch Pack



Topworx™ GO Proximity Switch









Rotary Valves

- Application versatility
- Zero lost motion drive train
- · Compact and flexible configuration
- Ultra-low flow applications



Fisher™ Vee-Ball™ V150 Flanged Control Valve



Fisher™ V250 Control Valve



Fisher™ 8580 Rotary Valve

Sliding Stem Valves

- Extremely precise control
- High pressure drop capability
- Wide offering of materials
- Replaceable trim
- · Low lifetime costs
- Engineered for high tolerances



Fisher™ ET Control Valve



Fisher™ YD 3-Way Control Valve



Fisher™ D4 Control Valve



Baumann™ 2400 SVF

Digital Valve Controllers, Positioners, Instrumentation & Accessories

- Smart digital controllers
- Advanced diagnostic capabilities
- Pneumatic positioners and controllers
- Level sensors, switches and transmitters
- · Liquid level controllers, gauges and gauge cocks



Fisher™ FIELDVUE™ DVC6200 Digital Valve Controller



Fisher™ L2E Liquid Level Controller



Fisher™ i2P-100 Electro-pneumatic Transducer

Gas & Air Regulators

- · Rugged construction
- Tight shut-off with elastomer seats
- Easy maintenance
- Over pressure protection options
- · Wide variety of body sizes, end connections and materials



Fisher™ CS200 Gas Regulator



Fisher™ MR95 Air Regulator



Fisher™ 67CFR Air Regulator



Emerson[®] Cash LS

Wireless Products

- THUM adapters
- Position monitors
- Wireless on/off controllers



Emerson™ Wireless 775 THUM™ Adapter



Fisher™ 4320 Position Monitor





EMERSON ANDERSON GREENWOOD CROSBY ENARDO KUNKLE

Pressure Relief Valves

- · Direct spring and pilot operated
- ASME/NB certified capacities for air, water and steam
- · Highly customizable to satisfy the most comprehensive range of applications
- Adjustable blowdown to reduce product loss
- Two-phase service capable
- Broadest range of steam relief valves
- PFA lined safety relief



Crosby™ H Series Direct Spring Safety Valves



Anderson Greenwood¹ Series 60/80



Kunkle™ Models 6252/6254

Tank Management

- Flame and detonation arrestors
- Pressure and vacuum relief valves
- Emergency and free vents
- · Gauge and thief hatches
- Tank blanketing regulators
- · Wireless monitoring



Enardo™ DFA Series Detonation Flame Arrestors



Anderson Greenwood™ 121F



Enardo™ 850/950









Rosemount™

Measurement

- Differential pressure flow
- Magnetic flow meters
- Level transmitters
- Pressure
- Temperature
- Wireless



Rosemount™ 8750 Magnetic Flow Meter Sensor



Rosemount™ 2088 Pressure Transmitter

Analytical

- рН
- Chlorine
- Turbidity
- Dissolved oxygen
- Conductivity



Rosemount™ 1056 Four Wire Transmitter



Rosemount™ CX1100 Boiler Control Oxygen Analyzer

Ametek Drexelbrook

- Drexelbrook point level products
- Continuous level products
- Interface level
- Water cut monitor



Ametek Drexelbrook DR5200 Radar Level Transmitter



Ametek Drexelbrook U-Sonic Ultrasonic Transmitter



Ametek Drexelbrook U-Sonic-R Ultrasonic Level Transmitter

Winters

- Pressure gauges
- Pressure transmitter
- Pressure switches
- ISO-Rings



PFQ-ZR Pressure Gauge



Winters Pressure Transmitter











Bristol

DeltaV™

Control Systems

- DeltaV™ digital automation systems
- High-availability, full redundant control architecture for critical assets
- Precise operations controls, monitoring, diagnostics, and predictive intelligence
- Water and wastewater plant control system
- Pump and lift station standalone control and HMI

PK Controller

- DCS controller with PLC economics
- Direct PLC replacement
- Standalone or integrated
- High speed logic execution





DeltaV™ S-Series

DeltaV™ PK Controlle

Bristol

- Measurement and control products for remote SCADA applications
- Fuller offerings of SCADA RTUs, PLCs, PACs, and flow computers in the ControlWave family
- Pre-engineered water and flow computing application-specific products as well as fully programmable controllers for customized applications



Bristol ControlWave





Hyundai Induction Motors

- Low voltage up to 600V, 2,000 HP
- Medium voltage up to 13.8kV, 29,500 HP



Hyundai NEMA Premium Efficiency Low Voltage



Hyundai Medium Voltag

Yaskawa

- Low voltage up to 600V, 1,600 HP
- Medium voltage up to 13.8kV, 16,000 HP



Yaskawa GA500 Microdrive <40 HP



Yaskawa P1000 Fan & Pum Applications



Yaskawa GA800 General Purpose



Yaskawa MV1000

PowerVue™ Low Voltage MCCs and Switchboards

- Low voltage up to 600V, 500A
- Built-in DeltaV[™] options
- Integrated Yaskawa variable frequency drives
- Traditional hard wired MCC's



PowerVue™ Low Voltage

- Intelligent Smart MCC's
- Local design, manufacturing and inventory
- Shortest lead times 5-8 weeks
- Increased safety
 - Arc quenching technology options





EMERSON. AMS ROSEMOUNT



www.spartancontrols.com

AMS™

Offline/Route Based Monitoring

- · Machinery health analyzer
- 4 channel capabilities
- Triaxial measurement capabilities
- Bluetooth/wireless options



AMS™ 2140

Route collection and detailed analysis capabilities

 Alignment, balancing, ODS and transient functions



AMS™

Online/Protection and Prediction Systems

- Software
- · Condition monitoring system
- Common software platform
- Multi-technology capabilities



AMS™ Machinery Manager



AMS™ Device Manager

- Multiple data source functions (periodic, online, wireless)
- Mobile applications



Plantweb™ Optics

AMS™

Hardware

- Field programmable protection/prediction hardware
- Modular condition monitoring hardware
- · Remote monitoring capabilities for hazardous area



AMS™ 6500 ATG



AMS™ 6500 MS

- Transient data acquisition
- OPC UA/Modbus connectivity
- Cloud ready data source

Sensors

Sensors

- Application specific transducers
- 4-20 vibration transmitters
- 4-20 mA temperature transmitters



Transmitter

Displacement probes

- Junction boxes and cables
- Wireless vibration monitoring systems



Rosemount™ 9420 Wireless Transmitter

Services

Condition Monitoring

Vibration Sensor

- Development of CM strategies
- Machinery monitoring system selection and implementation
- Remote and on-site data analysis
- Vibration, IR, ultrasonic inspection technologies
- · Precision alignment and balancing

Performance Analytics

- Digitalization and IIoT strategy development
- Machine learning and artificial intelligence applications
- Energy management programs
- Model based equipment monitoring















www.spartancontrols.com

Boreal

- Open path gas detection for toxic and combustible gases in safety and environmental applications
- Low maintenance cost as calibration and sensor changes are not required
- 20 year life



Boreal GF3-DC IPM LD

Det-Tronics

- Solutions for the detection of fire and combustible and toxic gases
- Long life detection requiring minimum maintenance
- Complete systems available including controller and end devices



Det-Tronics X3301



Det-Tronics PIRECL



Det-Tronics GT3000



Det-Tronics LS2000

Federal Signal

- · Audible and visual signaling
- Public address and general alarm (PA/GA) and evacuation systems
- Easily integrated with fire & gas system, DCS/SIS or other control system
- Supervised horns and strobes available to quickly diagnose required maintenance



Federal Signal Beacons and Horns



Federal Signal PAGASYS Digital Public Address and General Alarm System

Industrial Video Solutions

- PELCO cameras for hazardous and GP locations
- FLIR thermal cameras for temperature measurement and process control
- Osprey Informatics using intelligent video to detect people and vehicles at remote sites



FLIR AX-8 Thermal Camera



FLIR FC-R Fixed Network Thermal Camera



Pelco



Automation Packaging

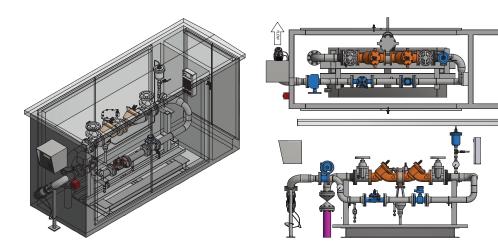
Custom pneumatic, electronic, electrical, and hazardous location control panels and assemblies.

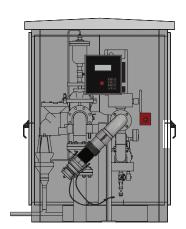
- Building and skids
- CSA ABSA and testing
- DCS marshalling & safety systems
- DeltaV™ and DeltaV™ SIS
- Telecom, fiber-optics & server cabinets
- Staging & testing services
- Fire & safety enclosures

- Junction boxes & power distribution
- Oil & gas field service rigs and trucks
- · Pneumatic & analytical
- Programmable logic controllers
- Remote terminal units
- Truck unload solutions
- Winterization enclosures

Water Bulkfill Stations

- Custom designed based on available site footprint and required fill rates
- Industry standard valve, instrument, terminal and kiosk components
- Network and off-line data systems, prepaid or billing systems
- · Full package locally supported in Western Canada
- Full implementation and commissioning support

















Spartan's Digital Transformation team provides solutions above the control systems. Leveraging data that exists in your systems and devices we are helping solve operational, reliability, production, and energy management challenges for Customers. By accessing, connecting, consolidating, and organizing data from a number of sources we are able to help solve problems that had previously proven to be challenging. Where necessary augmenting with the appropriate tools and applying expertise can help you and your organization address many of your digital needs.

Connected Services

- Access to Spartan Controls equipment expertise
- Augment your team with expertise
- Part-time or full-time connectivity to your equipment and/or systems
- Various tiers of support available
- Broad portfolio of product and solution support

Plantweb

Optics

- Data Storage and Asset Management
- Plantweb Optics Analytics optional ML engine
- Manage your assets form your Mobile Device



Data Lake

- Industry leading connectivity to numerous source systems
- Universal data storage across all of your data types
- Organize your data
- Cloud or On-site deployment
- Connect to numerous analytics and visualization tools

Zedi

- Remote connectivity Cellular and Satellite
- Calculations and visualization platform as well as remote control
- Mobile tools work where you need to be

Capstone Technology

PARCView

- Industry leading trending tool
- Reporting and graphics
- · Process and manually gathered data
- Data storage



dataPARC

inmation

- Industry leading connectivity to numerous source systems
- Universal data storage across all of your data types
- Organize your data
- Cloud or On-site deployment
- Connect to numerous analytics and visualization tools



enterprise inmation

VisualKPI

- Industry leading visualization tool
- Pre-configured library of easy to deploy tools
- Easy to deploy Dashboarding



Tanspara VisualKPI







Automation | Valves Measurement | Process Control

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www.spartancontrols.com

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