

Model 9520R Mounted on Ranger QCT

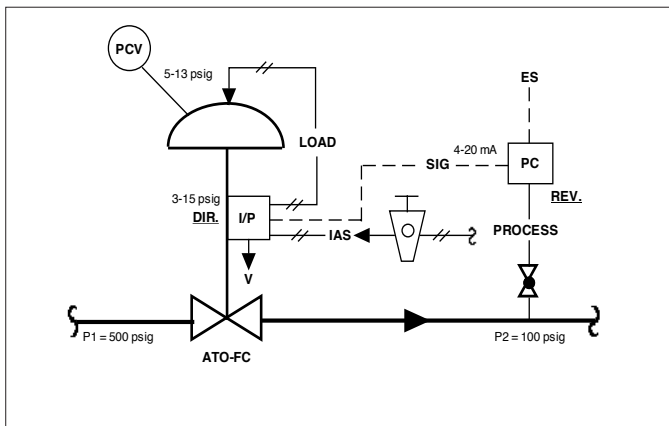
MODEL 9520R

ELECTRO-PNEUMATIC POSITIONER FOR ROTARY VALVES

Model 9520R is a single acting, compact, force-balance rotary positioner with an integral I/P transducer. Unit receives a 4-20 mA analog input and outputs a pneumatic loading pressure. The positioner characterizes the relationship between valve stem rotational position and the system's control signal, and precisely positions the valve stem. An external 2-gauge cluster indicates air supply and output loading pressures.

FEATURES

- Intrinsically safe.
- Adjustable gain.
- Adjustable stroking speed.
- Direct or reverse action with simple field reversibility.
- Easy change to split range operation.
- Corrosion resistant SST hardware.
- Two pressure gauges standard.
- High capacity relay.
- Negligible effects from vibration.
- Totally enclosed linkage.
- Multiple characterization cams.
- Integral travel indicator.



Typical Pressure Reducing Pneumatic Control Loop - PCV with I/P Positioner

APPLICATIONS

Cashco Ranger QCT, Premier EZO and Premier rotary stem control valves.

	HAZARDOUS LOCATION CLASS I, DIVISION 1 GROUPS A, B, C, D	SAFE LOCATION
	Model 9520 L R Eckardt Type 530 6986 830 Vmax. = 40V Imax. = 150 mA Ci = 0 Li = 0	FM ENTITY APPROVED APPARATUS

	HAZARDOUS LOCATION CLASS I, DIVISION 1 GROUPS A, B, C, D	SAFE LOCATION
	Model 9520 L R Eckardt Type 530 6986 830	ANY APPARATUS

MODEL 9520R I/P POSITIONER - ROTARY

SPECIFICATIONS

Input Signal: 4-20 mA standard.
 Split ranges:
 2-way — 4-12 or 12-20 mA;
 3-way — 4-9.3, 9.3-14.7,
 14.7-20 mA.
 18-36 VDC external power supply.
 Internal resistance - 200 Ohms @
 68°F.

Supply Pressure:	Max. Supply Pressure (psig)	Bench Set (psig)
	20	5-13
	27	7.5-19.5
	36	10-26
	44	14-30

NOTE: Requires oil-free, desiccant-dried, instrument quality, compressed air.

Hysteresis: $\leq 0.5\%$ of span.
Linearity: $\leq \pm 1.0\%$ of span.
Sensitivity: $\leq 0.1\%$ of span.
Operating Influence (Supply Pressure): $\leq 0.203\%$ stroke change per one psi change in supply pressure.

Open Loop Gain:	Supply Pressure (psig)	Adjustable Range
	20	150:1
	27	140:1
	36	124:1
	44	113:1

Ambient Temperature: -40 to +175°F.
Temperature Effect: $\leq 0.01\%$ stroke change per °F ambient temperature change.
Relative Humidity: $\leq 100\%$.
Vibration Effect: Immune up to 100 Hz and four g's in any direction.
Required Barriers: See schematics below.

Air Consumption:

Supply Pressure (psig)	Air Requirement, SCFH	
	Steady State Consumption	Maximum Output @ Maximum Deviation ¹
20	7.1	95
27	8.4	117
36	10.1	141
44	11.4	159

¹ At maximum gain

Stroking Time: See Technical Bulletin STKSP-TB.

Valve Stem Travel: 90°.

Characterization Cams:	Ranger QCT	Premier EZO / Premier
	=% Linear	=%

Connections: 1/4" NPT female.

Electrical Classification: Enclosure: Designed to NEMA 3; per IEC IP54 protection class.
 Explosion Protection: Intrinsically safe.
 Approvals: USA - FM Class 1, Div 1, Groups A,B,C,D.
Europe - PTB (Ex) is G5, LCIE EEx ib II C T6 Type BIB 633.
Canada - CSA, Class 1, Div. 2, Groups A, B, C and D.

Materials: Baseplate, Cover, Housing and Gauge Block/Connection Manifold - Aluminum with polyurethane paint.
 Position Indicator Lens – Plastic.

Gauges: Two - one air supply, one output load. Externally mounted on gauge block/connection manifold. Gauges enclosed in weatherproof, clear plastic cover. SST gauge case, dual scales in PSIG and BARG.

Wire Size: Nos. 16-22 AWG; 6-12 mm diameter.

Conduit Connection Size: 1/2" NPT.