



Stainless Steel Ball Valve Operation and Maintenance Guide (High-Purity and PW)

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Rev.: 3

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Operation

Ball valve lever-type handle rotates clockwise to close, and counter-clockwise to open. Ball valve gearbox actuator wheel rotates clockwise to close and counter-clockwise to open.

Installation

Evans ball valves do not require disassembly prior to installation (and disassembly will invalidate the warranty). Careful welding procedures are recommended and should be performed by trained, qualified personnel.

Tack-weld valve in place, then orbital weld with purge gas flowing away from valve, using one of these methods:

- Close valve and purge through the purge port closest to the weld; or
- If there are no purge ports, open the valve and purge towards flange being welded (away from centerbody).

Maintenance

All Evans ball valves pass operational and leak tests before leaving the factory. If the valve is disassembled, the warranty will be voided and it will be necessary to re-clean and re-test the valve.

Disassembly

Turn valve handle to “open” position and loosen body bolts.

Remove only one bolt, separate flanges slightly, and remove centerbody with teflon seals.

Remove valve seat packing and ball (rotate handle to closed position to remove ball).

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Reassembly

Replace the valve seat packing and ball (use replacement seal provided by Evans).

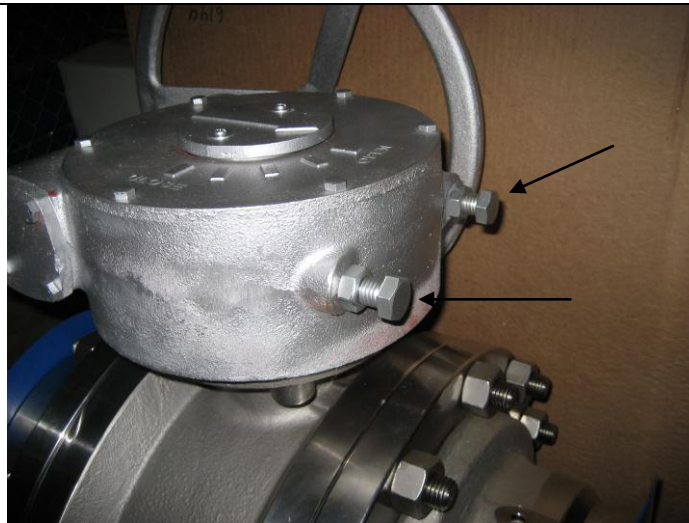
Install centerbody with new seals (use replacement seal provided by Evans) and tighten bolts incrementally, in a cross pattern, to torque values in table below.

Note: valve should be in “closed” position when body bolts are torqued.

Stem Seal Packing Maintenance

Normal stem packing wear can be compensated for by tightening stem nut to the torque value in Table 1 below.

Gearbox Wheel Range Adjustment



Start and end of wheel adjustment range are set with two adjustment bolts, as shown in photo.



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TORQUE VERIFICATION TABLES

EVANS SS BALL VALVES							
<u>SIZE</u>	Break Away Torque		For Stem Nut		For Bolting Nut		CV Data
<u>INCH</u>	(IN-LB)	(N-M)	(IN-LB)	(N-M)	(IN-LB)	(N-M)	
1/4"	60	7	60-70	7-8	70	8	5.0
3/8"	60	7	60-70	7-8	70	8	5.7
1/2"	80	9	130-155	15-18	155	18	19
3/4"	80	9	130-155	15-18	155	18	35
1"	130	15	130-155	15-18	155	18	50
1-1/4"	160	18	140-160	16-18	300	34	110
1-1/2"	200	23	140-160	16-18	300	34	200
2"	280	32	140-160	16-18	520	59	350
2-1/2"	500	57	190-210	22-24	690	78	650
3"	650	73	190-210	22-24	690	78	1,100
4"	1,100	124	290-310	33-35	1,000	113	2,100
6"RP	1,300	147	290-310	33-35	1,000	113	4,550
8"RP	2,500	283	650-700	74-79	1,000	113	6,500
10"	6,240	705	N/A	N/A	1,328	150	17,500
12"	9,108	1,029	N/A	N/A	1,646	186	25,500
14"	11,710	1,323	N/A	N/A	2,460	278	31,500
16"	14,570	1,646	N/A	N/A	2,788	315	43,500
18"	18,650	2,107	N/A	N/A	3,594	406	57,500
20"	22,125	2,500	N/A	N/A	3,594	406	75,000



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Reviewed and Approved by:

See record of procedure review

Revision History

Rev	Description of Changes	Author / date
0	Issued for customer Info	GBP 10/7/8
1	Re-issued, torque table updated	TGK 4/8/11
2	Added metric values to torque table	TGK 7/12/11
3	Added torque and Cv values up to 20", and gearbox adjustment instructions	TGK 3/27/12