

Model 9520R Mounted on
Ranger QCT

MODEL 9520R

ELECTRO-PNEUMATIC POSITIONER FOR ROTARY VALVES

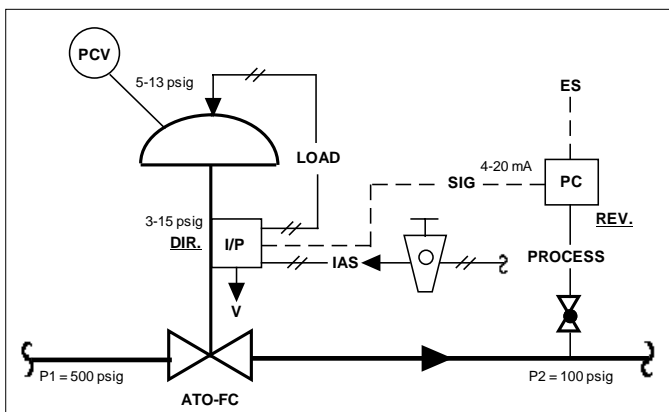
Model 9520R is a single acting, compact, force-balance rotary positioner with an integral I/P transducer. Unit receives a 4-20 mA analog input and outputs a pneumatic loading pressure. The positioner characterizes the relationship between valve stem rotational position and the system's control signal,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

APPLICATIONS

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



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

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: ≤0.5% of span.
Linearity: ≤ ±1.0% of span.
Sensitivity: ≤ 0.1% of span.
Operating Influence (Supply Pressure): ≤ 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: ≤0.01% stroke change per °F ambient temperature change.

Relative Humidity: ≤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.

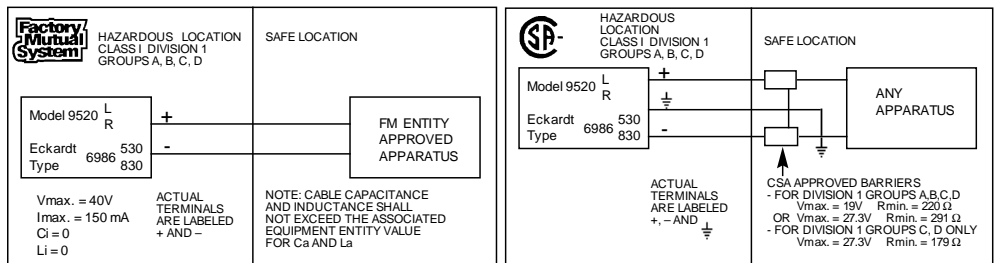
Gauges: Two - one air supply, one output load. Externally mounted on gauge block/connection manifold. Gauges enclosed in weatherproof, clear plastic cover. SST gauge case, dual scales in PSIG and BARG.

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

Conduit Connection Size: 1/2" NPT.

Cashco, Inc.
P.O. Box 6
Ellsworth, KS 67439-0006
PH (785) 472-4461
Fax. # (785) 472-3539
E-mail: sales@cashco.com
exportsales@cashco.com

Printed in U.S.A. Model 9520R -gh



@GS