Tolomatic
EXCELLENCE IN MOTION®

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Parts Sheet

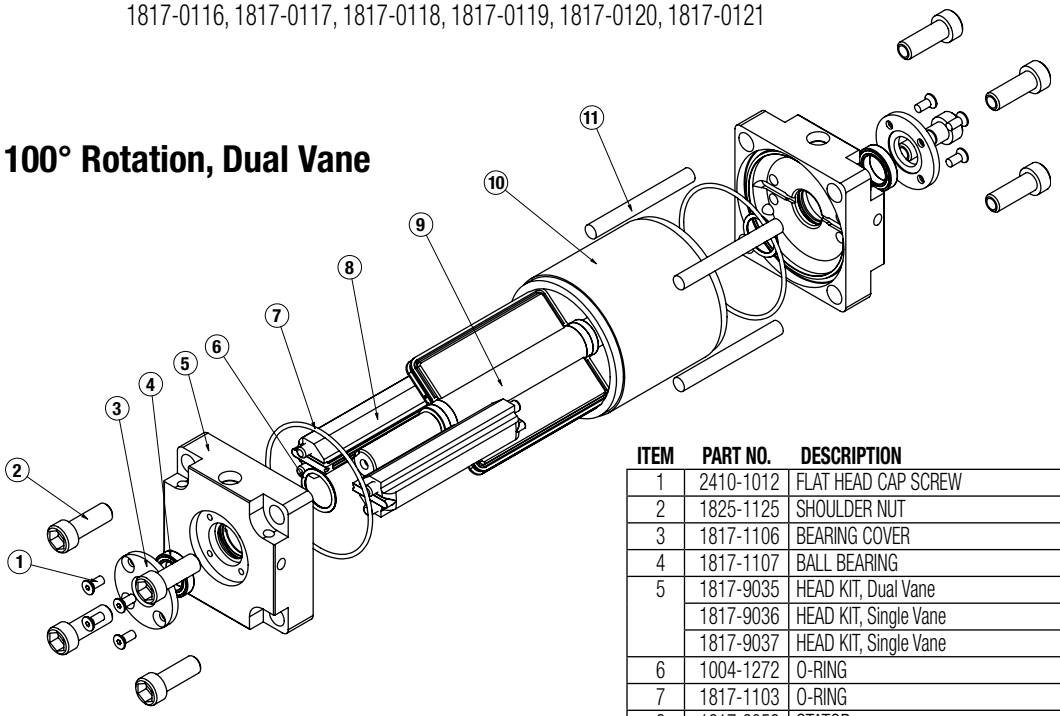
1800-4004_01

VRX 1817 Vane Rotary Actuators

1-3/4 inch (45 mm) Bore

Models: 1817-0110, 1817-0111, 1817-0112, 1817-0113, 1817-0114, 1817-0115, 1817-0116, 1817-0117, 1817-0118, 1817-0119, 1817-0120, 1817-0121

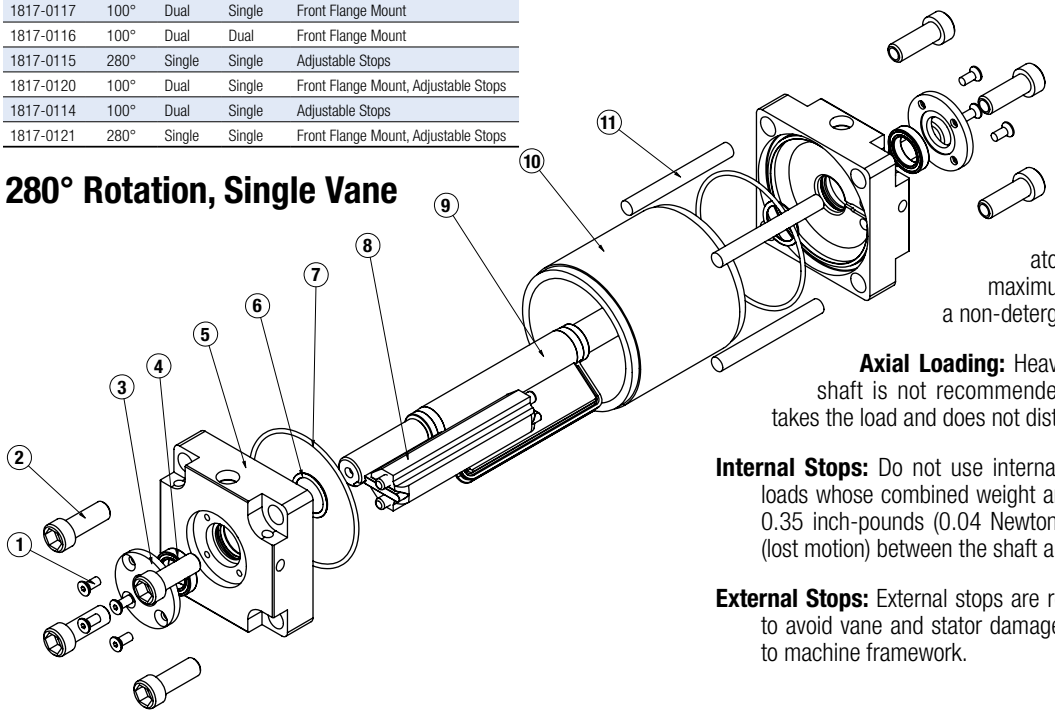
100° Rotation, Dual Vane



ITEM	PART NO.	DESCRIPTION	100°		280°	
			1817-0110 1817-0116 1817-0114 1817-0120	1817-0111 1817-0117	1817-0112 1817-0118 1817-0115 1817-0121	1817-0113 1817-0119
1	2410-1012	FLAT HEAD CAP SCREW	8	8	8	8
2	1825-1125	SHOULDER NUT	8	8	8	8
3	1817-1106	BEARING COVER	2	2	2	2
4	1817-1107	BALL BEARING	2	2	2	2
5	1817-9035	HEAD KIT, Dual Vane	2	2	-	-
	1817-9036	HEAD KIT, Single Vane	-	-	1	1
	1817-9037	HEAD KIT, Single Vane	-	-	1	1
6	1004-1272	O-RING	2	2	2	2
7	1817-1103	O-RING	2	2	2	2
8	1817-9053	STATOR	2	2	1	1
9	1817-9052	ROTOR, Dual Vane, Dual Shaft	1	-	-	-
	1817-9069	ROTOR, Dual Vane, Single Shaft	-	1	-	-
	1817-9061	ROTOR, Single Vane, Dual Shaft	-	-	1	-
	1817-9059	ROTOR, Single Vane, Single Shaft	-	-	-	1
10	1817-1145	TUBE	1	1	1	1
11	1817-1118	TIE ROD	4	4	4	4

MODEL NUMBER	ROTATION	VANE / STATOR	SHAFTS AVAILABLE	OPTION
1817-0113	280°	Single	Single	
1817-0112	280°	Single	Dual	
1817-0111	100°	Dual	Single	
1817-0110	100°	Dual	Dual	
1817-0119	280°	Single	Single	Front Flange Mount
1817-0118	280°	Single	Dual	Front Flange Mount
1817-0117	100°	Dual	Single	Front Flange Mount
1817-0116	100°	Dual	Dual	Front Flange Mount
1817-0115	280°	Single	Single	Adjustable Stops
1817-0120	100°	Dual	Single	Front Flange Mount, Adjustable Stops
1817-0114	100°	Dual	Single	Adjustable Stops
1817-0121	280°	Single	Single	Front Flange Mount, Adjustable Stops

280° Rotation, Single Vane



Pneumatic Service: The VRX 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 loads whose combined weight and speed do not generate more than 0.35 inch-pounds (0.04 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.

DISASSEMBLY NOTE:

VRX Ball Bearings (#4) are installed using retaining compound. Additional force may be required to separate the Ball Bearings (#4) during disassembly. Also note that the Ball Bearing (#4) may stay attached to the Rotor (#9) or to the Head (#5).

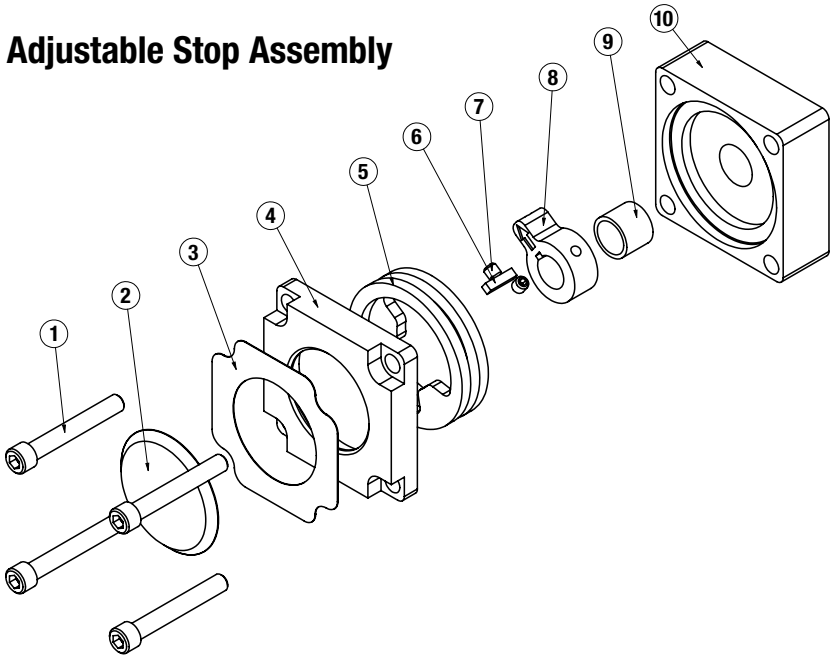
ASSEMBLY INSTRUCTIONS – 100° ACTUATOR

1. Use Teflon®-additive grease when lubrication is required.
2. Lubricate and install small O-Ring (#6) into groove in center bore of each Head (#5).
3. Lubricate and install large O-Ring (#7) into groove on face of each Head (#5).
4. Lubricate rubber surfaces and insert two [2] Stators (#8) into one Head (#5) by aligning the dowel pins with the holes in the Head (#5).
5. Lubricate rubber surfaces and insert Rotor (#9) between the two [2] Stators (#8) and into the center bore of the Head (#5).
6. Lightly lubricate the inside diameter of the Tube (#10) and slide over the two [2] Stators (#8) and Rotor (#9) until engaging the Head (#5).
7. Align and install the other Head (#5) onto the dowel pins of the two [2] Stators (#8) and the shaft of the Rotor (#9) through the center bore. NOTE: Assemble with the ports on the same side of both Heads (#5).
8. Thread four [4] Shoulder Nuts (#2) half way onto each of the four [4] Tie Rods (#11) then insert each Tie Rod (#11) through the holes in both Heads (#5).
9. Thread the remaining four [4] Shoulder Nuts (#2) onto the four [4] Tie Rods (#11). Shoulder Nuts (#2) must be inserted into Head (#5) then threaded onto the Tie Rod (#11).
10. Use a criss-cross pattern to evenly tighten each of the Shoulder Nuts (#2). Torque Shoulder Nuts (#2) to 60 in-lbs *(6.8 N-m)*.
11. Use retaining compound on the outside and inside diameter of each of the two [2] Ball Bearings (#4) then slide Ball Bearing (#4) over and into the bore of each Head (#5). NOTE: The Ball Bearing (#4) will bottom out on the Rotor (#9) shaft not the bore in the Head (#5).
12. Install Bearing Cover (#3) onto each of the Heads (#5) using Flat Head Screws (#1).

ASSEMBLY INSTRUCTIONS – 280° ACTUATOR

1. Use Teflon®-additive grease when lubrication is required.
2. Lubricate and install small O-Ring (#6) into groove in center bore of each Head (#5).
3. Lubricate and install large O-Ring (#7) into groove on face of each Head (#5).
4. Lubricate rubber surfaces and insert Stator (#8) into Head (#5) by aligning the dowel pins with the holes in the Head (#5).
5. Lubricate rubber surfaces and insert Rotor (#9) next to the Stator (#8) and through the center bore of the Head (#5). Rotate Rotor (#9) so vane is across from the Stator (#8).
6. Lightly lubricate the inside diameter of the Tube (#10) and slide over the Stator (#8) and Rotor (#9) until engaging the Head (#5).
7. Align and install the other Head (#5) onto the dowel pins of the Stator (#8) and the shaft of the Rotor (#9) through the center bore. NOTE: Assemble with the ports on the same side of both Heads (#5).
8. Thread four [4] Shoulder Nuts (#2) half way onto each the four [4] Tie Rods (#11) then insert each Tie Rod (#11) through the holes in both Heads (#5).
9. Thread the remaining four [4] Shoulder Nuts (#2) onto the four [4] Tie Rods (#11). Shoulder Nuts (#2) must be inserted into Head (#5) then threaded onto Tie Rod (#11).
10. Use a criss-cross pattern to evenly tighten each of the Shoulder Nuts (#2). Torque the Shoulder Nuts (#2) to 60 in-lbs *(6.8 N-m)*.
11. Use retaining compound on the outside and inside diameter of the two [2] Ball Bearings (#4) then slide Ball Bearing (#4) over and into the bore of each Head (#5). NOTE: The Ball Bearing (#4) will bottom out on the Rotor (#9) shaft not the bore in the Head (#5).
12. Install Bearing Cover (#3) onto each of the Heads (#5) using Flat Head Screws (#1).

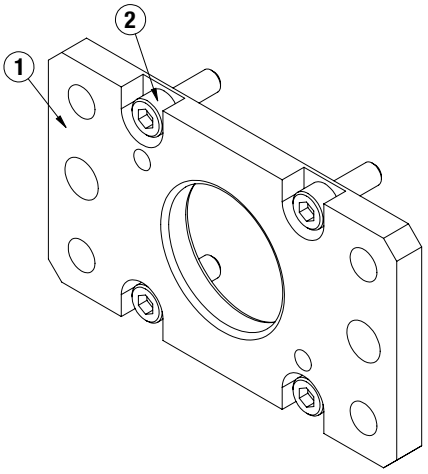
Adjustable Stop Assembly



Assembly No.: 1817-9030

ITEM	PART NO.	DESCRIPTION	QTY
1	0912-1066	SOCKET HEAD CAP SCREW	4
2	1817-1046	CAP	1
3	1817-1061	LABEL	1
4	1817-1063	OUTSIDE PLATE	1
5	1817-1042	STOP RINGS	2
6	1817-1044	SQUARE KEY	1
7	09101029	SET SCREW	2
8	1817-1037	PADDLE	1
9	1817-1029	BRONZE BUSHING	1
10	1817-1062	INSIDE PLATE	1

Front Flange Assembly



Assembly No.: 1817-9031

ITEM	PART NO.	DESCRIPTION	QTY
1	1817-1064	FLANGE PLATE	1
2	3415-1077	SOCKET HEAD CAP SCREW	4

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