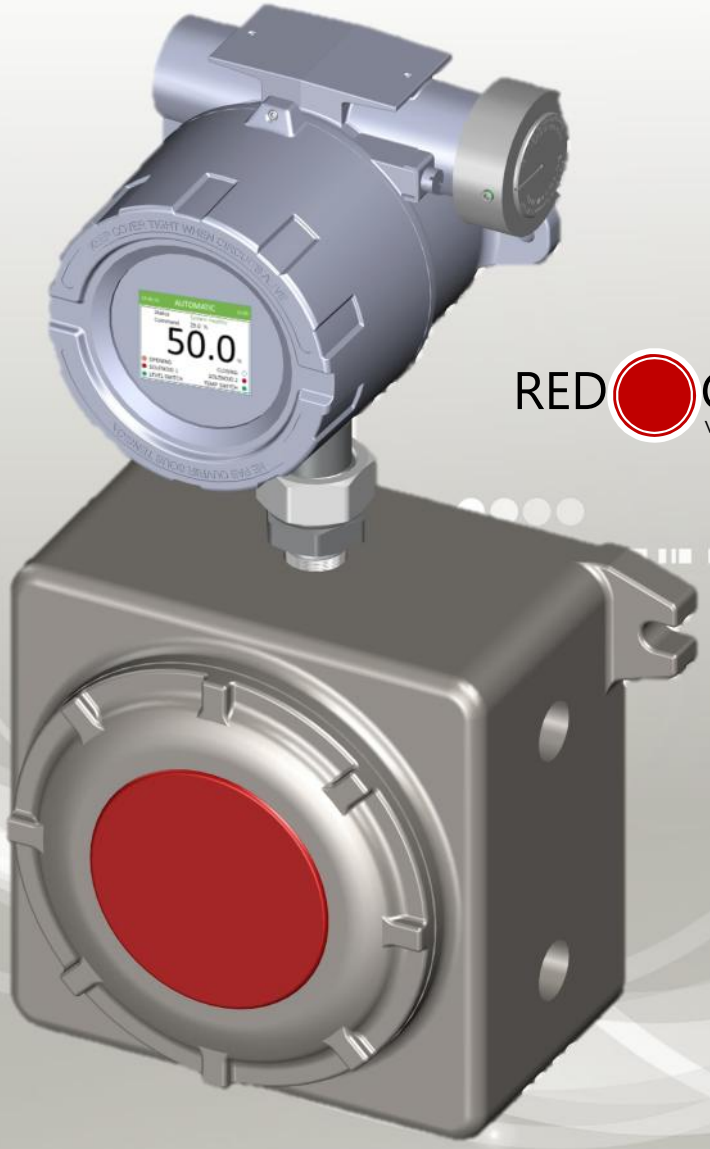
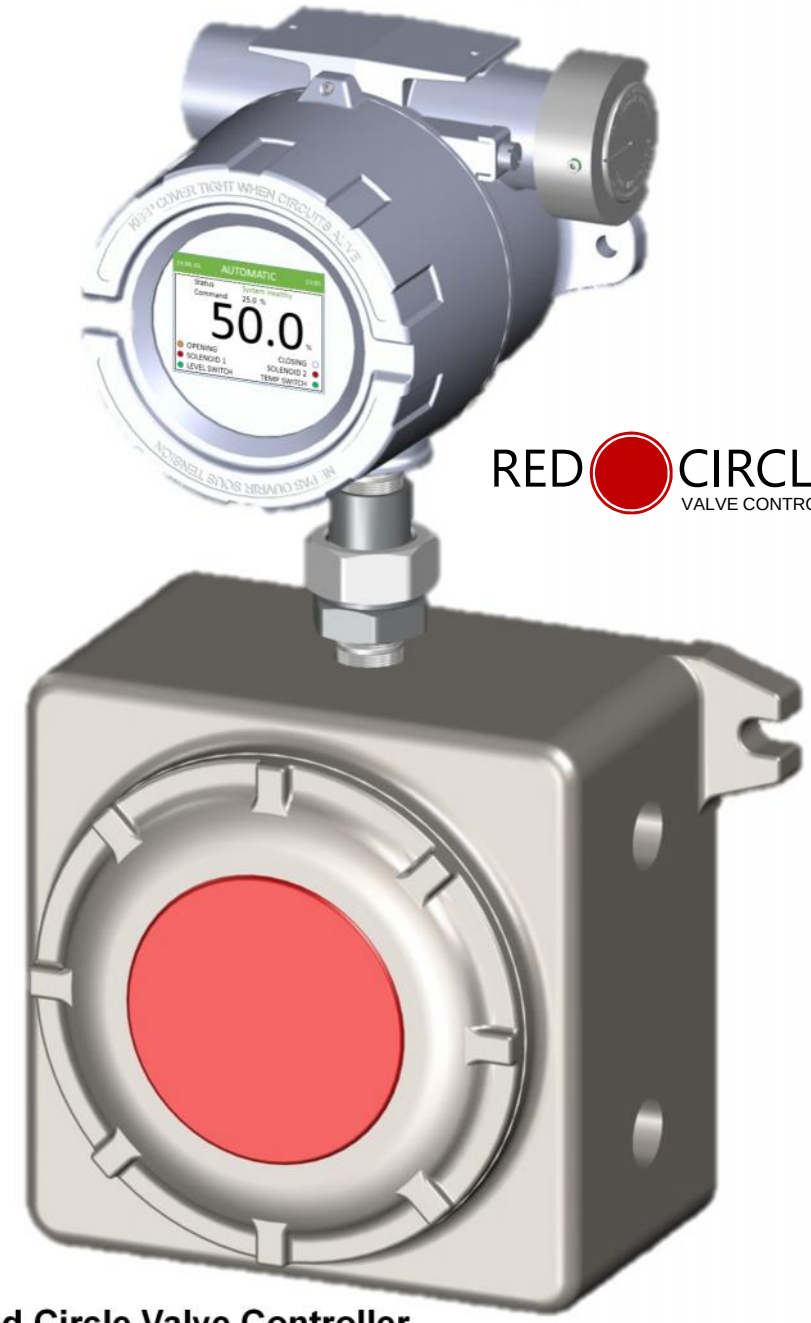
RCVC Red Circle Valve Controller



RED CIRCLE
VALVE CONTROLER

Rugged and Intelligent Valve Control with Zero Steady State Emissions for Natural Gas Control Valves

The VRG Red Circle Valve Controller provides accurate positioning of natural gas control valves via electronic signal. The RCVC can accept analog or discrete input signals. The RCVC is compatible with all VRG Controls control valve actuators and may also be installed on virtually any design of pneumatic control valve actuator. The Red Circle Control Valve features zero steady state consumption with an ability to discharge emissions to a suitable nearby pressure system. The high pressure capability of the RCVC system allows for efficient use of more compact pneumatic actuators. The RCVC is equipped with the most advanced programmable control capabilities, diagnostics and operational features to ensure the highest performance and easiest integration on new or retrofit applications.



RCVC Red Circle Valve Controller

Flexible with Easy Configuration for Gas Industry Applications

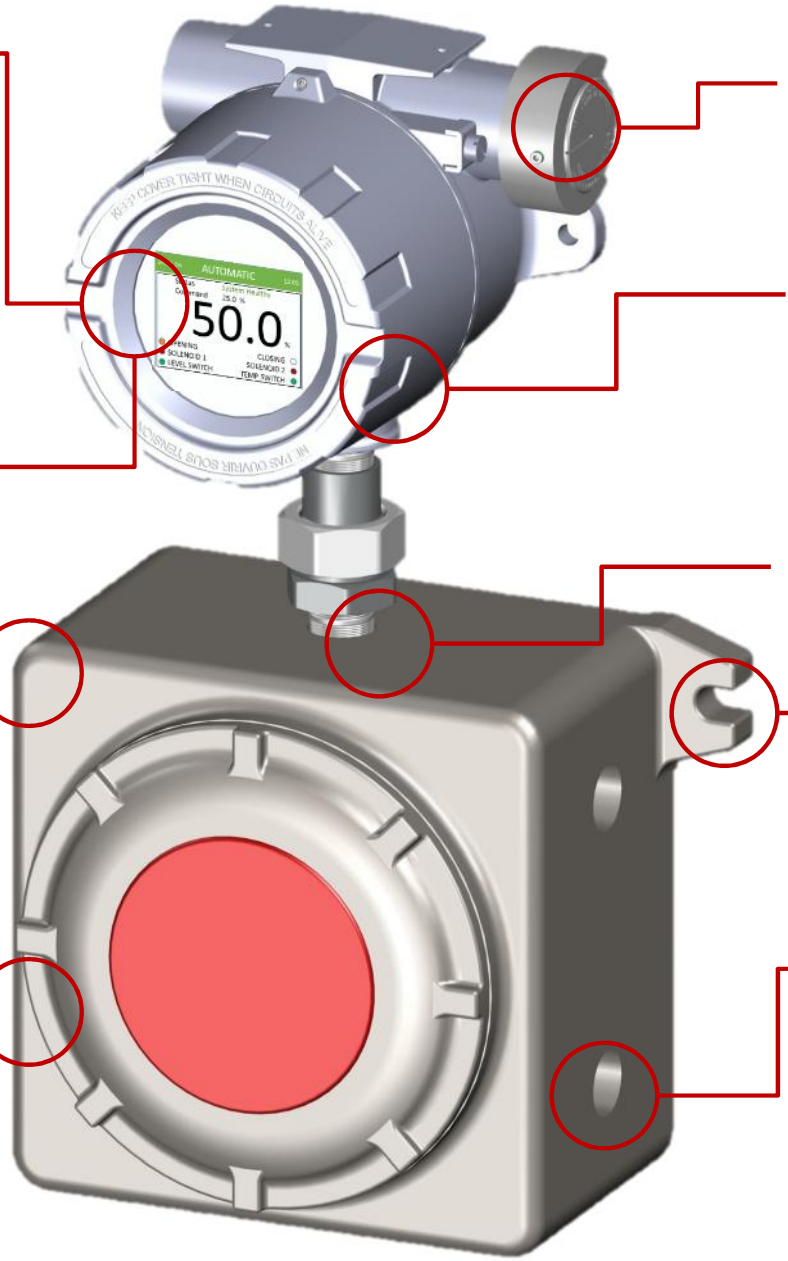
VRG CONTROLS

Hi Resolution Color TFT Programmable Display with Intuitive and Easy Read Menu

Rotary Control Switch Provides Non-Invasive Menu Navigation and Setup

4-20 mA Analog Command Signal Input OR ±24 VDC Discrete Pulse Positioning

HART Protocol Communication Standard. Wireless Bluetooth Capable for Easy Configuration and Evaluation. Bluetooth May Be Disabled as Desired.



ZERO Steady State Emissions with Ability to Discharge to Pressure System for Complete Atmospheric Emissions.

Class 1, Div. 1 Ex Proof Terminal Strip Housing Provides Generous Room for Easy Wire Termination

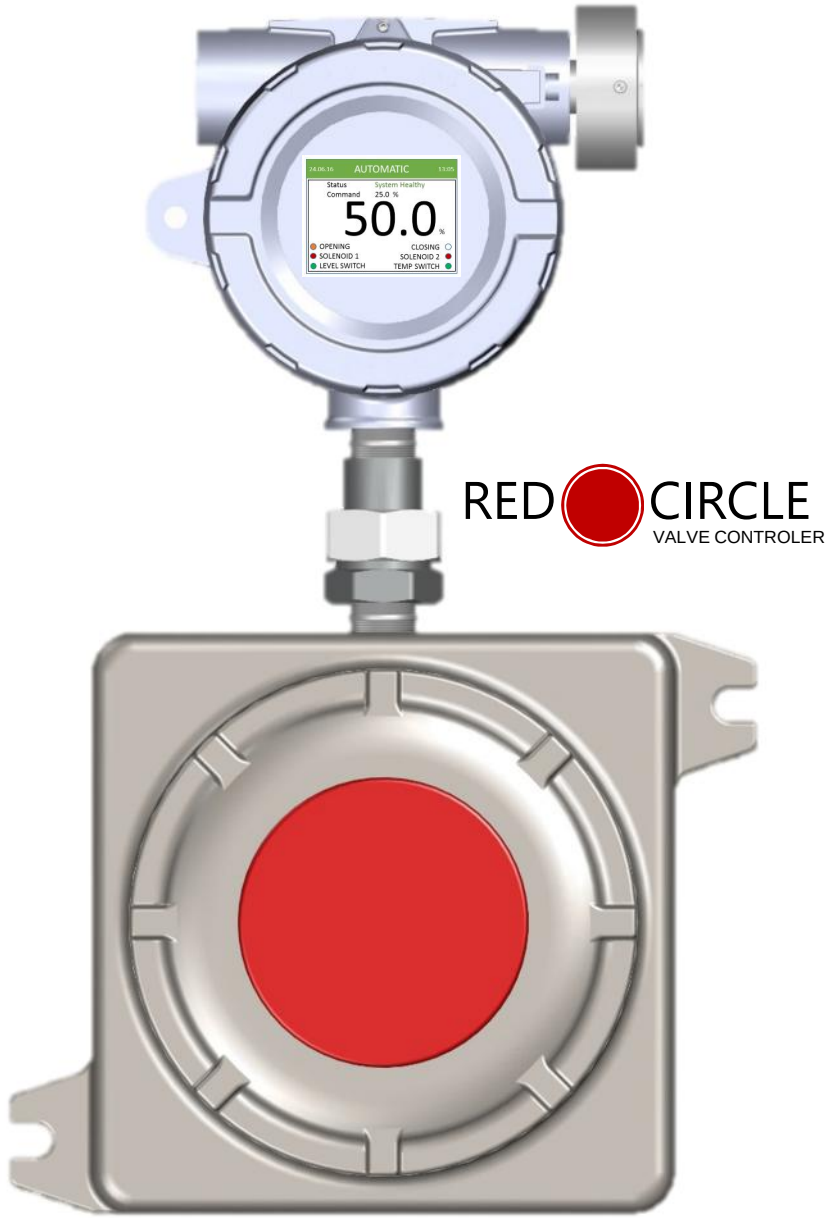
RCVC Electrical Ports and Mounting Brackets Provide Flexible Configuration. 100% Compatible with Existing Becker/GE DNGP & EFP Enclosures for Easy Retrofit

RCVC May be Installed Directly on Control Valve or Remotely in Control Cabinet or RTU Building

RED CIRCLE VALVE CONTROLER

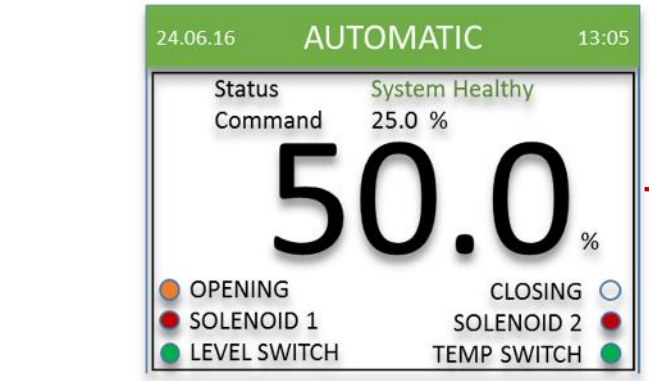
RCVC Red Circle Valve Controller Specifications

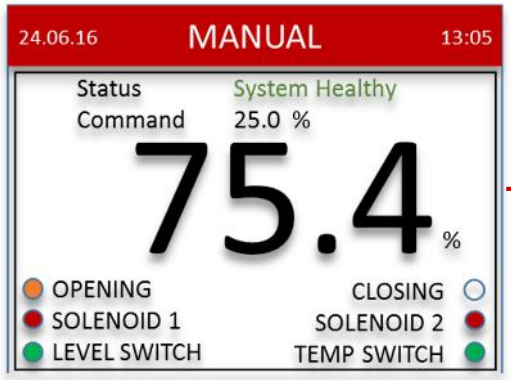
Model:	RCVC-1001 Red Circle Valve Controller
Installation:	Valve Mount or Remote Installation
Diagnostics:	Onboard Graphical Performance Evaluation
Display:	High Resolution, Programable, Multi-Color Display
Command Signal:	4 – 20 mA OR 24 VDC Discrete Pulse
Feedback Signal:	4 – 20 mA (Internal or External Loop Power) Remote/Local Trigger Counter Digital Feedback
Failure Mode:	OPEN, CLOSE, or LOCK on Loss Command Signal
Consumption:	ZERO STEADY-STATE Bleed to Pressure System Capable
Rating:	EXPLOSION PROOF, Class 1, Div. 1
Connections:	¾ NPT Customer Connections Port (QTY 1) ½ NPT Solenoid Connections Port (QTY 2) ½ NPT Transmitter Connection Port (QTY 2)
Temperature:	-20°F to +120°F (-29°C to +49°C)
Compatibility:	Dimensions, Ports, Connections 100% Compatible with Existing GE/Becker DNGP
Communication:	HART Protocol Compliant
Manual Override:	Local Manual Valve Positioning Onboard
Adjustment:	Non-Intrusive Local Thumbwheel Adjustment Non-Intrusive Bluetooth Communication
Area Classification:	Class 1, Div. 1 EXPLOSION PROOF



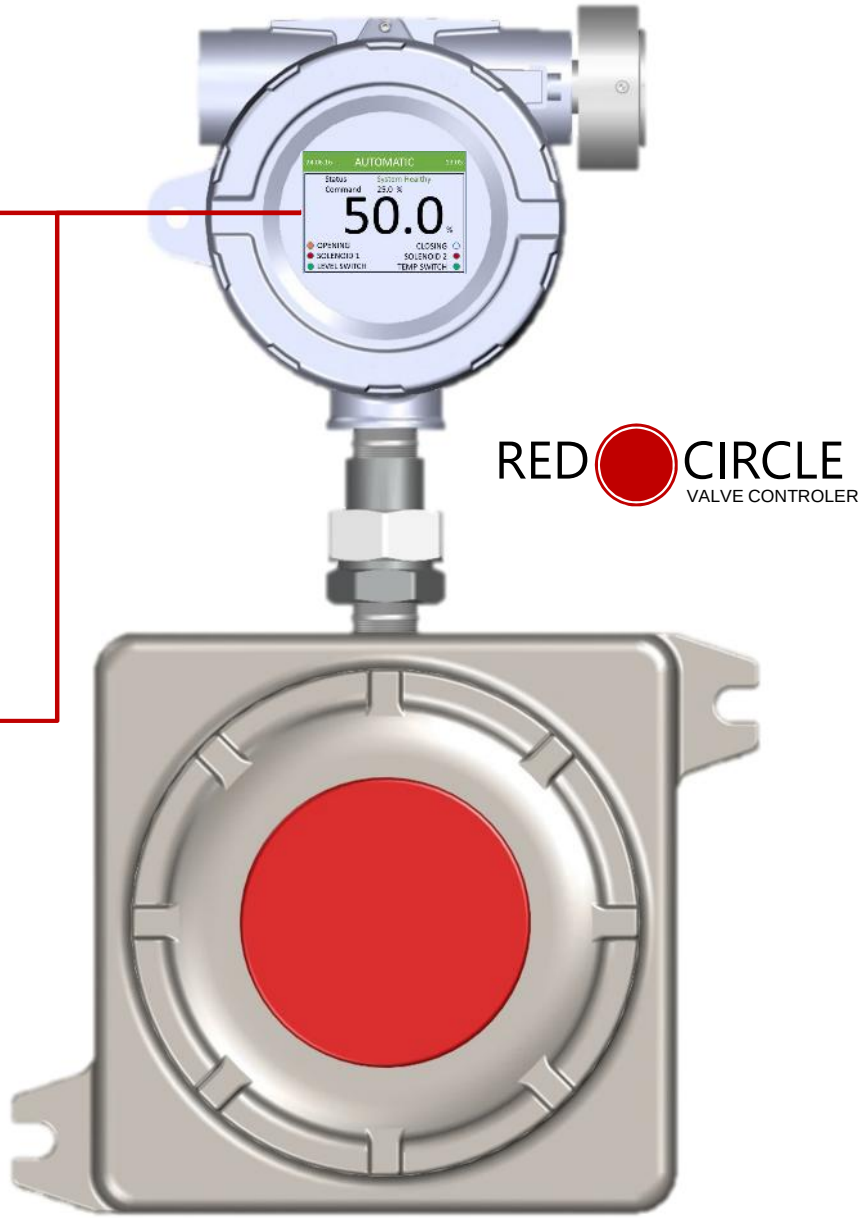
REQUIRES PAIRED SOLENOID VALVE(S) ASSEMBLY
PAIRED VALVE POSITION TRANSMITTER

Easy Setup and Configuration via Menu Driven Platform





High-resolution multicolor multipurpose display controlled via Bluetooth, geared for ease-of-access

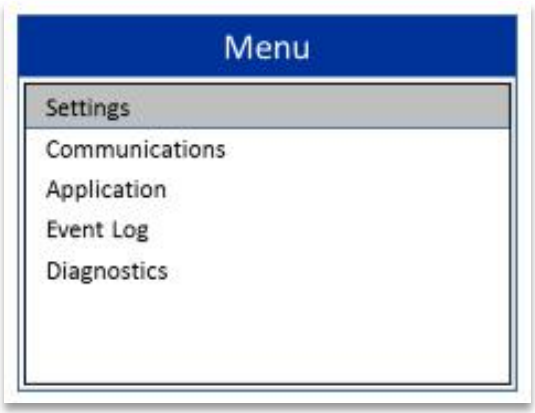


RED CIRCLE
VALVE CONTROLER

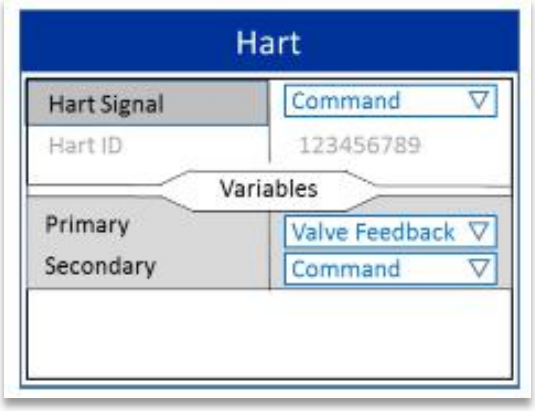
Sample of RCVC Menu Screens

AUTOMATIC Mode

MANUAL Mode

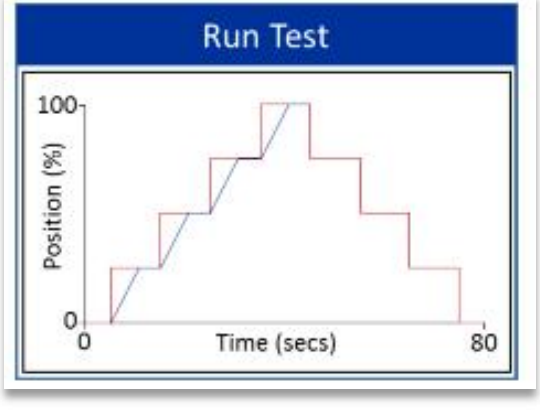


Main Top Level Setup Menu



HART Top Level Menu

BLUETOOTH Top Level Menu



Example STEP TEST Output Graph

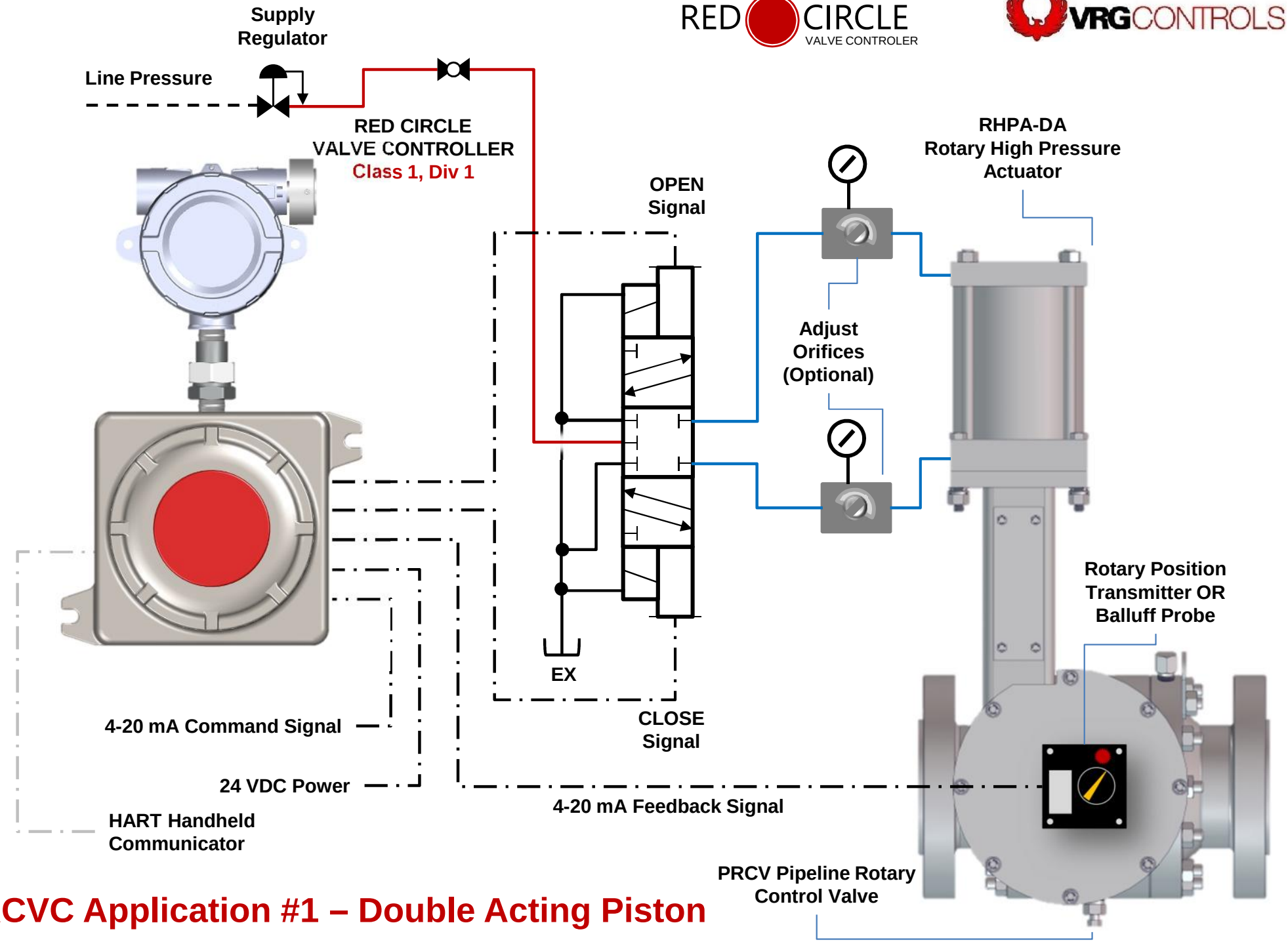
RED CIRCLE
VALVE CONTROLER

RCVC Solenoid Pack Selection

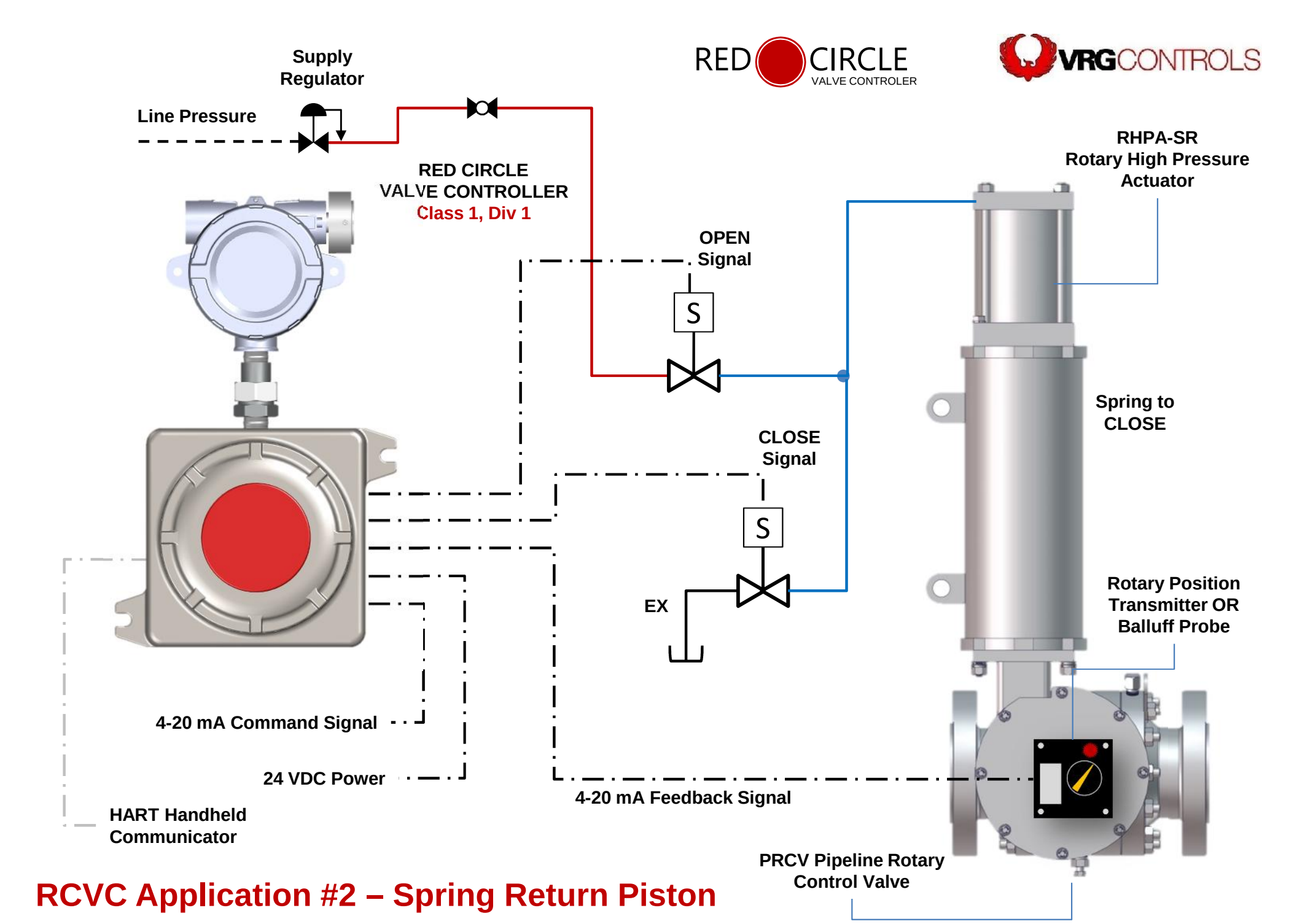
	Double Acting Solenoid Pack	Single Acting High Pressure Solenoid Pack	Single Acting Low Pressure Solenoid Pack
			
Supply	**20 – 150 psig**	**41 - 150 psig**	**20 – 40 psig**
Model	AAA Model SY4XZ	ASCO EV8327G052 (QTY 2)	ASCO 8262G220 (QTY 2)
Voltage	24 VDC	24 VDC	24 VDC
Type	3-Position, 5-Way Self-Centering	2-Position, 3-Way One Port Plugged 2/2	2-Position, 2-Way
Other Specs	Cv 0.50, 24 VDC, 3-Position, 5-Way, Self-Centering, External Pilot, Mod. Temperature (-20F), Aluminum Construction, Universal, UL CSA CE Approved, Ex Proof Cl. 1 Div 1., Buna N Elastomers, 0.500 NPT Ports, Tapped Exhaust	Cv 0.50, 24 VDC, 2-Position, 3-Way (One Port Plugged), Low Temp. (-40F), Stainless Steel Body, Universal, UL CSA CE Approved, Ex Proof Cl. 1 Div. 1., Buna N Elastomers, 0.250 NPT Ports, Tapped Exhaust. One (1) for CLOSE and One (1) for OPEN.	Cv 0.50, 24 VDC, 2-Position, 2-Way, Low Temp (-40F), Stainless Steel Body, Universal, UL CSA CE Approved, Ex Proof Cl. 1 Div 1., Buna N Elastomers, 0.250 NPT Ports, Tapped Exhaust. One (1) for CLOSE and One (1) for OPEN.

RCVC Feedback Module Selection

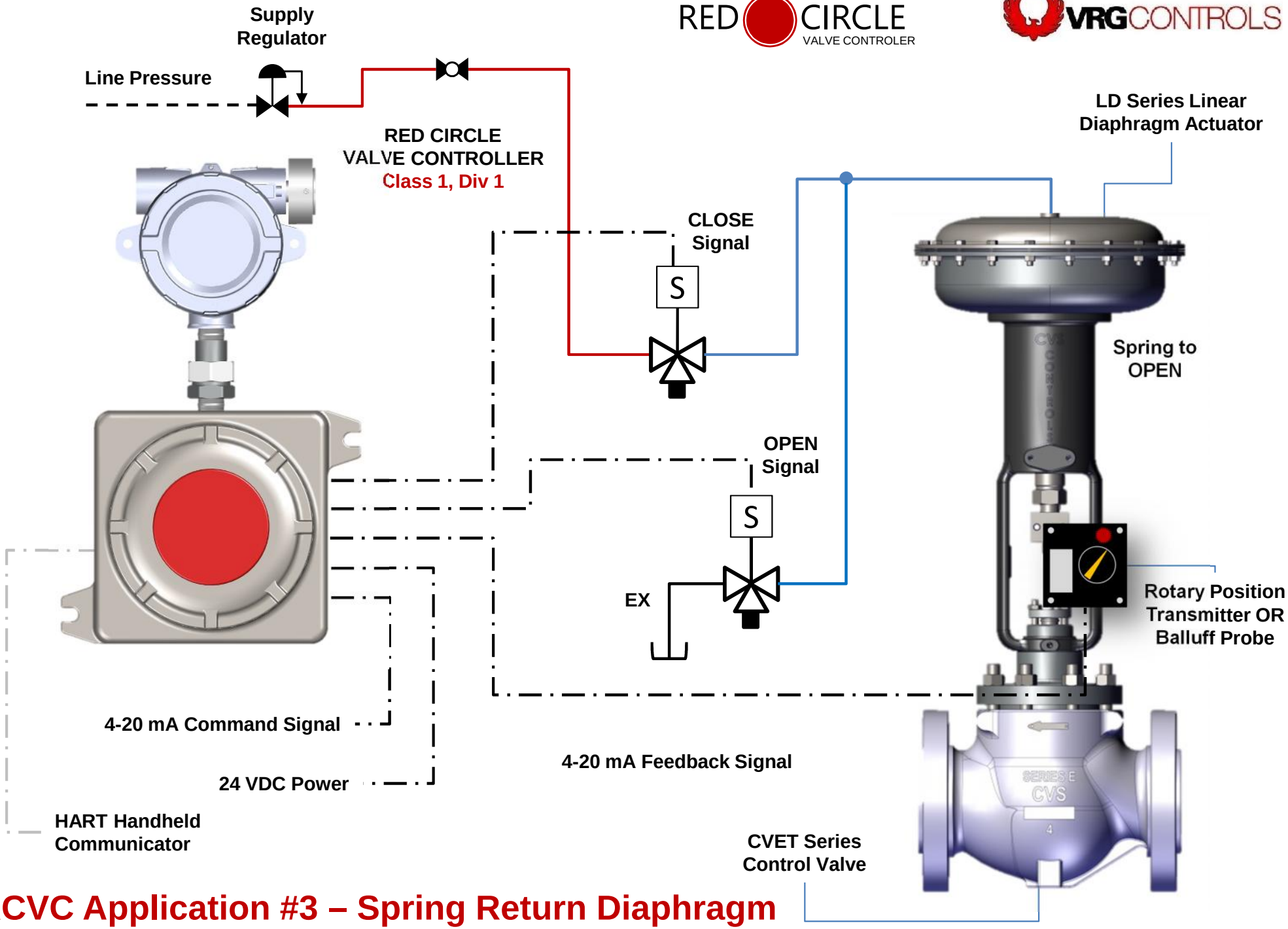
	Rotary Feedback Module	Linear Feedback Module
		
Model	**PMV Model F5EXNU-MEC420-39-PV9DA-Z**	**Balluff BTL5-E50-M0305-J-DEXC-TA12**
Type	**Rotary Input (90° Rotation)**	**Balluff Micropulse Linear Position Sensor**
Limit Switches	SP-DT QTY 2 (Standard) DP-DT and Prox SW Options Available	Not Available
Visual Indicator	High Visibility Rotary Arrow Linear Travel Scale (10% Increments)	Linear Travel Scale (10% Increments)
Other Specs	4-20 mA Analog Transmitter, 0.250 NPT Elec. Connections, QTY 2 x SP-DT Mechanical Switches, UL CSA CE Approved, Ex Proof Cl. 1 Div 1, #39 Adapter, Alternate Switch Options Available, ISO Rotary or Linear Feedback Mounting Kits Available	4-20 mA Micropulse Transducer, 0.250 NPT Elec. Connections, UL CSA CE Approved, Ex Proof Cl. 1 Div 1, Stroke Lengths Available: 4, 6, 8, 12 and “SHORT LENGTH” 2.0 IN or less adjustable, Linear Feedback Mounting Kits Available



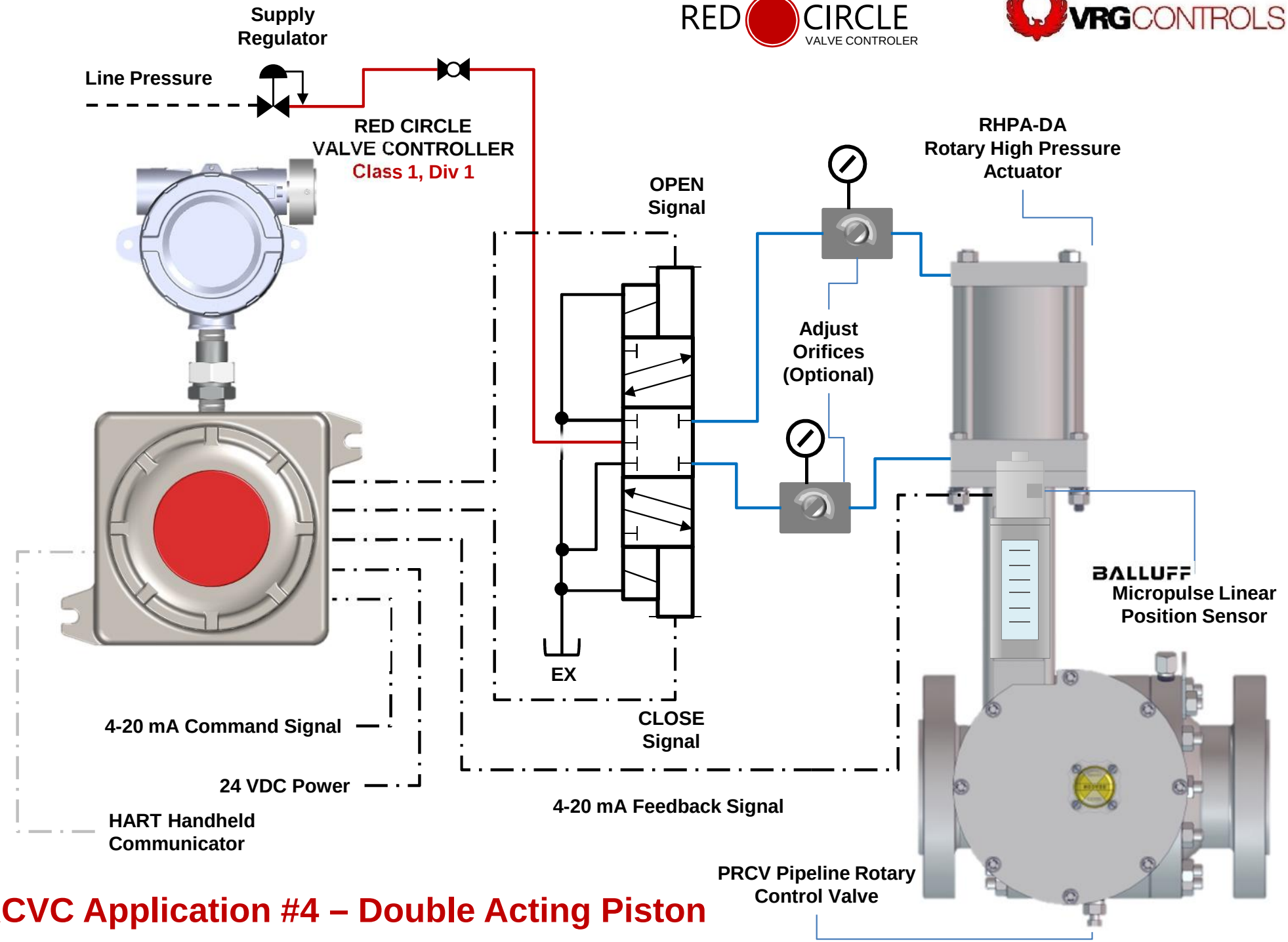
RCVC Application #1 – Double Acting Piston



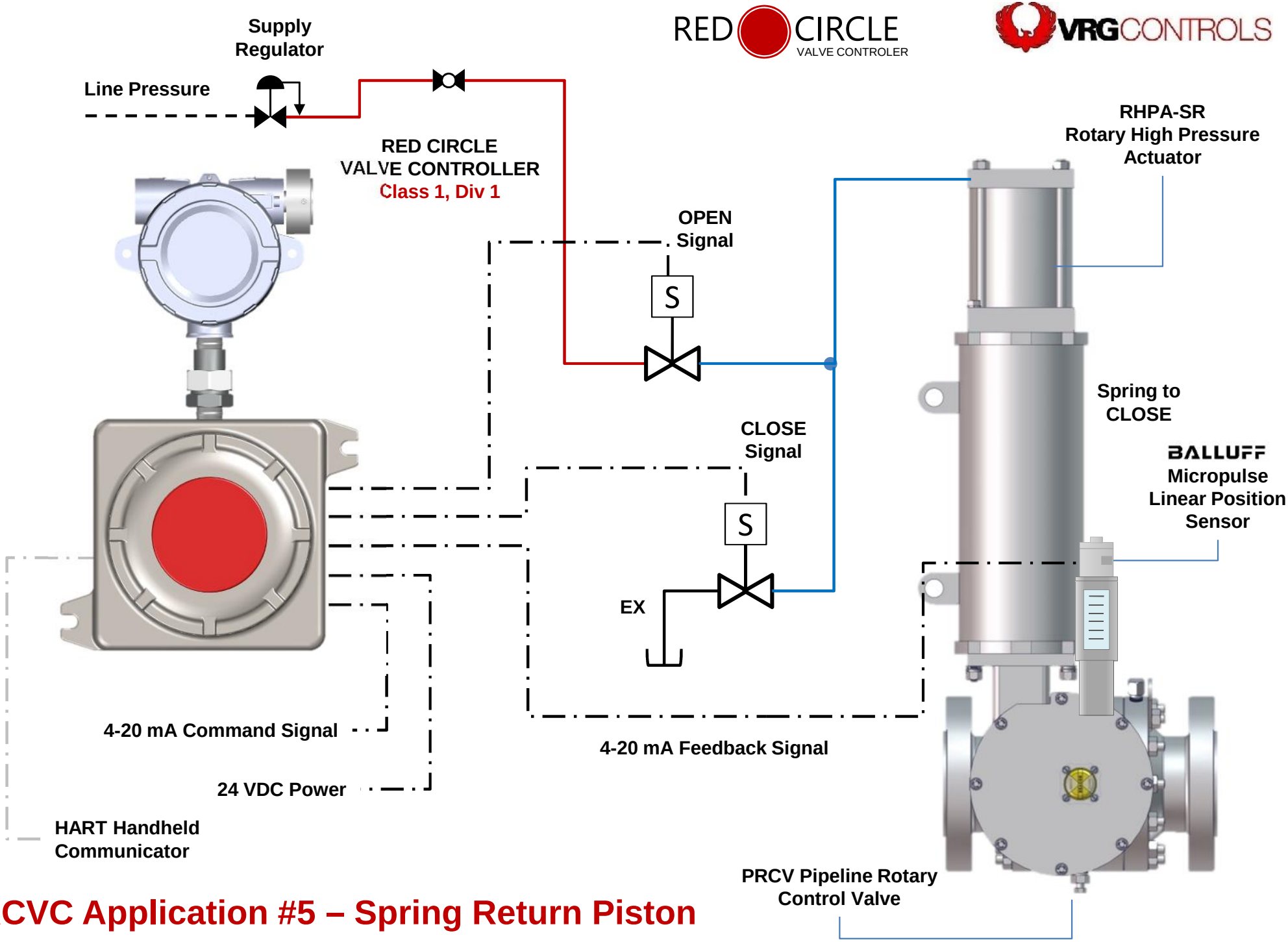
RCVC Application #2 – Spring Return Piston



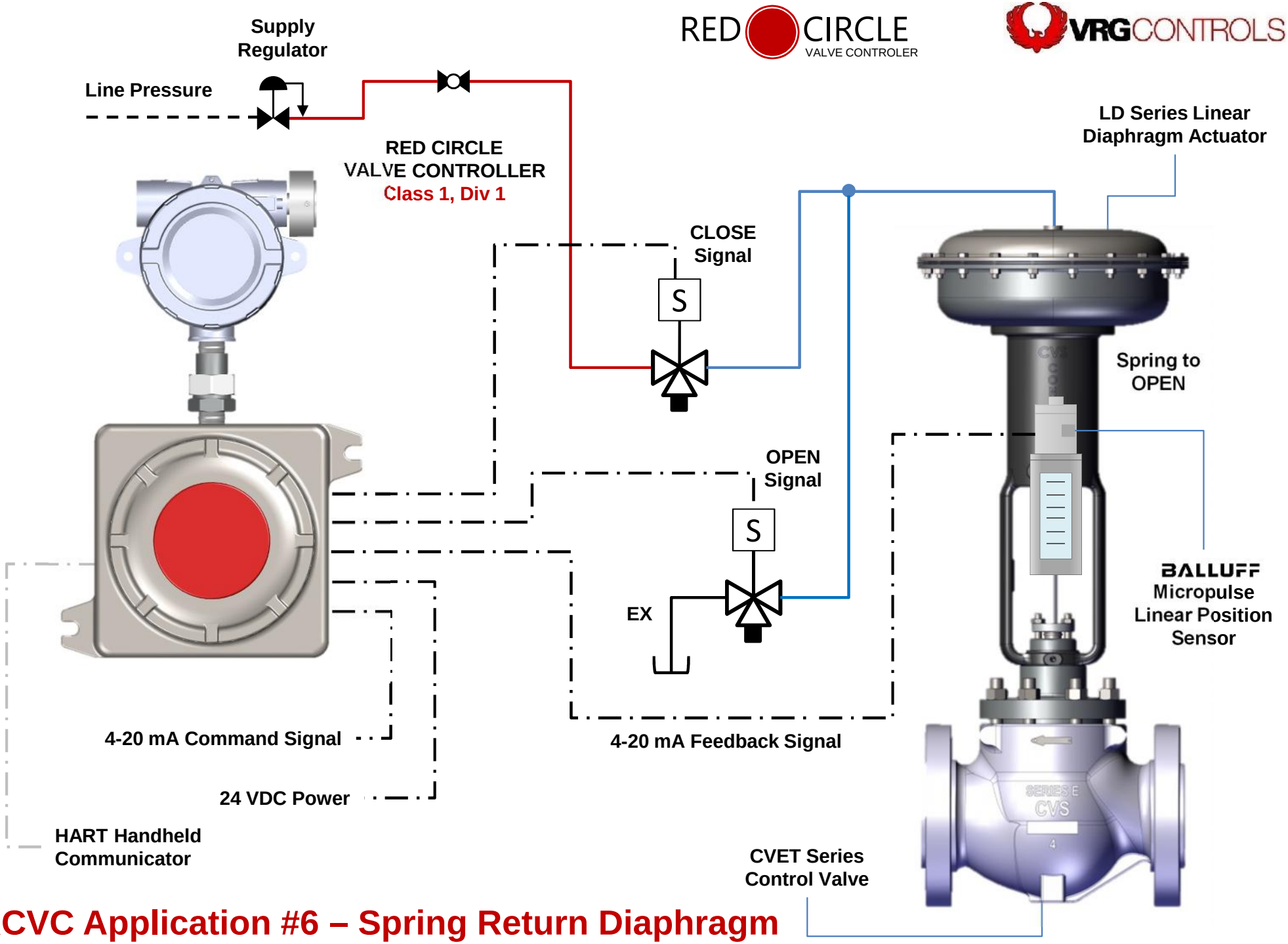
RCVC Application #3 – Spring Return Diaphragm



RCVC Application #4 – Double Acting Piston

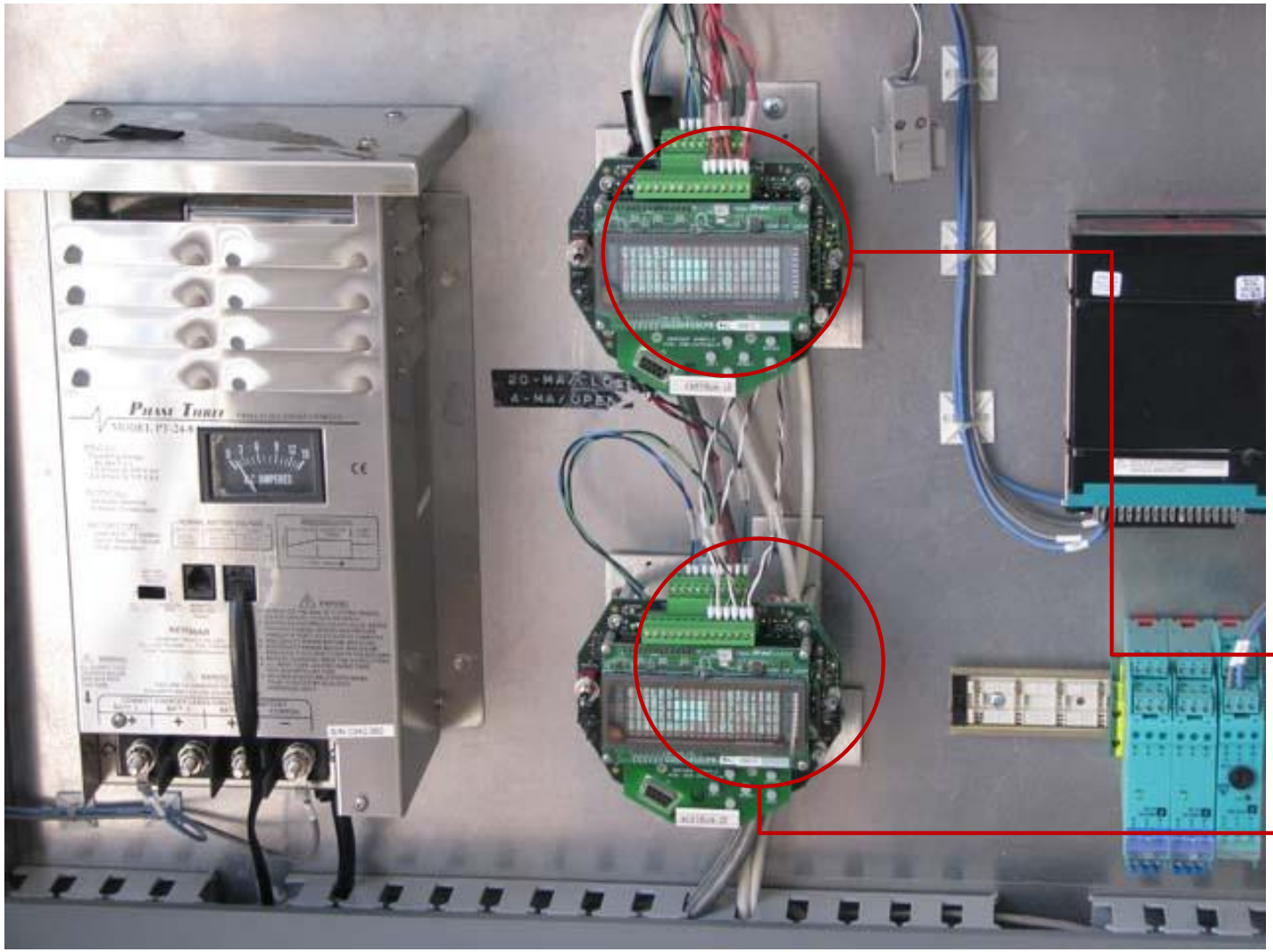


RCVC Application #5 – Spring Return Piston



RCVC Application #6 – Spring Return Diaphragm

Easy Replacement of Becker/GE DNGP Positioner



Notes:

- **RCVC May be Installed in Remote Installations Inside RTU Building or Control Cabinet**
- **Standard Design is Class 1, Div 1, Ex Proof.**
- **Can Replace Becker/GE DNGP (all Versions) Seamlessly with Better Performance and Flexibility**

RED CIRCLE
VALVE CONTROLER

Easy Replacement of Becker/GE DNGP Positioner

Notes:

- **RCVC May be Installed Directly Onboard Existing Becker/GE Control Valves**
- **RCVC Ports, Dimensions and Functionality Can Quickly and Easily Replace Becker/GE DNGP or EFP Positioners with MINIMAL Changes to Wiring Configuration**
- **RCVC Mount Configuration 100% Compatible with Becker/GE DNGP and EFP**
- **Standard Design is Class 1, Div 1, Ex Proof.**
- **Can Replace Becker/GE DNGP (all Versions) Seamlessly with Better Performance and Flexibility**
- **Existing Solenoid Valves and Feedback Transmitters May be Re-Used for Easy Retrofit and Cost Effectiveness**
- **NEW Solenoid Valve Packs and Feedback Modules May Be Replaced “As Needed” with 100% Compatibility**