

Air Quality

The **R620-1998-EP** positioner supplied with the **-EP** valves pneumatic rack and pinion actuator is an Electro-Pneumatic instrument and includes a modular I/P transducer. The I/P transducer and positioner require **instrument quality supply air** along with a **particulate and coalescing filter**. As with all instrumentation of this type, the instrument air quality **is required** for the successful operation of all **-EP** air/exhaust and fuel pneumatic control valves. Poor air quality is one of the major causes of premature failure of pneumatic instrumentation and equipment.

Supply Air Requirements

The recommended operating air pressure for -EP valve assemblies is to be 70-100 psi. Maximum supply pressure is 1 MPa (150 psi). Supply air shall be clean, dry and free from oil, water, moisture, foreign parts and debris. The air shall be freeze-dried or similar to a dew point of at least 10°C (18°F) below lowest expected ambient temperature. A <40µ filter/regulator is recommended to be installed as close to the positioner as possible to ensure proper supply air quality.

Before making pneumatic connections to the positioner, it is recommended that the supply air lines are opened up and allowed to vent for 2-3 minutes to clear any debris from the line. It is further recommended that a large paper bag is used to collect any oil or humidity that may be present in the line during this purging, direct the air flow into the bag. Should excessive amounts of oil and/or humidity be present at this stage, a review of the pneumatic system should be carried out and the problem corrected.

Air Filter

Each **-EP** valve is supplied with an **R620-1998-F** 1/4", high efficiency, liquid (water oil), miniature coalescing and sub-micron filter with automatic pulse drain. Both free moisture and solids are removed by the filter.

The filter **is not** a substitute for instrument quality air and is intended for installation on the supply air of each individual positioner.

1. It is to be installed upstream of the supply air connection of each **-EP** positioner located with reasonable accessibility for service and as close to the positioner as practical. Keep pipe or tubing lengths to a minimum with inside clean and free of dirt and chips.
2. Pipe joint compound should be used sparingly and applied only to the male pipe – never into the female port. Do not use PTFE tape to seal pipe joints – pieces have a tendency to break off and lodge inside the unit, possibly causing malfunction.
3. New pipe or tube should be installed between the filter and the positioner. The upstream pipe work must be clean and clear of accumulated dirt and liquids.
4. A 5-40 micron pre-filter is also recommended to protect the high efficiency filter and to prolong the elements life.
5. Install the filter so that air flows into the port labeled "IN" on body.
6. Install filter vertically with bowl drain mechanism at the bottom. Free moisture will thus drain into the sump "quiet zone" at the bottom of the bowl.

WARNING: Situations dangerous to personnel and property may exist with the operation and maintenance of any combustion equipment. The presence of fuels, oxidants, hot and cold combustion products, hot surfaces, electrical power in control and ignition circuits, etc., are inherent with any combustion application. Parts of this product may exceed 160F in operation and present a contact hazard. Fives North American Combustion, Inc. urges compliance with National Safety Standards and insurance Underwriters recommendations, and care in operation.