

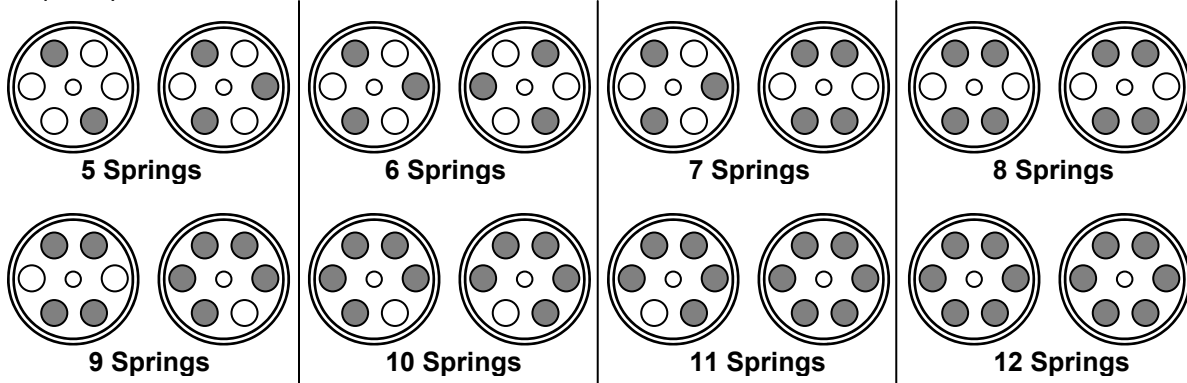
# **aero<sup>2</sup>** Installation and Operation Manual

**CAUTION:** ALWAYS USE CARE AND COMMON SENSE WHEN WORKING WITH PNEUMATIC ACTUATORS. DE-ENERGIZE THE AIR SUPPLY (AND DE-PREPRESSURIZE IT) AND SHUTOFF ALL ELECTRICAL POWER TO ANY OF THE ACCESSORIES BEFORE PERFORMING ANY MAINTENANCE OR REPAIR. DISCONNECT THE INLET PRESSURE PIPE OR TUBING TO ENSURE THAT THE ACTUATOR HAS FULLY DE-PRESSURIZED AND, FOR SPRING RETURN ACTUATORS, THAT THE ACTUATOR HAS CYCLED UNDER SPRING LOAD.

**SVF- Aero<sup>2</sup>** actuators are designed to operate with dry or lubricated air media, but will function equally well with non-corrosive and inert gas or light hydraulic oil. The actuators are offered in two different configurations: double acting and spring return. Each actuator can be easily converted from double acting to spring return (or vice versa) by insertion (or removal) of spring cartridges.

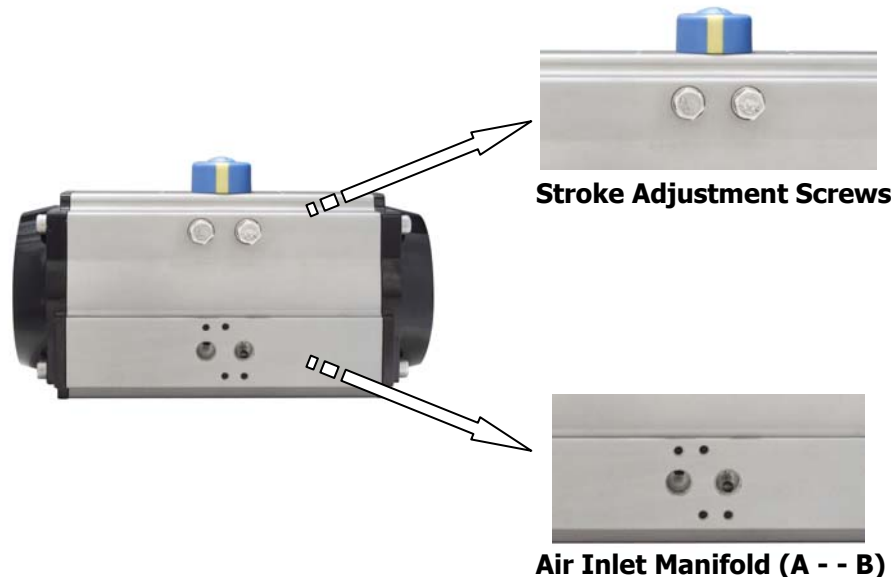
## **Spring Locations**

Each actuator has two pistons. Spring return actuators may be sized/used with an un-even number of springs. The difference between the springs from each piston shall be only one. See locations for each quantity below.



## **Commissioning the Actuator**

For the following sections please note the location (in the graphic below) of the Stroke Adjustment Screws and Air Inlet Manifold.



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## Operation 1- Inlet Air Pressure

**NOTE:** The maximum air pressure to all *aero2* actuators is 120 psig-regulated/relieved

The standard configuration of the *aero2* actuator operates as follows:

Note: throughout this document we will assume that the automated valve is setup such that Counter-Clockwise rotation OPENS the valve and Clockwise rotation CLOSES the valve

### Double Acting

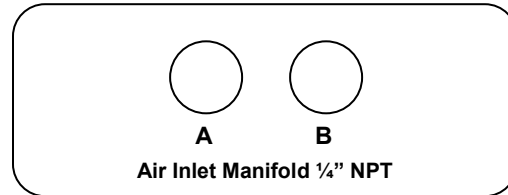
#### Air Inlet Manifold Port

- "A" CCW Rotation (When viewed from the top of the actuator) <OPENS the valve>
- "B" Clockwise <CLOSES the valve>

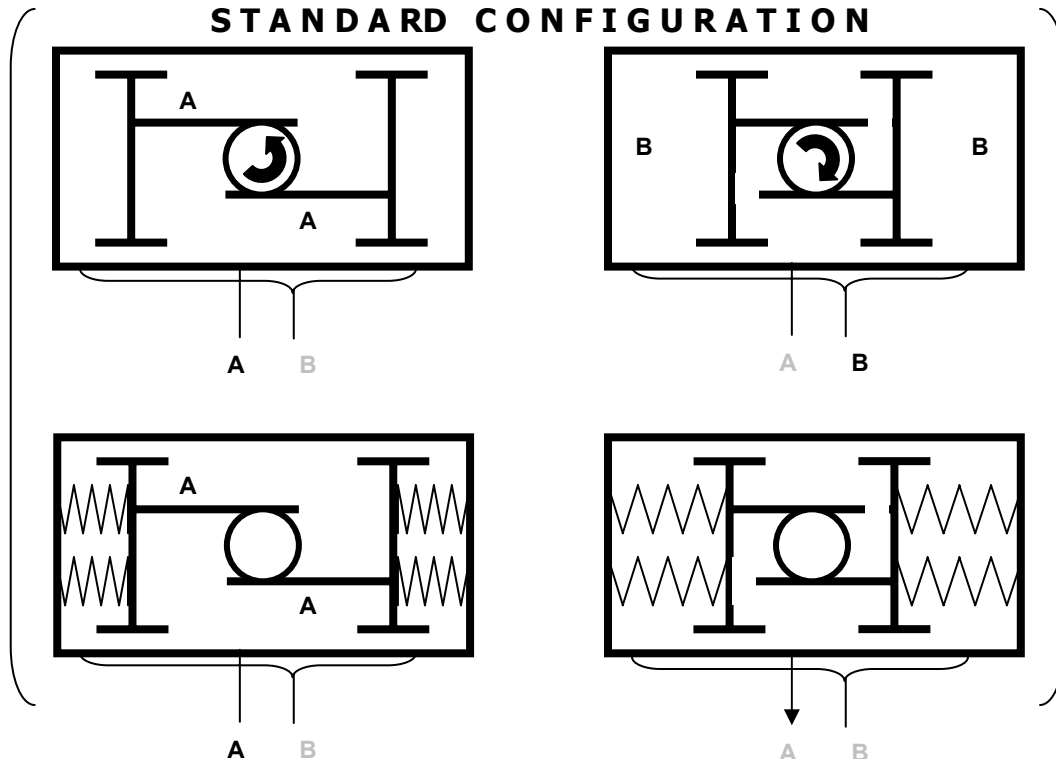
### Spring Return

#### Air Inlet Manifold Port

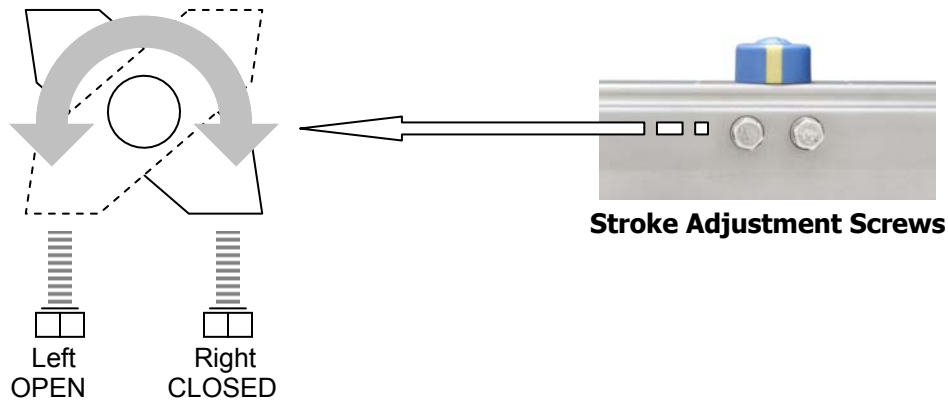
- "A" CCW Rotation (When viewed from the top of the actuator) <OPENS the valve>
- "B" CW (It is not necessary to pressurize this port when using a spring return actuator) Port "B" must remain open and free of any plugs or other obstructions.



For information about changing the orientation of the actuator's stroke direction, please contact the manufacturer.



## **Operation 2- Stroke Adjustment for aero2 (Standard Rotation)**



The **aero<sup>2</sup>** actuator features bi-directional stroke adjustment for the Open and Closed positions. To make adjustments please see the instructions below.

**NOTICE:** Do Not use the stroke adjustment bolts to over power the actuator against the spring or air pressure or to reverse the action of the valve.

Always thread to the bolt CCW (outward) to allow the actuator to continue motion when setting the final valve position.

If the actuator/valve has over traveled do the following:

Before making adjustments note that each stroke adjustment bolt has a lock nut and o-ring.

- Loosen the lock nut a few turns
- Avoid over tightening; to protect the o-ring

If valve has over-traveled in the OPEN position,

- a- Cycle the actuator to the CLOSED position
- b- Thread the LEFT stroke adjustment bolt IN-ward a few turns.
- c- Cycle the actuator in the OPENING direction then thread the bolt outward to the exact position desired.

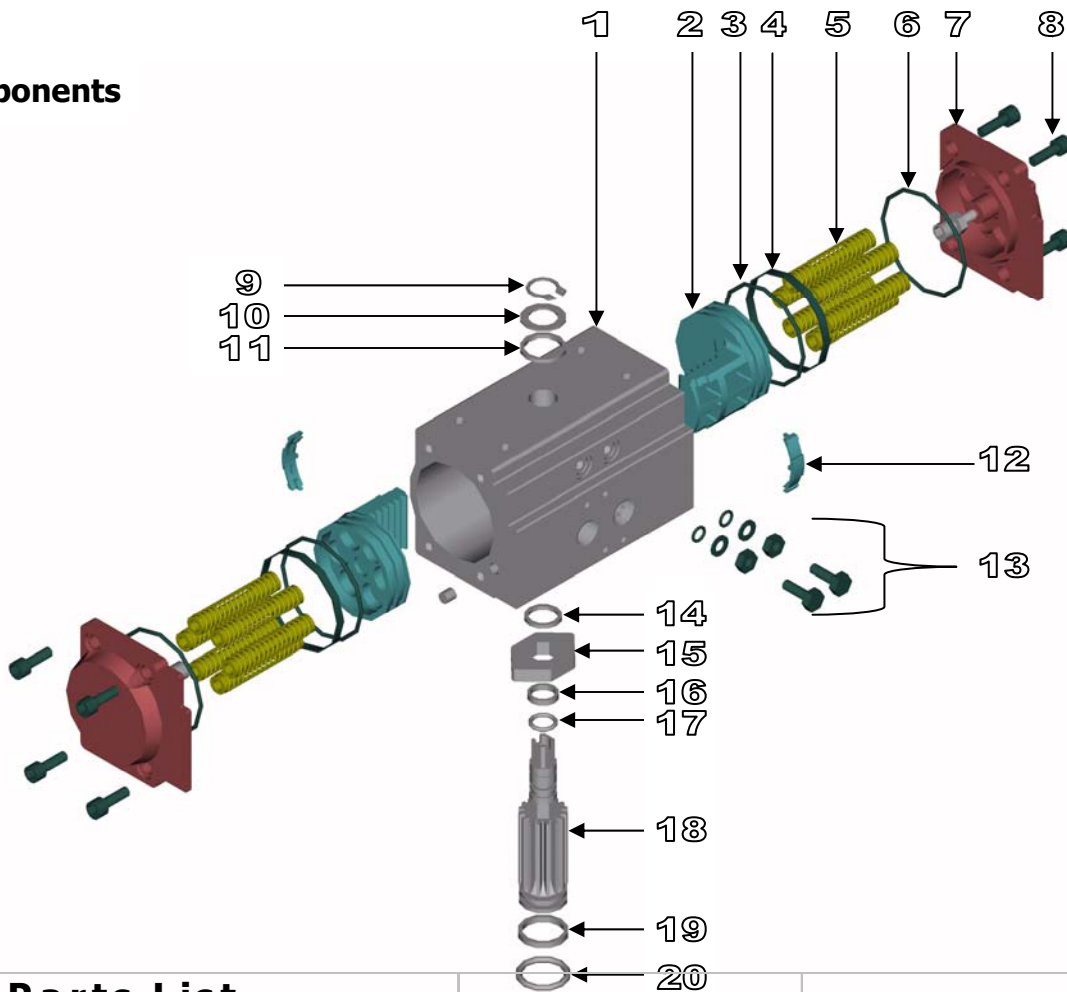
If valve has over-traveled in the CLOSED position,

- a- Cycle the actuator to the OPEN position
- b- Thread the RIGHT stroke adjustment bolt IN-ward a few turns.
- c- Cycle the actuator in the CLOSING direction then thread the bolt outward to the exact position desired.

Once you have set the desired position tighten the lock nut. Take care not to damage the o-ring seal under the washer.

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## Components



## Parts List

No.	Description	Material	Quantity
1	Actuator Housing	Hard Anodized Aluminum	1
2	Pistons	Aluminum	2
3	Piston Seals	Buna	2
4	Piston Bearings	Acetal	2
5	Springs	Spring Steel Corr. Resistant	According to Model
6	End Cap O-ring	Buna	2
7	End Caps	Aluminum Baked Epoxy	2
8	End Cap Bolts	300 Series SS	8
9	C-Clip	300 Series SS	1
10	Thrust Follower	300 Series SS	1
11	Thrust Ring	Acetal	1
12	Wear Bands	Acetal	2
13	Stroke Adj. Set	300 Series SS	1 set
14	Spacer	Acetal	1
15	Stroke Adj. Stop	300 Series SS	1
16	Thrust Ring	Acetal	1
17	Thrust Follower	300 Series SS	1
18	Drive Shaft	304 Series SS	1
19	Shaft Bearing	Acetal	1
20	Shaft Seal	Buna	1