

Troubleshooting Pneumatic Rotary Valve Actuators

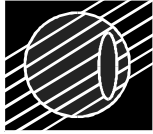
NOTES ON MAINTENANCE PROCEDURES: WARNING!!! In all cases, never operate an automated valve while under pressure or in a live process. Always disconnect supply air or voltage before any disassembly or maintenance is performed. Always be aware of the area classification for electrical service. Shut off and remove all electrical equipment from a hazardous area before performing any maintenance. If ever in doubt, choose safety first!

When contacting your manufacturer be prepared to provide:

Model Number	Usually located on the actuator.
Plant air supply to actuator.	Worst case, reliable air pressure.
Valve type and size it is operating.	Ball, butterfly, etc. Line size.
Intended service	On/Off, modulating etc.
Installed options (if known)	Does the unit have; pilot valve, positioner, etc.?
Single- or double-acting	If it is a spring return (single-acting) unit, should it fail "open" or "closed"?

Problem: Actuator will not operate (For Solenoid-Controlled Actuators)

What to check	Solution
Is valve free to rotate?	Manually cycle the actuator by engaging a wrench on the flats at the auxiliary shaft.
Is actuator the correct size? Output torque?	Contact factory.
If speed controls are being used check to ensure they are not completely closed.	Open the speed control valves.
Solenoid valve supply voltage	Correct?
Adequate supply air pressure?	Install a gauge and take readings as the actuator attempts to cycle or is instructed to do so. Monitor the gauge for unexpected pressure drops.
Further Check of Solenoid Valve	
Apply signal voltage to solenoid valve.	Check solenoid for clicking sound. If OK, proceed.
If no clicking sound is detected.	
Carefully unscrew solenoid and solenoid stem from valve housing,.	Keep parts clean.
Reapply the voltage.	If plunger does not retract, replace valve.
If solenoid functions, reassemble valve.	Remove solenoid valve from actuator. Apply air pressure. Energize valve. Check for air passing through supply ports. If no air, replace. If OK, proceed.



Problem: Actuator will not operate (For Actuators without Solenoid Valves)

What to check	Solution
Is valve free to rotate?	Manually cycle the actuator by engaging a wrench on the flats at the auxiliary shaft.
Is actuator the correct size? Output torque?	Contact factory.
If speed controls are being used check to ensure they are not completely closed.	Open the speed control valves.
Make sure that all internal air porting is free and clear of any obstructions.	Apply slight air pressure to determine free flow of air.
Disassemble Actuator as per Manufacturers Procedures.	
Make sure that the actuator is properly lubricated.	Apply generous amount of #1 grease. Verify with manufacturer.
	Remove and clear out any solidified grease.
Verify that actuator pinion shaft and/or pistons are not bound.	Manually "cycle" actuator.
Check rotary mechanism on output shaft.	If broken, replace.
Check body/cylinder walls for scoring.	Replace body and piston o-rings.
If a spring-return actuator	
Check for misplaced or broken springs	Replace broken springs as per manufacturer's instructions.
Repair/Replace	
In all cases replace soft components throughout the actuator prior to re-assembly. All parts should be clean and lubricated.	