



Series 57

Rotary **Electro Pneumatic** Positioner

FEATURES & BENEFITS

- Rugged aluminum housing with a triple corrosion-resistant interior and exterior coating that resists harsh environments
- Bleed pilot valve reduces air consumption by more than 50%
- Precise calibration with simple SPAN and ZERO adjustments
- Unique magnetic 4-20 mA I/P converter provides automatic compensation for supply pressure, atmospheric pressure and ambient temperature changes, and is unaffected by EMF
- Precision zero-hysteresis coupling system provides superior accuracy and repeatability by eliminating "slop"
- Stainless steel gauges standard



3-15 PSI PNEUMATIC

Description	Specification
Input Signal	3-15 psig
	Split Range Available
Inpedance	N/A
Stoke Range	0-90°
Supply Range	20 to 100 PSIG
Air Delivery	7 SCFM
Air Consumption	0.26 SCFM
Operating Temperature	-4°F to 158°F
Linearity	+/- 2%
Hysteresis	1% max
Sensitivity	+/- 0.5%
Repeatability	+/- 0.5%
Pneumatic Connection	1/4 NPT - Supply/Outlet
	1/8 NPT - Gauge Ports
Enclosure	Designed to NEMA 4, 4X
Enclosure Weight	Approx. 4.8 lbs

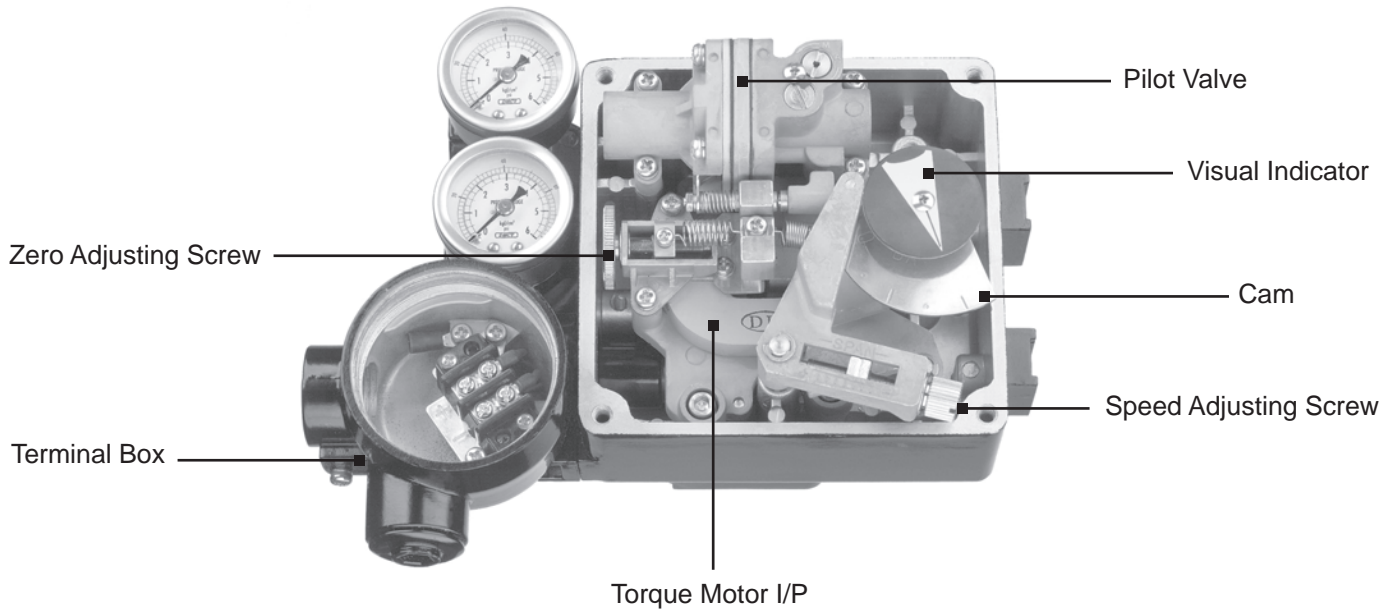
4-20 MA ELECTRO-PNEUMATIC

Description	Specification
Input Signal	4-20mA @ 24V VDC
	Split Range Available
Inpedance	250 +/- 15 ohms
Stoke Range	0-90°
Supply Range	20 to 100 PSIG
Air Delivery	7 SCFM
Air Consumption	0.26 SCFM
Operating Temperature	-4°F to 158°F
Linearity	+/- 2%
Hysteresis	1% max
Sensitivity	+/- 0.5%
Repeatability	+/- 0.5%
Pneumatic Connection	1/4 NPT - Supply/Outlet
	1/8 NPT - Gauge Ports
Enclosure	Designed to NEMA 4, 4X
Enclosure Weight	Approx. 6.5 lbs



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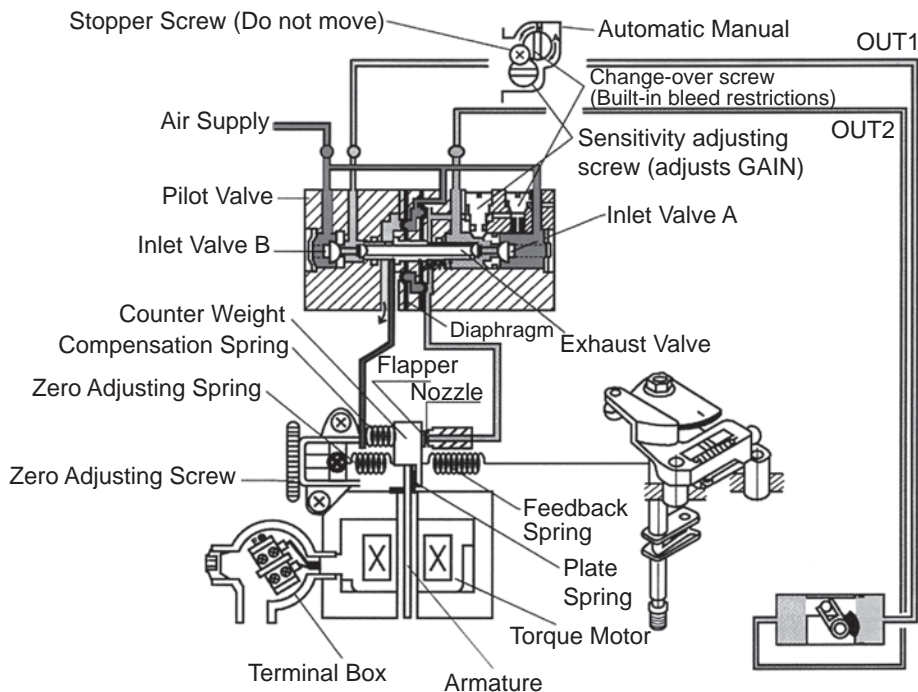
57 SERIES WITH COVER REMOVED



PRINCIPLE OF OPERATION - ROTARY VALVE

As the signal current from the controller increases, the plate spring of the torque motor works as a pivot. As the armature receives this rotary torque in the counter-clockwise direction, the counterweight is pushed to the left, the clearance between the nozzle and the flapper will increase, and the nozzle back pressure will decrease. As a result, the exhaust valve of the pilot valve moves to the right, the output pressure of OUT1 increases (as OUT2 decreases) to move the valve actuator.

The movement of the actuator rotates the feedback shaft and spring. The actuator stays in the position where the spring force is balanced with the force generated by the input current in the torque motor. The compensation spring is for the direct feedback of the motion of the exhaust valve, and is connected to the counter weight to enhance the stability of the loop. The zero point is adjusted by changing the zero adjustment spring tension.



DIMENSIONS

