

Axiom[®] Expeditor

Intermediate Control

- Fill Control
- Flow Dampening
- Thermal Shock Reduction



connecting the process



Based on the technologically advanced AXIOM platform, the Expeditor offers expanded capabilities with intermediate control. Now standard discrete (open/closed) automated valves may be readily upgraded to offer partial closing for improved filling operations, partial opening for less shock to steam lines, and partial closing to prevent water hammer. No special pneumatic bleed pilots or air filtration systems are required with the AXIOM's standard pneumatic solenoid technology.

Improve Process Performance and Prevent Damage to Equipment

With expanded control and monitoring capabilities, the AXIOM Expeditor offers unparalleled value in batch processing applications. Below are a few examples of applications where the AXIOM Expeditor may improve your plant operation.

Fill Control

Fill tanks and hoppers rapidly and accurately. You can set the AXIOM Expeditor to partially close the valve to reduce flow as the full level approaches. You get fast, economical "topping off" of every batch with a single valve sized for high flow rates, which may be throttled back at the end of the fill cycle.

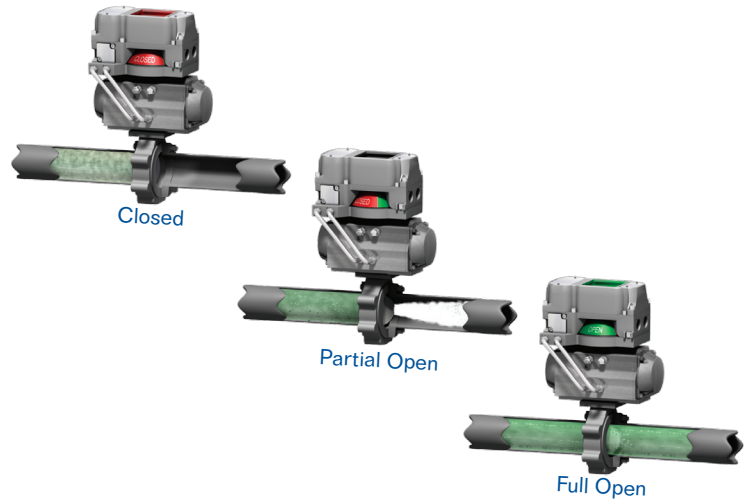


Flow Dampening

The AXIOM Expeditor allows valves to close using multiple steps, which inhibits water hammer resulting from a sudden full closure. You get prolonged valve and piping life, improved process flow performance and less potential for catastrophic failure.

Thermal Shock Reduction

By partially opening a standard discrete valve, steam lines are heated gradually; thus preventing thermal shock. Once lines are heated, full opening may occur minimizing any potential damage to steam lines. This is especially critical in CIP (clean-in-place) and SIP (steam-in-place) applications.



Reliability with AXIOM Advanced Technology

The AXIOM Expeditor uses the same pneumatic solenoid and non-contact position sensing technologies as the standard AXIOM. That translates into hundreds of thousands of trouble-free operations on low cost standard plant air even with worn pneumatic actuators.



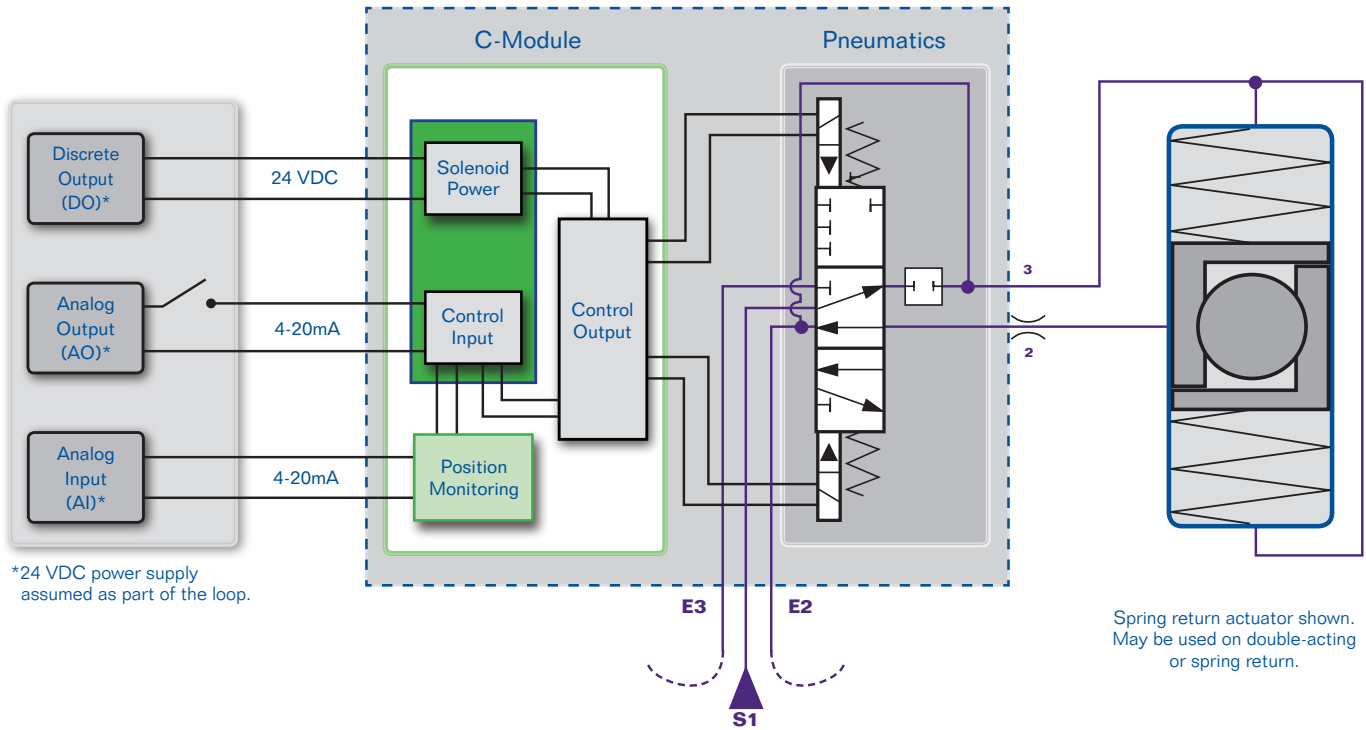
Simple Operation and Control System Integration

- ▶ Full open and closed cycling is performed by energizing and de-energizing the discrete 24 VDC output (DO) from the control system.
- ▶ Intermediate control is achieved by maintaining power from the discrete output (DO) and energizing the control system's analog output (AO). By changing the AO signal, the AXIOM control output will toggle the solenoids to the desired position within $\pm 4\%$ of full scale.
- ▶ A preset intermediate position may be achieved by maintaining power from the discrete output (DO) and switching on the analog output (AO) at a preset level between 4 and 20 mA.
- ▶ The valve/actuator operates to the fail-safe position whenever the discrete output (DO) is de-energized.

Control System

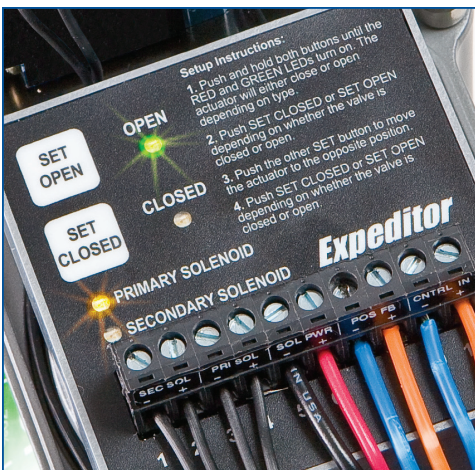
AXIOM Expeditor

Actuator



*24 VDC power supply assumed as part of the loop.

Fast, Convenient Set-up



Calibration may be performed quickly and easily using the AXIOM Expeditor's readily accessible membrane control pad. By simply following the on-board instructions, with the unit powered up, all set-up procedures may be performed in a few easy steps and the actuator evaluated for proper stroke timing.

During set-up, as mentioned above, the AXIOM Expeditor automatically gages the speed of the actuator to determine if flow restrictors are needed. If full stroke is less than one second, flow restrictors (included with each Expeditor from the factory) are required to assure smooth, consistent intermediate control operation.

Model Selector

AMI	Function	Pneumatic Valve			Enclosure	Conduit/ Connectors	Capabilities	Visual Indicator
	Sensor Modules 80 Expeditor <i>Select pneumatic valve option _D or _E (dual only)</i>	Dual Solenoid 24 VAC (0.5 watt) 12 VDC Intrinsically Safe	No Ext. Override 2D 2E	External Override 4D 4E	A North America (NEC/CEC) V International (IEC) L Brazilian	02 (2) 1/2" NPT 05 (2) M20	S Standard	RA Red Closed/ Green Open

Manifold and mounting system required for all and sold separately.

Model Examples: **AMI802DA02SRA**

(Note: Specify -T suffix for high temperature.)

Specifications

General

Cycle Life	500,000 cycles (full cycles with intermediate position; cycle life may vary depending on intermediate toggling) Cycle life may be extended by installing solenoid spool service kit ST604841.
Temperature Rating	-18° to 50° C (-0° to 122° F) High Temperature when -T suffix specified -18° to 80° C (-0° to 140° F)
Supply Pressure	40 psi (2.7 bar) minimum 120 psi (8.2 bar) maximum
Position Feedback Control	4-20mA loop, 9-25 VDC
Intermediate Position Control	4-20mA loop, 9-25 VDC
Solenoid Power	0.5 watt (0.02A @ 24 VDC) 0.5 watt Intrinsically Safe (IS) (0.04A @ 12 VDC)
Intermediate Control Accuracy	± 3° of rotation



StoneL
26271 US Highway 59
Fergus Falls, Minnesota
56537 USA

Telephone: 1 (218) 739-5774
 Tech Hotline: 1 (218) 737-0701
 Fax: 1 (218) 739-5776
 E-mail: sales@stonel.com
 Website: www.stonel.com

Publication Number
 VP-712-02/10