## MANUAL AL 17-20

#### I. 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 ¼ 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

- 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 thrustwasher, packing, and seats

- 4.1 Before replacing the thrust washer and the packing, the pipeline must be de-pressurized.
- 4.2 Take-off the valve from the pipeline.
- 4.3 Place valve in its' fully open position.
- 4.4 Take-off end cap with proper equipment (machine).
- 4.5 Close the valve and remove the seat, body seals 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 trust washer from the stem cavity.
- 4.8 Examine all metallic sealing surfaces such as ball, stem and end cap for damage, if the ball or stem is excessively damaged, ball and stem need to be replaced.

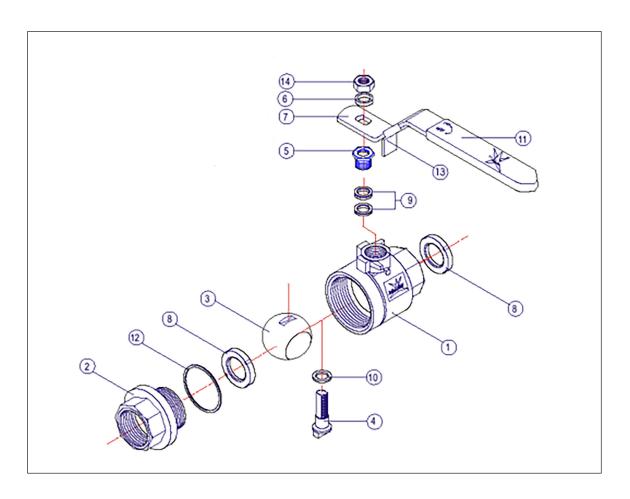
### 5. Re-assembling

Having assured that all critical surfaces and components have been inspected, cleaned and or replaced, reassemble can be begun.

- 5.1 Place new trust washer on stem and install the stem.
- 5.2 Re-install gland nut and tighten to the torques listed on table.
- 5.3 Lightly lubricate seats and body seals using a lubricant.
- 5.4 Re-install end cap.
- 5.5 Re-install handle and secure with stem nut.



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### **Material specification**

No	Qty	Part	Material
I	I	Body	Stainless steel CF8M / WCB
2	I	End cap	Stainless steel CF8M / WCB
3	I	Ball	Stainless steel SS 316
4	I	Stem	Stainless steel SS 316
5	I	Gland nut	Stainless steel SS 304
6	I	Stem washer	Stainless steel SS 301
7	I	Handle	Stainless steel SS 304
8	2	Seat	PTFE
9	l set	V-ring packing	PTFE
10	I	Stem seal	RTFE
П	I	Handle sleeve	Vinyl
12	I	Joing gasket	PTFE
13	I	Locking device	Stainless steel SS 304
14	I	Handle nut	Stainless steel SS 304

### **Pressure / Temperature**

