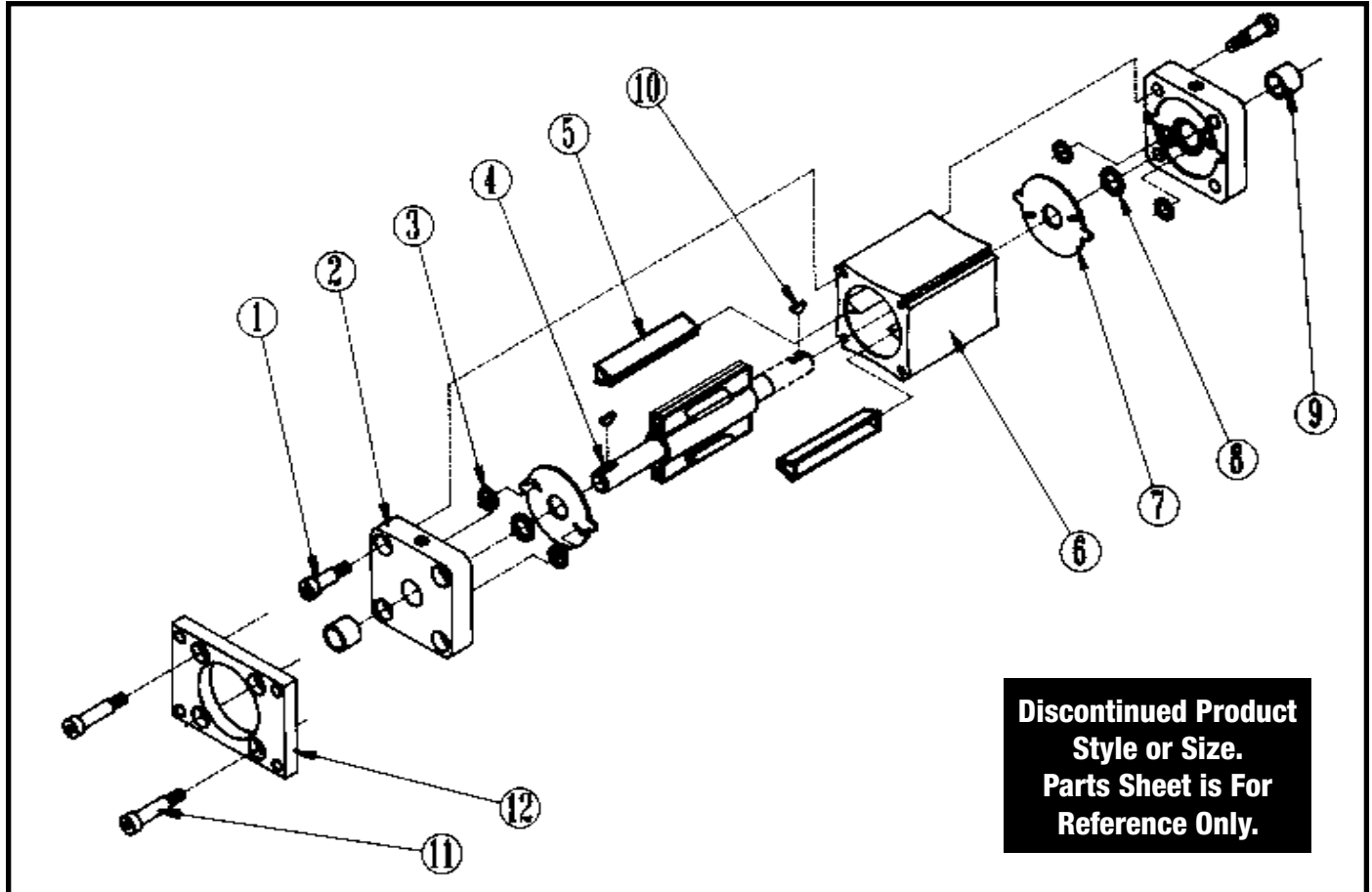


# Rotary Actuator

## 1810 Series 1-Inch Bore Pneumatic

### 100° Rotation

1810-0200 Single Shaft  
 1810-0202 Double Shaft  
 1810-0700 Single Shaft, Front Flange Mount  
 1810-0702 Double Shaft, Front Flange Mount



### List of Parts

Item	Part No.	Description	Qty. for 1810-0200	Qty. for 1810-0202	Qty. for 1810-0700	Qty. for 1810-0702
1.	0910-1038	Shoulder Screw	8	8	4	4
2.	1810-1052	End Plate	2	2	2	2
3.	1810-1056	O-Ring	4	4	4	4
4.	1810-9007	Rotor Assembly, 100° Standard	1		1	
	1810-9011	Rotor Assembly, 100° Double Shaft		1		1
5.	1810-1029	Stator Seal	2	2	2	2
6.	1810-1061	Housing	1	1	1	1
7.	1810-1057	Plate Insert	2	2	2	2
8.	0720-1003	O-Ring	2	2	2	2
9.	1810-1055	Bushing	2	2	2	2
10.	1810-1039	#203 Woodruff Key	1	2	1	2
11.	1810-1041	Screw, Flat Head			4	4
12.	1810-1040	Flange Mount Plate			1	1

Patent is applied for.

### Installation

When installing the 1810 Series 1-inch bore rotary actuator, **DO NOT USE more than 5 inch pounds** (0.56 Newton-meters) of torque in tightening the 10/32 NPT port fittings or the 10-32 mounting screws into the end plates to avoid stripping threads. When installing the air fittings, wrap the threads with a TEFLON®-based thread seal tape such as Jet-Lube Petro-Tape®.

### Pneumatic Service

The 1810 Series 1-inch bore actuator should be operated with 100 PSI maximum pneumatic service lubricated with a non-detergent SAE 30 weight oil.

### Axial Loading

Heavy end thrust loading of the actuator shaft is not recommended. Use an isolating coupling which takes the load and does not distribute it to the actuator shaft.

### Internal Stops

Do not use internal stops to stop rotation except with light loads whose combined weight and speed do not generate more than **1.5 inch-pounds** (0.17 Newton-meters) of kinetic energy. Backlash (lost motion) between the shaft and load should be avoided.

### External Stops

External stops are recommended for higher inertia loads to avoid vane and stator damage. Stops should be securely mounted to machine framework.

### Customer Repair Procedure

The vane seals on the 1810 1-inch bore actuator should not require replacement for the life of the unit.

In the event that End Plate Assembly replacement is desired, the following procedure must be followed.

Remove the old End Plate Assembly, saving the four (4) shoulder screws. **DO NOT DISASSEMBLE THE BALANCE OF THE UNIT.**

To install the new End Plate Assembly, align the mounting holes and ports with those on the opposite End Cap Assembly. Insert the four shoulder screws evenly, torquing no more than 10 inch-pounds (1.13 Newton-meters).

**NOTE: REMOVE AND REPLACE ONLY ONE END PLATE ASSEMBLY AT A TIME.**

### Assembly

1. Take the two End Plates (#2) and insert the Bronze Bushing (#9) into the central shaft hole in each plate.
2. Lubricate the four (4) smaller O-Rings (#3) with a TEFLON®-additive grease and place one over each of the two outer bosses on the back of each insert (#7).
3. Lubricate the two larger O-Rings (#8) and place one around the central boss on the back of each Insert (#7).
4. Press one Insert (#7) into each End Plate so that the tear-drop shaped Internal Air Ports are aligned over the Air Inlet Ports in the End Plate.
5. Lubricate the internal bore of the Housing (#6) with a TEFLON®-additive grease.
6. Insert the two Stator seals (#5) over the extruded Stators on the internal bore of the Housing (#6) and then lubricate the lips of the Stator Seals.
7. Thoroughly lubricate the lips of the Rotor Assembly (#4) (Standard or Double-ended Shaft), and insert it in line with the Stator so the Stator Seal holds the Rotor Assembly tightly in place.
8. Take the Housing and hold it so that the Stators are in the three o'clock and nine o'clock positions. Then, mount the Housing (#6) and Rotor Assembly (#4) onto the End Plate (#2) so that the tear-drop shaped Internal Air Port is directly next to the Stator Seals (#5) on the right hand side. **Also make certain that the Rotor Assembly shaft's keyway(s) is (are) in the nine o'clock position.**
9. Place the other End Plate Assembly on the open end of the Housing, making sure to align the two External Air Fittings.
10. Insert the four (4) Shoulder Screws (#1) into each End Plate Assembly. Tighten them down **CAREFULLY AND IN A UNIFORM MANNER**, not exceeding 10 inch-pounds (1.13 Newton-meters) of torque.
11. If the Front Mounting Flange (#12) is being used, four (4) Flat Head Screws (#11) will be used instead of the Shoulder Screws (#1).

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