

6800 Low E Installation Instructions

Live Load Kit Designed by Chesterton to fit Masoneilan® Control Valves

Precaution: System should be shut down, depressurized, drained, and cool before valve is handled. Observe all plant safety requirements. Refer to valve manufacturer installation and operation manual for additional safety requirements and/ or for instructions on proper disassembly as required.

1. **Check the condition of the valve for the following:**

- A 10 to 32 RMS (7.5 to 24 Ra) stem finish is required.
 - The stuffing box bore should be 125 RMS (94 Ra) or better finish.
 - The stem run out should not exceed ± 0.010 TIR/FT (± 0.25 TIR/M).
 - The Packing Box Ring should be in the bottom of the stuffing box.
2. The stuffing box must be clean, i.e. completely free of any previous packing or foreign material. The valve stem must be clean, free of nicks, scratches and burrs.
3. The split carbon bushing(s) must be cut to proper height before installation. The supplied bushing(s) are NOT pre-cut to proper height at the factory; stuffing box depths may vary for a given valve type. To determine the required split carbon bushing height, measure the depth of the stuffing box with a machinist's scale. The carbon sleeve height = measured stuffing box depth - measured packing set height - 0.125". The packing set height is equal to approximately six and a half times the cross section of the 6800 Low E Set. (See the Packing Configuration)

NOTE: The minimum height of a carbon bushing is 1.5x cross section. If two bushings are utilized, two equal height pieces or near equal height pieces are recommended.

Example: 1.5 x .375" cross section = .562" bushing height minimum.

- Cut bushing(s) to length. The cut surface should be parallel to supplied finished end $\leq .007$ ".
- Install the Split Carbon Bushing(s) (5101) in the bottom of the stuffing box. Make sure the two halves align and are seated properly on the stuffing box bottom.
- Install Style 477-1DF ring using a Chesterton Valve Tamping Tool. Care must be taken to insure the skive-cut ends are properly mated. Firmly tamp the ring to the bottom of the box.
- Carefully install the 5800T wedge set starting with End Cap, followed by an I.D. Sealer, O.D. Sealer, I.D. Sealer, and End Cap rings.

DO NOT USE TAMPING TOOL, you may damage the sealing surface on the wedge-shaped rings.

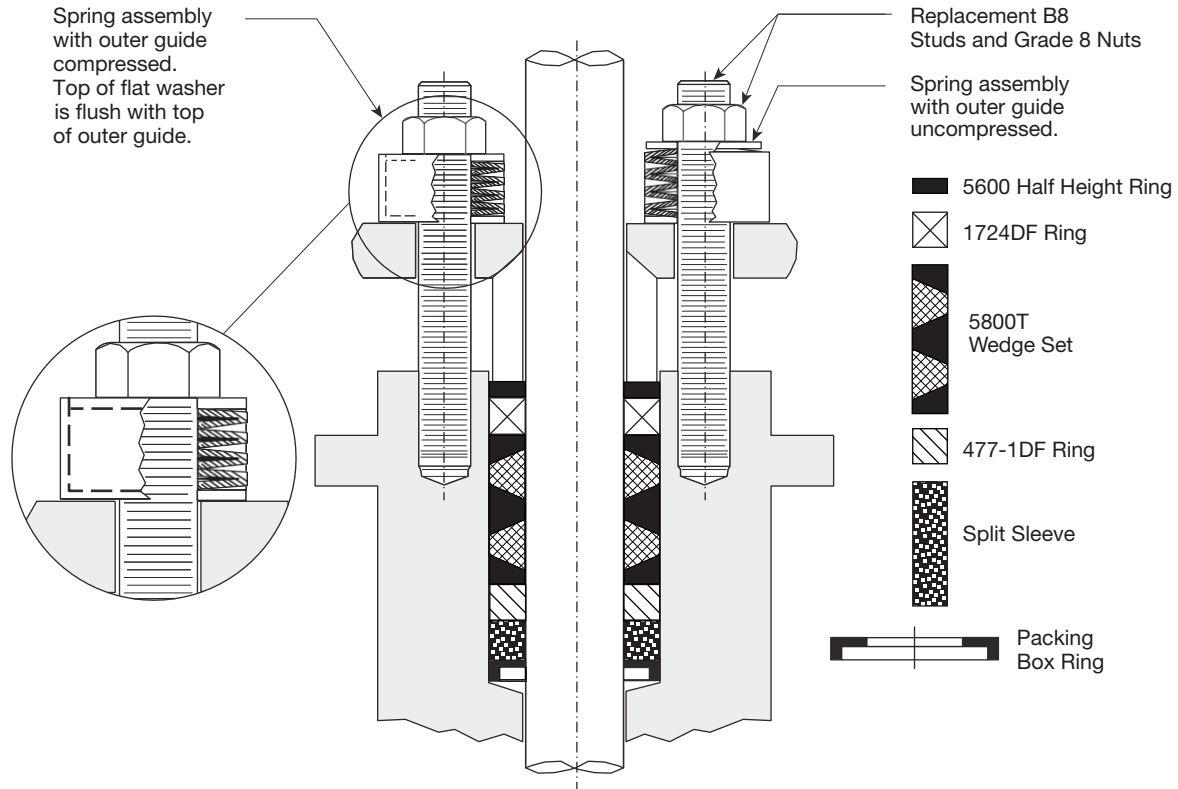
- Install rings over the valve stem by twisting slightly, never open rings with a hinge like action.

- Stagger ring joints 90°.
 - Use outer most or next ring to push previously installed rings into the stuffing box until all rings are in place.
- Install Style 1724DF ring using a Chesterton Valve Tamping tool. Firmly tamp the ring and install Style 5600 as the end ring. Care must be taken to ensure the ends are properly mated. (See Packing Configuration)
 - Install packing follower and packing gland flange. Make sure the packing follower enters into the stuffing box smoothly.
 - Lubricate the studs, bottom of the nuts, and live loading assembly components (*belleville springs and flat washer*) with Chesterton recommended anti-seize compound. Verify the springs and flat washers are properly stacked. (See the Packing Configuration)
 - New studs and nuts are required for live loading installation.** B8 studs and Grade 8 nuts are typically provided for the standard carbon steel version 10000 series, 21000 series and 41000/41005 series valves. Verify the replacement studs and nuts utilized are ASTM A 193 B8 (*studs*) and ASTM A 194 Grade 8 (*nuts*), or a similar or better grade material.
 - Install a live loading assembly on each stud.
 - Install the two packing gland nuts. Tighten each nut until finger tight. Using a calibrated torque wrench, alternately tighten the gland nuts to the recommended torque. Verify that the packing gland is square and perpendicular to the stem.
 - To properly consolidate the packing, reference torque values in Torque and Friction Values table (page 2). When seating the packing set, torque bolts to the higher value supplied (for corresponding valve size). Actuate the valve 5 times, retighten the packing gland nuts at the end of the last down/in-stroke. Loosen gland nuts, then torque to the lower value supplied. Actuate the valve 5 more times then check the gland nut torque. Torque the packing gland nuts at the end of the last down stroke as necessary, using the lower value supplied. All final torques will use the lower torque value supplied.
 - Follow all plant safety requirements when returning the valve to service. Refer to valve manufacturer installation and operation manual for additional safety requirements.
 - It is advisable to check gland adjustment after a few hours of service. Take up as necessary.

Important: In cases where the packing needs such adjustments, additional torque should be applied in 5% increments not to exceed 20% greater than the engineered values (Ref. Torque and Friction Values). It should be further noted that stem and stuffing box conditions greatly affect sealability in this type of service.

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PACKING CONFIGURATION



Radial Min. inch	Axial Min. inch	Uncompressed Height inch	Compressed Height inch	Bolt Diameter inch	Spring Configuration	AWC Live Load Item#
0.405	0.632	0.564	0.530	0.375	2 / 3	16275480
0.625	0.782	0.752	0.670	0.500	1 / 5	16274965
0.625	0.865	0.706	0.645	0.500	2 / 3	16274901
0.625	0.865	0.860	0.762	0.500	1 / 6	16273937
0.625	0.765	0.762	0.725	0.500	2 / 3	16275564

6800 Low E Control Valve Kits Designed by Chesterton to fit Masoneilan® Valves

MODEL/STYLE: 10000 Series

Pipe Size inch	Pressure Class	Stem O.D. inch	Box I.D. inch	Cross Section inch	*Stuffing Box Depth inch	Stud Qty./Size inch	5101 Bushing Qty./Hgt. inch	Live Load Item #	Chesterton Kit Item #	Installed Torque		Operational Torque		Calculated Packing Friction Lbs
										Ft-lb	Nm	Ft-lb	Nm	
2	150 – 600	0.500	0.875	0.187	2.812	2ea / .375	1 @ 2	16275480	434150	6	8	5	7	218
3	150 – 600	0.500	0.875	0.187	2.812	2ea / .375	1 @ 2	16275480	434150	6	8	5	7	218
4	150 – 600	0.500	0.875	0.187	2.812	2ea / .375	1 @ 2	16275480	434150	6	8	5	7	218
6	150 – 600	0.625	1.000	0.187	3.500	2ea / .500	1 @ 2, 1 @ 1	16274965	434151	9	12	8	11	273
8	150 – 600	0.750	1.250	0.250	3.500	2ea / .500	1 @ 2	16274901	434152	15	20	14	19	436

MODEL/STYLE: 21000 Series

3/4 / 1	150 – 600	0.500	0.875	0.187	2.810	2ea / .375	1 @ 2	16275480	434150	6	8	5	7	218
1.5 / 2	150 – 600	0.500	0.875	0.187	2.810	2ea / .375	1 @ 2	16275480	434150	6	8	5	7	218
3	150 – 600	0.500	0.875	0.187	2.810	2ea / .375	1 @ 2	16275480	434150	6	8	5	7	218
4	150 – 600	0.500	0.875	0.187	2.810	2ea / .375	1 @ 2	16275480	434150	6	8	5	7	218
6	150 – 600	0.750	1.250	0.250	3.500	2ea / .500	1 @ 2	16274901	434152	15	20	14	19	436

MODEL/STYLE: 41000 Series

1.5	150 – 600	0.500	0.875	0.187	3.560	2ea / .375	1 @ 2, 1 @ 1	16275480	434153	6	8	5	7	218
2	150 – 1500	0.500	0.875	0.187	3.540	2ea / .375	1 @ 2, 1 @ 1	16275480	434153	6	8	5	7	218
3	150 – 600	0.625	1.000	0.187	4.250	2ea / .500	1 @ 2, 1 @ 1	16274965	434154	9	12	8	11	273
3	900 – 1500	0.625	1.000	0.187	4.250	2ea / .500	1 @ 2, 1 @ 1	16273937	434155	9	12	8	11	273
4	150 – 1500	0.625	1.000	0.187	4.250	2ea / .500	1 @ 2, 1 @ 1	16274965	434154	9	12	8	11	273
6	150 – 1500	0.750	1.250	0.250	5.810	2ea / .500	1 @ 2, 1 @ 1	16274901	434156	15	20	14	19	436
8	150 – 600	1.000	1.625	0.312	6.500	2ea / .500	1 @ 2, 1 @ 1	16275564	434157	25	34	22	30	727

*Maximum Estimated Stuffing Box Depth. (see Step 4.)

Kits and live load assemblies above are designed for Masoneilan® Valves with a standard gland. For the Masoneilan special in-gland live load design, please contact our application engineer at MP.AE@chesterton.com.