



# Installation of Programmable Rotary Actuator to Butterfly Valves

## Preliminary:

This information is to be used in conjunction with Eclipse Programmable Rotary Actuator Instruction Manual 904, Data 904, and Butterfly Valves Data 720.

The butterfly valve rotation direction is viewed from the shaft end connected to the actuator, the same view as facing the actuator's keypad. The slot at the end of the butterfly valve shaft is parallel to the shutter. When the shaft is rotated to align the slot to the pipe direction, the valve is at maximum flow.

Factory default actuator settings work with non-beveled shutter valves. On beveled shutter valves, the minimum position is physically stopped at about a 15-degree angle when the shaft is turned fully counter-clockwise. Certain actuator models have the stroke set to 75 degrees for use with beveled shutter valves.

If the actuator is not preset for the valve, provide temporary power to the actuator and drive it to the minimum position. Set the actuator's minimum position and shaft rotation direction to match that of the butterfly valve. Remove temporary power.

1.



1. Insert the 3mm spring pin partially into the coupling. Insertion may be easier by first squeezing the tip slightly with pliers.

2.

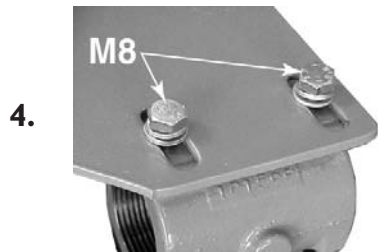


2. Install the coupling onto the actuator shaft and align the drive hole in the coupling with the through hole in the shaft. A view from the hole on the backside will assist alignment.

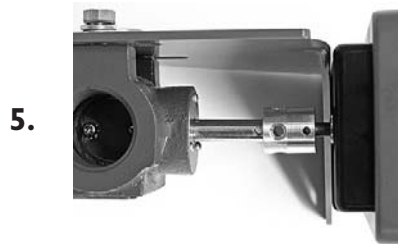
3.



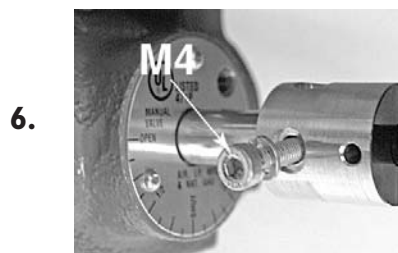
3. Use slip-lock pliers to press the spring pin through the coupling and shaft. Make sure the actuator body is supported and be careful not to apply excessive stress on the shaft.



4. Loosely attach the mounting bracket to the butterfly valve with the M8 bolts, flat washer and lock washer. Do not tighten at this time.



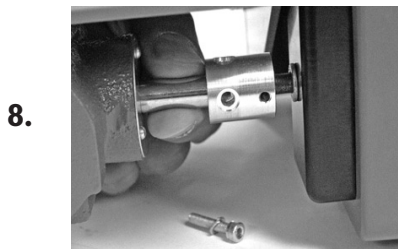
5. The coupling has two sets of holes for the M4 screw that are offset by 90 degrees. The set used depends on the rotation direction so it is important to rotate the valve shaft to the minimum (closed) position to match the actuator shaft position. Slide the actuator and coupling assembly onto the valve shaft. Align the hole in the coupling with the M4 hole in the shaft, taking precautions not to move the valve shaft.



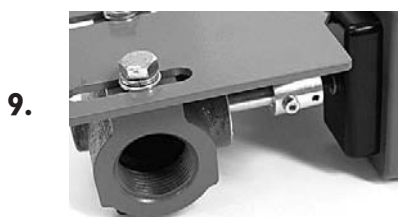
6. Partially insert the M4 screw and lock washer through the coupling and into the valve shaft.



7. Insert and finger tighten the M6 screw, washer, and lock washer through the bracket into the actuator. Finger tighten the M8 bolts from step 4.



8. Confirm the alignment of the valve shaft to the actuator shaft by removing the M4 screw in step 6 and see if the valve shaft can be turned within the coupling. Make adjustments as needed.



9. Tighten the M8 bolts to 5.1 N-m (45 lb-in) and the M6 bolts to 2.2 N-m (19 lb-in). Insert and tighten the M4 bolt to 1 N-m (9 lb-in).

#### ***After Installation:***

Make all electrical connections and apply power. Verify that the stroke motion is smooth over its entire range. Adjust the actuator parameter settings as required by the application.



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