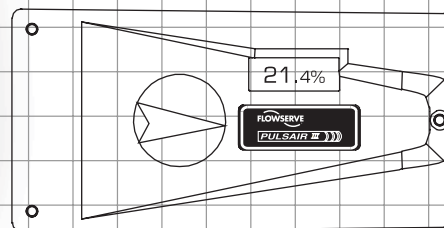


**PULSAIR III**

AN ISO 9001 REGISTERED COMPANY



# *Loop-Powered Microprocessor- Controlled Positioner*

*Accurate, High-Speed Digital Process Control*

## **PULSAIR III**

**Digital Valve Positioner combines exceptional performance with user-friendly HMI – Human Machine Interface**



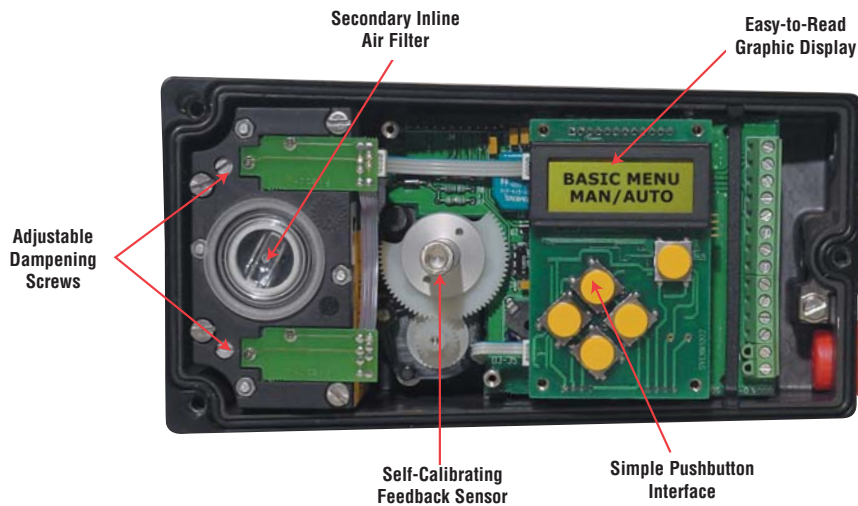
**Through-Cover Display  
Type 4X Enclosure**



**Through-Cover Display  
XP Enclosure**

The new PULSAIR® III has increased air delivery for superior performance with “sealed” piezoelectric elements to reduce moisture contamination.

## **The Simplicity of Advanced Technology**



### **Menu and Pushbuttons**

The positioner is programmed and calibrated using the five pushbuttons which are accessible when the aluminum cover is removed.

**Auto Calibration includes:**

- Leak Test
- Air Delivery Optimization
- Diagnostic Message Center

**Programming Options:**

- Basic, Advanced and Expert

## Features and Benefits

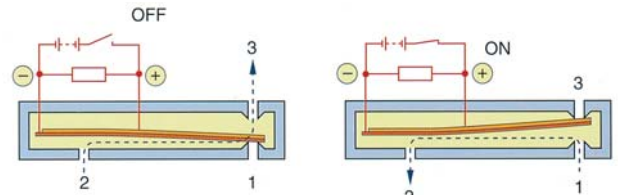
- **Sealed Piezoelectric Element**  
*Reduce downtime caused by moisture-laden air*
- **Internal Piezoelectric Air Filter**  
*Additional protection from contaminated air*
- **Sealed Electrical Compartment**  
*Protects electronics from conduit moisture*
- **Single- and Double-Acting**  
*Combines both options*
- **Rotary and Linear**  
*Program selectable*
- **HART® Communication Protocol**  
*Remote configuration*
- **Selectable Fail Mode**  
*Open, closed, last position*
- **Advanced Performance Programming**  
*Improves process control*
- **Advanced Diagnostics**  
*Performance status with alarm monitoring*

## Explosion-Proof Enclosure



## Piezoelectric Elements

The core is a piezoelectric ceramic element, built in several layers. When voltage is applied, this element bends a few hundredths of a millimeter, allowing air to flow through the piezoelectric valve from port 1 to port 2.



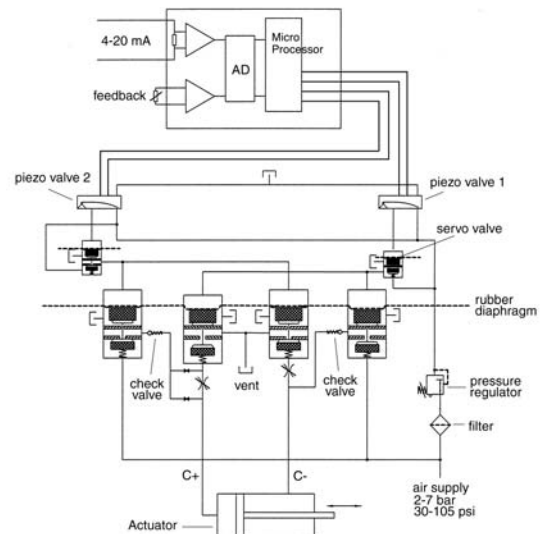
## Pneumatic Block

The pneumatic block contains "poppet" valves that are controlled by piezoelectric elements, all in a glass fiber-reinforced resin enclosure.

This unique design offers a true digital function, very low air consumption at steady state and high air delivery to provide good dynamic performance for large actuators.

The two piezoelectric elements control servo poppet valves which control larger poppet valves.

This design offers very high air delivery capacity together with low air consumption.



## Technical Specifications

<b>Input signal</b>	4-20 mA
<b>Air supply</b>	30-105 psi (2-7 bar) Free from oil, water and moisture, (dewpoint at least 18°F below lowest expected ambient) filtered to min. 30 micron.
<b>Air delivery</b>	13.8 scfm (400 nl/min)
<b>Air consumption</b>	0.01 scfm (<0.3 nl/min)
<b>Air connections</b>	¼" NPT
<b>Cable entry</b>	Three ½" NPT (Z enclosure two ½" NPT)
<b>Electrical connections</b>	One 14-point terminal strip, 14-22 GA wire (Z enclosure: one 8-point and one 3-point)
<b>Linearity</b>	<1%
<b>Repeatability</b>	<0.5%
<b>Hysteresis</b>	<0.4%
<b>Dead band</b>	0.2-10% adjustable
<b>Display</b>	Graphic, view area 0.6 x 1.6" (15 x 41 mm)
<b>HMI</b>	5 push buttons
<b>Processor</b>	16-bit
<b>CE directives</b>	93/68EEC, 89/336/EEC, 92/31/EEC
<b>EMC</b>	EN 50 081-2, EN 50 082-2
<b>Voltage drop</b>	<10.1 V
<b>Enclosure</b>	Type 4x / IP66 (Type 4x & 7 (Class I, Div I, Group B,C,D))*
<b>Material</b>	Die-cast aluminum, A2/A4 fasteners
<b>Surface treatment</b>	Powder epoxy
<b>Temperature range</b>	-22 to 185°F (-30 to 85°C)
<b>Weight</b>	3 lb. (1.4 kg)
<b>Alarm output</b>	Transistor RI 1 kΩ
<b>Alarm supply voltage</b>	8-28 V

### OPTIONAL FEEDBACK ACCESSORIES

#### Type 4 Housing-only

#### MECHANICAL SWITCHES (Optional)

Type	SPDT
Size	Sub Sub miniature
Rating	3 A/125 VAC 2 A/30 VDC

#### NAMUR SENSORS (Optional)

Type	Proximity DIN 19234 NAMUR
Load Current	(On) ≤ 1mA, (Off) ≥ 3 mA
Voltage range	5-25 VDC
Hysteresis	0.2%
Temp	-4°F to 185°F (-20°C to 85°C)

#### PROXIMITY SWITCHES (Optional)

Type	SPDT
Rating	5 W/250 mA/30 VDC/125 VAC
Operating time	0.7 ms
Breakdown voltage	200 VDC
Contact resistance	0.1 Ω
Mechanical/electrical life	> 50x10 <sup>6</sup> operations

#### 4-20 mA TRANSMITTER (Optional)

Supply	9-28 VDC
Output	4-20 mA
Resolution	0.1%
Linearity full span	+/- 0.5%
Output current limit	30 mA DC
Load impedance	800 Ω @ 24 VDC

#### \*Industry Approvals:

FM:	Class I, Division 1 Groups B, C, D Class II, Division 1 Groups, E, F, G
CSA:	Class I, Division 1, Groups C, D Class II, Division 1, Groups E, F, G

## How to Order

	L	93	S	W	M2	P	4
Special Options	Circuitry	Series	Actuator	Enclosure	Limit Switches	Positioner	Input Signal
Blank - No options 4 - 4-20 mA output R - Remote mount	L - Loop-powered, not intrinsically safe	93	S - Spring-Return  Blank - Double-Acting	W - Type 4x / IP66	Blank - No switches M2 - 2 SPDT mechanical switches P2 - NAMUR sensors R2 - Proximity (REED) switches	P	4 - 4-20 mA H4 - HART
Blank - No options R - Remote mount	4L Note: 4-20 ma std. with Type z enclosure	93	S - Spring-Return Blank - Double-Acting	Z - Type 4x / IP66 Type 7	N/A	P	4 - 4-20 mA H4 - HART

Due to continuous development of our product range, we reserve the right to alter the product specifications contained in this brochure as required.

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