Micromatic Actuator End Of Line Test Procedure for Actuators

100% of the actuators Micromatic builds are tested on dedicated test stands after assembly. The actuators undergo a break-in period and are then evaluated for internal bypass, breakaway pressure and visual inspection for external leaks.

1. **Break-In:**
   a. Actuator cycled fully alternating clockwise and counterclockwise at 1,000 psi for 1 minute.
   b. The actuator is visually evaluated for external leaks during the break-in period and throughout the test

2. **Bypass/Internal Leak:**
   a. All vane type actuators have internal bypass which is a small amount of high-pressure fluid bypassing/jumping internal seals to the low-pressure side of the actuator.
   b. Shaft is rotated fully against internal stop • Low pressure port has a valve on tester opened up to dump fluid externally • Pressure is ramped up to 3,000 psi and stays in that state for 1 minute. All bypass fluid is allowed to come out and be recycled back to the tester tank.
   c. After 1 minute, pressure is held at 3,000psi, a collection device is placed under open valve and bypass fluid is collected for 1 minute.
   d. The volume of bypass fluid discharged in the 1-minute time are written onto the end of line test report against the actuator serial number.

3. **Breakaway Pressure:**
   a. Shaft is rotated fully against internal stop.
   b. The open/low pressure port is closed and input pressure is reduced to zero • Pressure is slowly ramped up starting at 0 psi and a pressure reading is taken at the point the shaft starts to rotate (breakaway from the internal stop)

4. **Steps 2 and 3 are repeated except for the alternate direction.**

5. **Pass/Fail Determination:**
   a. Results of the tests performed are compared against the Micromatic actuator standards document GS-108 for that particular actuator configuration to determine Pass/Fail.
   b. Any failure in testing requires appropriate actions necessary to determine and resolve root cause of the failure and the actuator is then retested accordingly.