



# DURAVALVE MODEL SM 310 NAMUR SOLENOID VALVE

(4-WAY VALVE ILLUSTRATED)

## SEQUENCE OF OPERATION

When Solenoid Valve is Energized (Figure 2)

1. Spring loaded spool diaphragm moves left compressing the spring.
2. Inlet air from the compressor is allowed to flow from inlet port "P" and out through port "1" to the actuator.
3. Exhaust air from the actuator is allowed to flow into port "2" and out of the solenoid valve through exhaust port "EB".

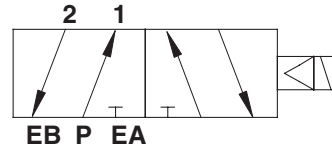


Figure 2: Simplified Operational Diagram

When Solenoid Valve is De-energized (Figure 3)

1. Loaded Spring is released moving the spool diaphragm to the right.
2. Inlet air from the compressor is allowed to flow from inlet port "P" out through port "2" to the actuator.
3. Exhaust air from the actuator is allowed to flow into port "1" and out of solenoid valve through exhaust port "EA".

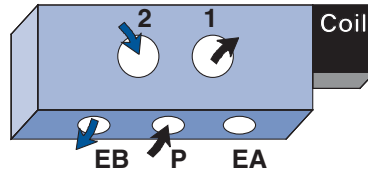


Figure 2: Air Flow Pattern (Solenoid Energized)

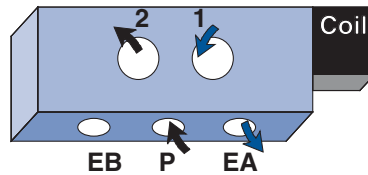


Figure 3: Air Flow Pattern (Solenoid De-energized)

4. **For Spring Return Actuator (Figure 4):** In the event of air failure to the inlet port "P", the loaded springs in the actuator are released. Exhaust air flows out of the actuator to port "2" and out of the solenoid valve through port "P". Atmosphere air flows from port "EA" to port "1" then into the actuator spring chamber.

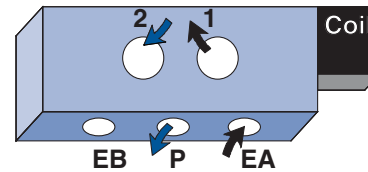


Figure 4: Air Flow Pattern (Air Failure to Port 1)

## INSTALLING THE ELECTRICAL CABLE

Before the solenoid valve can be put into service, electrical cable with end plug must be connected to the electrical casing.

1. Remove the electrical casing from the rest of the valve. This is easily done by loosening the 3.3mm screw (see Figure 5). Completely remove the 3.3mm screw from the casing.
2. After the casing is detached, a set of 3 narrow slots are revealed on the casing insert. Slots are identified by "1" for positive, "2" for negative and "⊖" for ground. The metal base for attaching copper wire is on the other side of the insert.
3. Pop out the casing insert with a small screw driver. The metal base is revealed.
4. Attach copper wires accordingly.
5. Replace the casing insert and attach the electrical casing back to the rest of valve body.

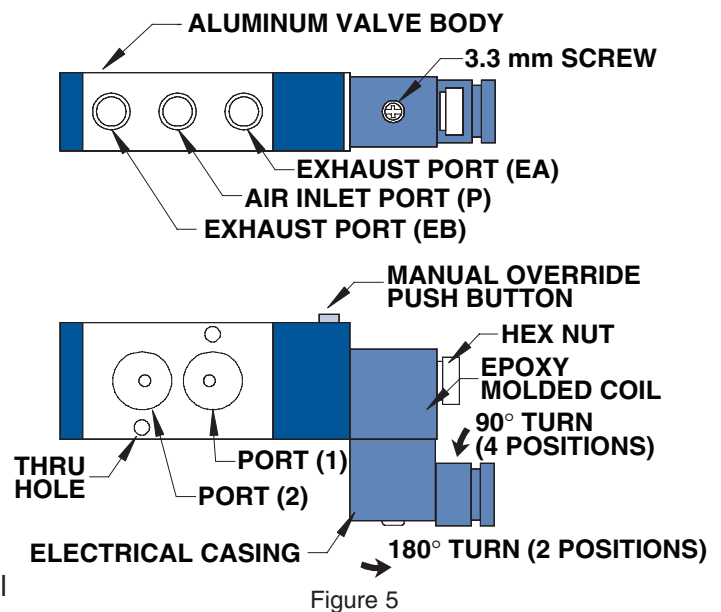


Figure 5

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