

1. USE:

- 1.1 Life of valve can be maximized if the valve is used within the rated range, in accordance with pressure, temperature, and corrosion data.

2. MANUAL OPERATION:

- 2.1 To open or close the valve, turn the handle $\frac{1}{4}$ turn (90 degrees).
- A. Valve in Open Position – the handle is in parallel (in-line) with the valve or pipeline.
- B. Valve in Closed Position – the handle is perpendicular (crossed) with the valve or pipeline.

3. DISASSEMBLING & CLEANING THE VALVE:

- 3.1 Ball valves can trap fluids in ball cavity when it is in closed position.
- 3.2 If the valve has been used in hazardous media, it must be decontaminated before disassembly.
- A. Relieve the line pressure.
- B. Place valve in half-open position and flush the line to remove any hazardous material from valve.
- C. All persons involved in the removal and disassembly of the valve should wear the proper protective clothing, such as face shield, glove, apron, etc.

4. REPLACING THE THRUST WASHER, PACKING, AND SEATS

- 4.1 Before replacing the stem seal and the packing, the pipeline must be de-pressurized.
- 4.2 Take the valve out of the pipeline.
- 4.3 Place the valve in its' fully open position.
- 4.4 Unthread the end cap.
- 4.5 Close the valve and remove the seats, joint gasket, and ball.
- 4.6 Remove the valve stem nut, handle, gland nut and remove the valve stem through the body cavity.
- 4.7 Remove the stem seal from the stem cavity or stem and remove the o-ring from the stem.
- 4.8 Examine all metallic sealing surfaces such as ball, stem and end cap for damage, replace the ball or stem if they are excessively damaged.

5. RE-ASSEMBLING

Having assured that all critical surfaces and components have been inspected, cleaned and or replaced, reassembly can begin.

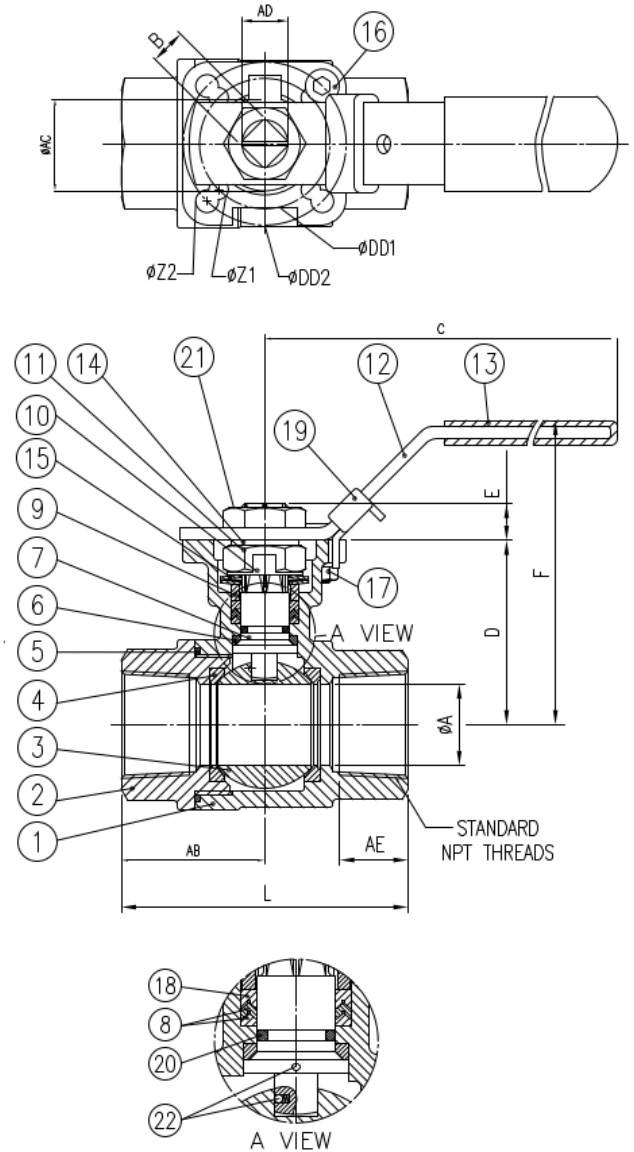
- 5.1 Place new stem seal and o-ring on the stem and insert the stem.
- 5.2 Install new gland packing, bushing, gland bush, belleville washer and stem nut.
- 5.3 Tighten stem nut to torque specification in Table 1.
- 5.4 Lightly lubricate seats and body seals using a lubricant that is compatible with the process.
- 5.5 Re-install end cap.

Table 1

Valve Size	Stem Nut Torque (In-Lbs.)
$\frac{1}{2}$ " ~ $\frac{3}{4}$ "	90
1"	120
1- $\frac{1}{2}$ "	225
2" ~ 2- $\frac{1}{2}$ "	310
3"	400

Materials

NO.	PART NAME	QTY	MATERIAL
1	BODY	1	ASTM A351 GRADE CF8M
2	END CAP	1	ASTM A351 GRADE CF8M
3	BALL	1	1/4" THRU 3/8" ASTM A276 SS316
3	BALL	1	1/2" THRU 3" ASTM A351 GRADE CF8M
4	SEAT	2	RTFE
5	JOINT GASKET	1	PTFE
6	STEM SEAL	1	RTFE
7	STEM	1	ASTM A276 SS316
8	GLAND PACKING	1	PTFE
9	GLAND BUSHING	1	AISI 304
10	LOCK SADDLE	1	AISI 304
11	STEM NUT	1	AISI 304
12	HANDLE	1	AISI 304
13	HANDLE SLEEVE	1	VINYL
14	STEM WASHER	1	AISI 304
15	BELLEVILLE WASHER	2	AISI 301
16	STOP BOLT	1	AISI 304
17	BOLT NUT	1	AISI 304
18	GLAND WASHER	1	RTFE
19	HANDLE LOCK	1	AISI 304
20	O-RING	1	FKM
21	HANDLE NUT	1	AISI 304
22	ANTI-STATIC DEVICE	2	AISI 316



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