



# AIR TORQUE

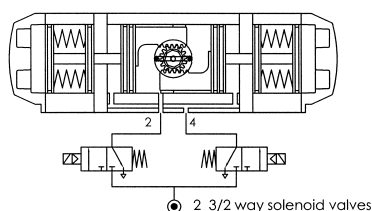
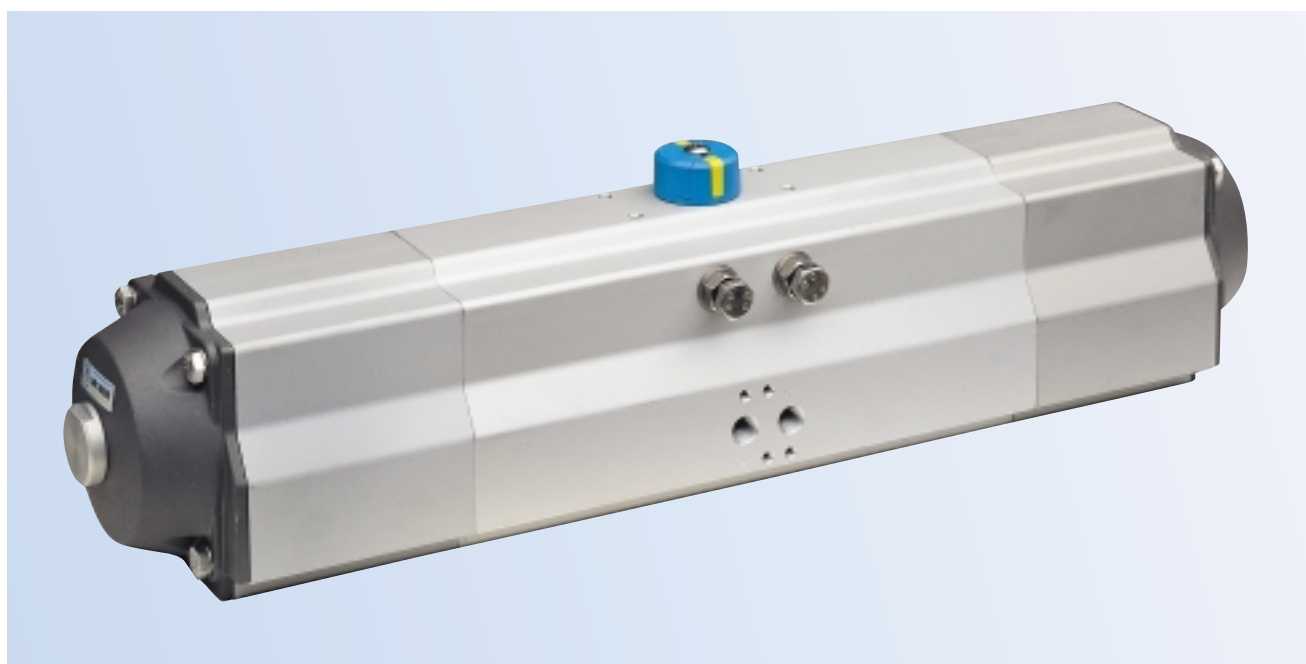
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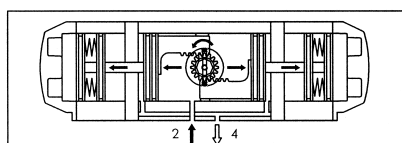
## 180° SPRING RETURN ACTUATOR 4thG WITH 90° FAIL SAFETY POSITION

The 180° spring return actuator 4<sup>th</sup> Generation with 90° fail safety position is used for 0°-90°-180° operations where in case of air failure the actuator has to return to the 90° position. At both ends of the actuator a spring set is mounted and the compression on both sides of the springs is caused by the rotation from the 90° position. The fail-safe operation is achieved by the extension of the compressed springs that bring the actuator from 0° or 180° position to 90° position.

The external travel stop is available as a standard in fully open position (180°) and in fully close position (0°), and it is easily and precisely adjustable of +/- 4° in both directions.

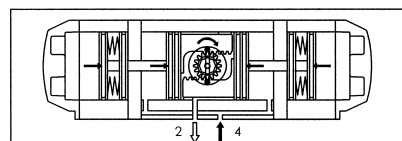


In order to control the operation of AIR TORQUE 180° with 90° Fail Safety Position a system of solenoid valves controlling a sequence of air supplies to the actuator is required as described besides: The actuator may be controlled by two 3/2 way solenoid valve or by one 5/3 way solenoid valve.



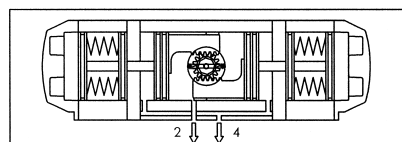
### From 90° to 180°

When compressed air is supplied at the Port 2, air forces the pistons apart and compresses the springs from their inside ends to the end side. A counterclockwise rotation is obtained.



### From 90° to 0°

When compressed air is supplied at the Port 4, air forces the pistons together and compresses the springs from their outside ends to the center. A clockwise rotation is obtained.



### Air fail operations

**From 180° position:** on loss of air pressure (air or electric failure) at Port 2 allows the springs to force the pistons together (until 90° position) with the exhaust air exiting at Port 2, a clockwise rotation is achieved.

**From 0° position:** on loss of air pressure (air or electric failure) at Port 4 allows the springs to force the pistons toward the actuator (until 90° position) with the exhaust air exiting at Port 4, a counterclockwise rotation is achieved.

When ordering 180° Spring Return Actuator with 90° Fail Safety Position, add **"FM"** (Ex. **FM AT 308 S11 A F07 17**) to the standard 180° rotation Spring Return actuator code.



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