

# 6800 Low E Installation Instructions

Live Load Kit Designed by Chesterton to fit Valtek® MK1 Control Valves

**Precaution:** System should be shut down, depressurized, drained, and cool before valve is handled. Observe all plant safety requirements.

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  $\pm 0.010$  TIR/FT ( $\pm 0.25$  TIR/M).
  - The Lower Stem Guide and Liner and Anti-Extrusion Spacer (*washer*) should be in the bottom of the stuffing box. (See the *Packing Configuration*)
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. Verify the split carbon sleeve height is correct. The height of the carbon sleeve should be the calculated height. The calculated height is the difference between the stuffing box depth and the measured packing set height. The packing height is approximately six and a half times the cross section for the 6800 Low E Set. Install the Split Carbon Sleeve(s) (5101) in the bottom of the stuffing box. Make sure the two halves align and are seated properly on the stuffing box bottom.

4. 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.

5. 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.

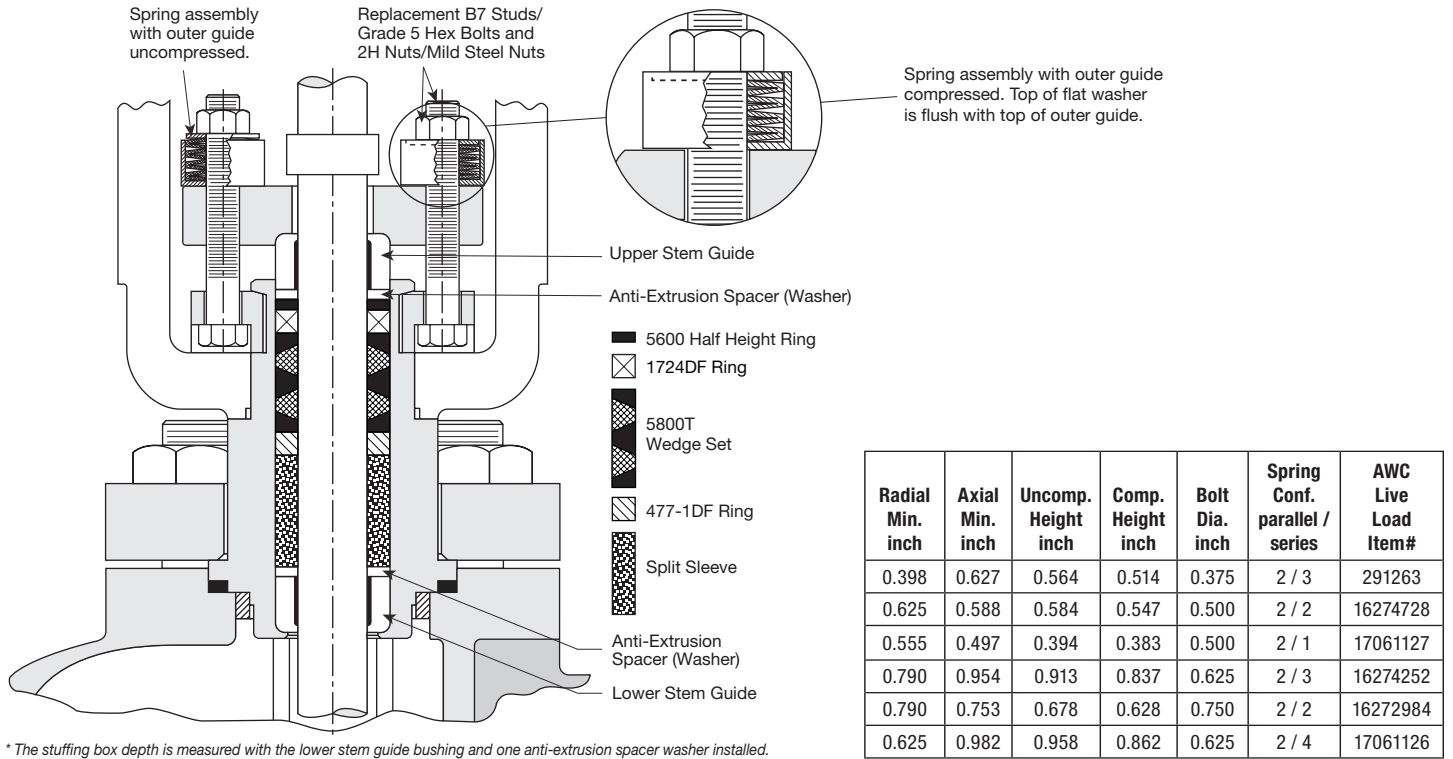
- Install rings over the valve stem by twisting slightly, never open rings with a hinge like action.
  - Stagger ring joints 90°.
  - Use outer most or next ring to push previously installed rings into the stuffing box until all rings are in place.
6. Install Style 1724DF ring using a Chesterton Valve 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 the *Packing Configuration*)

7. Install the Anti-Extrusion Spacer (*washer*). Install the Upper Stem Guide and Liner and packing gland flange. Make sure the Upper Stem Guide enters into the stuffing box smoothly.
8. Install the new gland studs or hex bolts. Verify the B7 studs and the 2H nuts or SAE Grade 5 hex bolts and mild steel nuts provided are of the same or better grade than the studs and nuts being replaced.
9. 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*)
10. Install a live loading assembly on each stud. The cut away portion of the outer guide should face the stem.
11. Install the two packing gland nuts. Tighten each nut until finger tight. Alternately tighten the gland nuts until the top surface of the flat washer is flush or even with the top, flat surface of the outer guide. Verify that the packing gland is square and perpendicular to the stem.
12. 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.
13. Follow normal safety precautions when returning the valve to service.
14. 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



## 6800 Low E Live Load Kit Designed by Chesterton to Fit Valtek® MK1 Control Valves

BODY RATING: Class 150

Spud Size inch	Valve/Actuator Size	Stem O.D. inch	Box I.D. inch	Bolt/Stud Dia. inch	Bolt/Stud Length inch	Box Depth* inch	5101 Bushing Qty./Hgt. inch	Live Load Item #	Chesterton Kit Item #	Installed Torque Ft-lb	Operational Torque Ft-lb	Calculated Packing Friction Lbs
2.00	1/2 – 1 size 25/50	0.562	1.000	0.375	2.750	2.812	1 @ 1.265	291263	434158	8	7	286
2.00	1.5 – 2 size 25/50	0.875	1.250	0.375	2.750	3.531	1 @ 2.187	291263	434159	9	8	382
2.62	3 size 50/100	1.125	1.625	0.500	3.000	4.031	1 @ 2.281	16274728	434160	21	19	654
2.62	4 size 50	1.125	1.625	0.500	3.000	5.343	2 @ 1.796	16274728	434161	21	19	654
2.88	4 size 100	1.125	1.625	0.500	3.500	5.343	2 @ 1.796	16274728	434162	21	19	654
2.62	6 size 50	1.125	1.625	0.500	3.000	6.031	2 @ 2.140	16274728	434166	21	19	654
2.88	6 size 100	1.125	1.625	0.500	3.500	6.031	2 @ 2.140	16274728	434167	21	19	654
3.38	6 size 300	1.125	1.625	—	—	6.031	2 @ 2.140	—	—	—	—	—
3.38	8 size 100	1.500	2.000	0.625	6.000	6.218	2 @ 2.234	17061126	434172	33	30	872

BODY RATING: Class 300

2.00	1/2 – 1 size 25/50	0.562	1.000	0.375	2.750	2.812	1 @ 1.265	291263	434158	8	7	286
2.00	1.5 – 2 size 25/50	0.875	1.250	0.375	2.750	3.531	1 @ 2.187	291263	434159	9	8	382
2.62	3 size 50/100	1.125	1.625	0.500	3.000	4.031	1 @ 2.250	16274728	434160	21	19	654
2.62	4 size 50	1.125	1.625	0.500	3.000	5.343	2 @ 1.796	16274728	434161	21	19	654
2.88	4 size 100	1.125	1.625	0.500	3.500	5.343	2 @ 1.796	16274728	434162	21	19	654
3.38	6 size 100	2.000	2.500	0.625	6.000	7.032	2 @ 2.641	16274252	434168	43	39	1163
3.38	6 size 300	2.000	2.500	0.750	6.000	7.032	2 @ 2.641	16272984	434169	43	39	1163
3.38	8 size 100	2.000	2.500	0.625	6.000	7.812	2 @ 3.031	16274252	434173	43	39	1163
3.38	8 size 300	2.000	2.500	0.750	6.000	7.812	2 @ 3.031	16272984	434174	51	46	1163

BODY RATING: Class 600

2.00	1/2 – 1 size 25/50	0.562	1.000	0.375	2.750	2.812	1 @ 1.265	291263	434158	8	7	286
2.00	1.5 – 2 size 25/50	0.875	1.250	0.375	2.750	3.531	1 @ 2.187	291263	434159	9	8	382
2.62	3 size 50/100	1.125	1.625	0.500	3.000	4.031	1 @ 2.281	17061127	434163	21	19	654
2.62	4 size 50	1.125	1.625	0.500	3.000	5.343	2 @ 1.796	17061127	434164	21	19	654
2.88	4 size 100	1.125	1.625	0.500	3.500	5.343	2 @ 1.796	17061127	434165	21	19	654
3.38	6 size 100	2.000	2.500	0.625	6.000	7.032	2 @ 2.641	16274252	434170	43	39	1163
3.38	6 size 300	2.000	2.500	0.750	6.000	7.032	2 @ 2.641	16272984	434171	51	46	1163
3.38	8 size 100	2.000	2.500	0.625	6.000	7.812	2 @ 3.031	16274252	434173	43	39	1163
3.38	8 size 300	2.000	2.500	0.750	6.000	7.812	2 @ 3.031	16272984	434174	51	46	1163