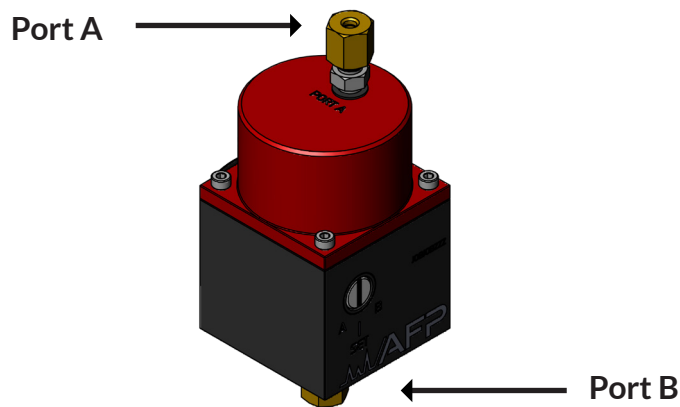


Installation procedure for AFP's Mini Rotary Valves (MRV) on pneumatic actuators (MPA)

Description

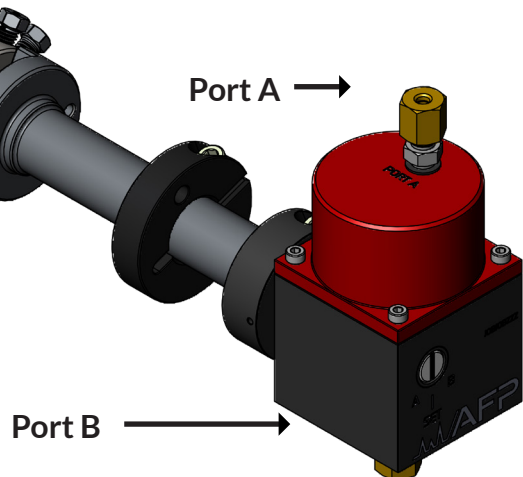
The mini pneumatic actuator (MPA) allows any of the two-position rotary valves from AFP to switch from position to position by introducing pulses of gas. The gas is introduced in the actuator by the two ports indicated by 'Port A' and 'Port B' on the MPA. Recommended gases for driving the valve are N₂ or dry Air.



Two-position rotary valves can be mounted on the MPA using different standoff assemblies. This provides the user possibility to install and isolate the valve from the actuator outside a heated zone. AFP standoff assemblies come in 2", 3" and 4" length. Additionally, a 'close mount' model is also available.

This document describes the installation procedure for both types of mounting.

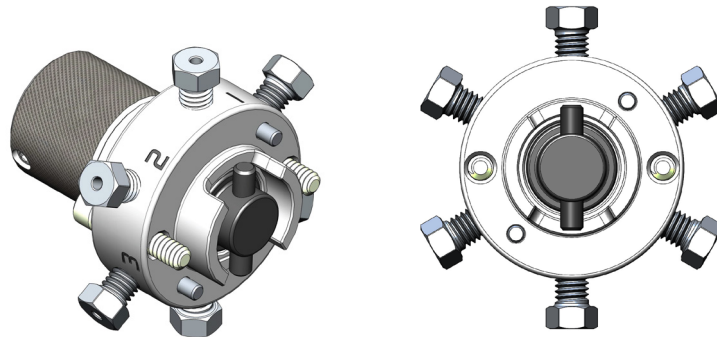
Specifications	
Port Connection	1/8" (3.2 mm)
Standoff Lengths	2", 3", and 4"
Actuator Pressure Inlet	min. 40 psig, max 80 psi
Air Consumption Per Stroke	1.1 in ³ (18 cc)
Actuator Max. Working Temperature	Up to 356 F (180 °C)



Installation of a two-position valve on a MPA (with a Standoff).

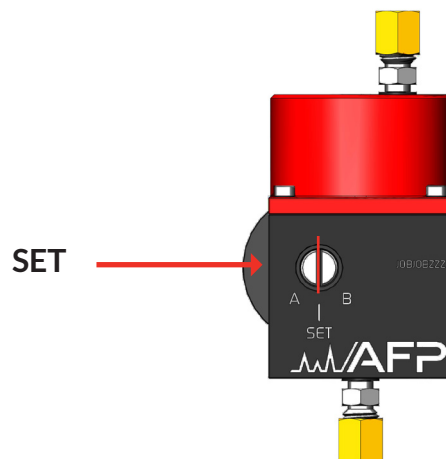
Step 1:

Use the drive adaptor to align the rotor tab from the MRV valve to the neutral position. This is obtained when placing the drive adaptor between the two walls of the MRV. Generally the drive adaptor should point towards the port #1.



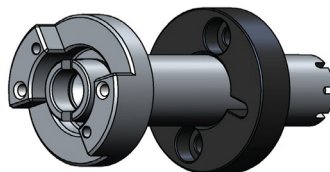
Step 2:

Place the MPA in neutral position (SET) using a flat screwdriver.



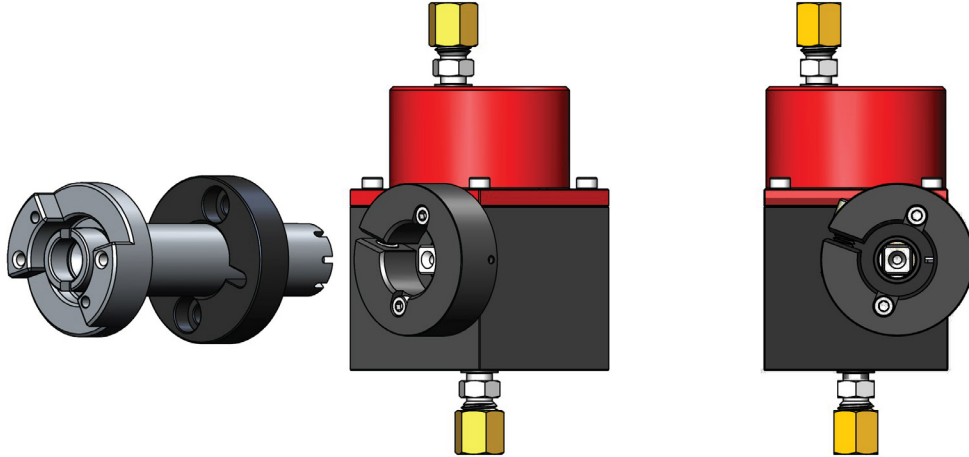
Step 3:

Mount the standoff on the oven wall or mounting bracket using the wall oven collar. Fix the screw (SHCS #6-32 x 5/8") with a torque of 20 in lb.



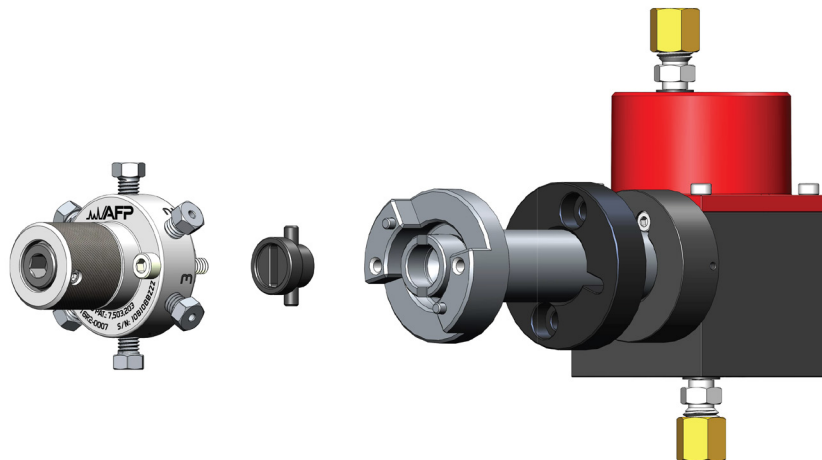
Step 4:

Install the end part of the standoff onto the MPA, aligning the stand off slot with the location pin of the clamp ring. Use the clamp ring on the actuator to assure the fixation of the standoff. Recommended torque for the clamp ring screw (SHCS #10-32 x 1/2") is 45 in lb.



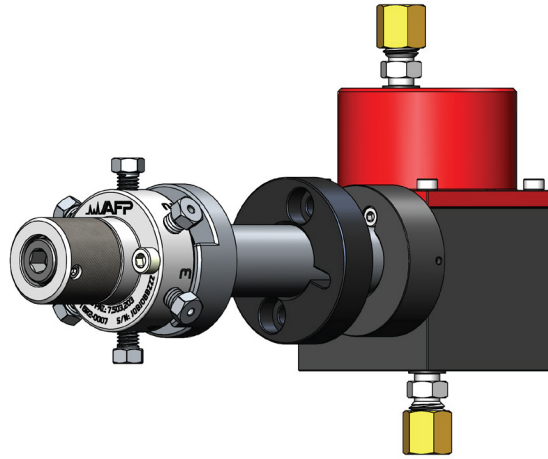
Step 5:

Verify that the drive shaft and the drive adaptor are aligned to the neutral position of the rotary valve.



Step 6:

Install the valve on the standoff using the guiding pins and the mounting screws (SHCS #6-32 x 5/8"). If necessary, use a screwdriver on the MPA setting screw to assist the alignment between the MRV rotor tab and the actuator. Torque the screws to 30 in lb.



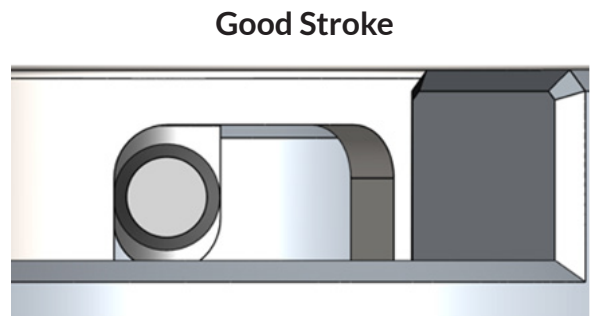
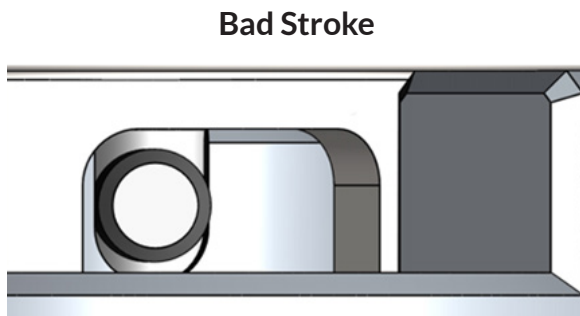
Step 7:

Connect the actuation gas to the Port A and Port B of the MPA.

NOTE: AFP recommends the use of bottled instrument air or nitrogen as actuation gas. If plant air from a compressor is used, AFP recommends the use of oil and water filters to extend the lifetime of the product.

Step 8:

Actuate the valve to 'Position A' and verify that the actuation is complete. This is obtained if there is no space between the drive adaptor pin and the wall of the MRV.



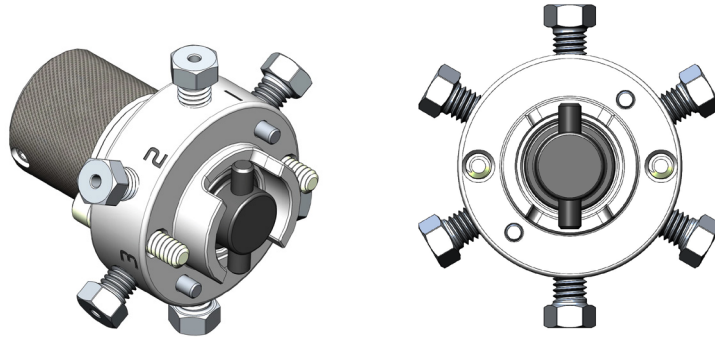
Step 9:

Repeat step 7 for the 'Position B'.

Installation of a two-position valve on a MPA (with a Standoff).

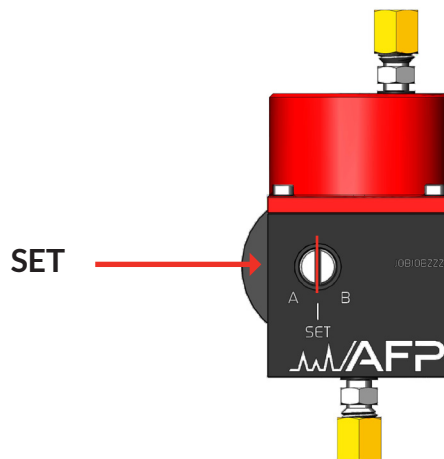
Step 1:

Use the drive adaptor to align the rotor tab from the MRV valve to the neutral position. This is obtained when placing the drive adaptor between the two walls of the MRV. Generally the drive adaptor should point towards the port #1.



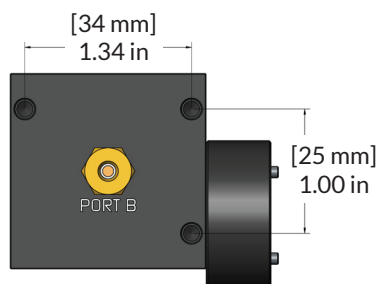
Step 2:

Place the MPA in neutral position (SET) using a flat screwdriver.



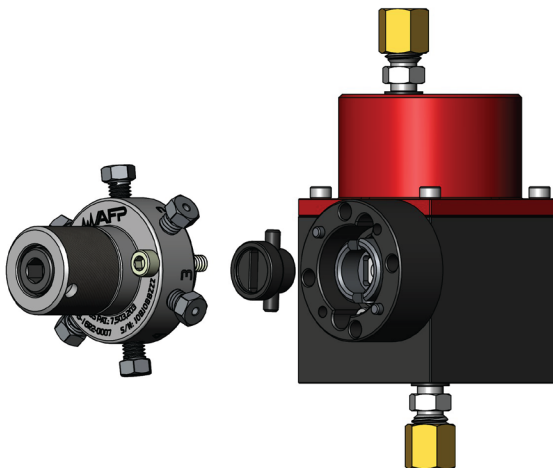
Step 3:

Mount the actuator on a bracket using the bolt pattern on the Port B face. These threads are M4x0.7 mm.



Step 4:

Install the valve on the standoff using the guiding pins and the mounting screws (SHCS #6-32 x 5/8"). If necessary, use a screwdriver on the MPA setting screw to assist the alignment between the MRV rotor tab and the actuator. Torque the screws to 20 in lb.



Step 5:

Connect the actuation gas to the Port A and Port B of the MPA.

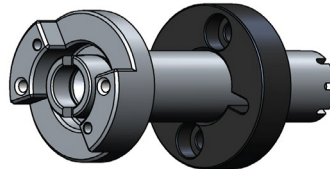
NOTE: AFP recommends the use of bottled instrument air or nitrogen as actuation gas. If plant air from a compressor is used, AFP recommends the use of oil and water filters to extend the lifetime of the product.

Mounting of the MPAs

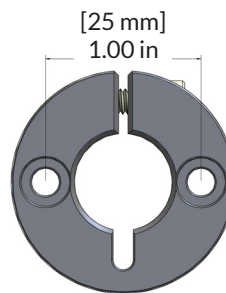
AFP recommends the following methods to mount the MPA onto your instrument: 1) using the oven collar or 2) using the fixing threads from the actuator.

Mounting the MPA using the oven collar.

Mount the standoff on the oven wall or mounting bracket using the wall oven collar. Fix the screw (SHCS #6-32 x 5/8") with a torque of 20 in lb.



The bolt pattern of this collar is shown below.



Mounting the MPA using the mounting threads.

The MPA has three mounting threads (M4 x 0.7mm), which can be used to mount the actuator on a plaque. These screws are located on the Port B face of the MPA

