

# MANUAL

## Ball valve AL 17-39M

### 1. Use

- 1.1 Maximum results and long life of the valves can be maintained under normal working conditions and according with pressure/temperature rating and corrosion data chart.

### 2. Manual operation

- 2.1 To change flow pattern of the valve, turn the handle 1/4" (90°)  
2.2 Both T port and L port are available  
2.3 Both Full port and Reduced Port are available.

### 3. Automation operation

- 3.1 Direct Mount of Pneumatic or Electric Actuator to Valves.  
No Brackets and Couplings are required.

### 4. General information for on-site installation

- 4.1 The valve may be fitted in any position on the pipeline.  
4.2 Before installation of the valves, the pipe line must be flushed clean of dirt, burrs and welding residues, or the seats and ball surface will be damaged.  
4.3 The pipe must be free from tension.  
4.4 When rebuilding, a standard repair kit designated for each size and style valve is available, each repair kit to contain all the soft parts.  
4.5 When ordering, be sure to specify size, valve code, valve seat, seal and stem packing materials. Optional components such as ball, stem and handle are also available.  
4.6 After installation, cycle valve several times before putting into service.

### 5. Disassembling and cleaning of the valve

#### Caution:

**Ball valve can trap fluids in the ball cavity when closed.**

- 5.1 Before disassembly, be sure to discharge any hazardous media that might be entrapped in any valve cavity.  
It is recommended that the following steps are taken for safe removal and reassembly.  
A. Relief the line pressure.  
B. All persons involved in the removal and disassembly of the valve should wear the proper protective clothing, such as face shield, gloves, etc.

### 6. Replacing the thrust washer, packing, and seats

- 6.1 Before replacing the thrust washer and packing, the pipeline must be de-pressurized.  
6.2 Stem leakage may be corrected without replacing the stem packing. Tighten the stem gland nut until leakage stops, if leakage continues or valve's operating torque becomes excessive, the stem seal is worn and must be replaced.  
6.3 Remove valve from pipeline.  
6.4 Remove end caps, body seal, seats, and ball.  
6.5 Remove stem nut, gland, stop, etc. and push stem into valve cavity.  
Remove stem seats and thrust washer.

#### Remark:

- Do not connect the system before valve pipeline installation to the earthing connection has been tested, examined and approved by the customer.
- Do not allow dust layers on the transportation media as it could charge the valve during high velocity of transportation. The flammable material shall be prohibited to be used on the valve.

### 7. Assembly

- 7.1 All Components have been cleaned, inspected, and replaced as necessary, the valve can be rebuilt using the factory repair kit recommended.  
7.2 Put new Stem Seal and O-ring on stem, insert the stem through body cavity into stem hole, install ball in the position. Assemble new stem packing, gland, Belleville washer, and stem nut. Tighten stem nut so that stem will feel snug and firm.  
**DO NOT OVERTIGHTEN.**  
7.3 Assemble the back seat into body, insert body gasket on seal surface. Assemble second, third, and fourth seats into cavity of end caps and insert the same into body.  
7.4 Apply wrench on the hexagonal ends of the valve only. Tightening using the valve body or handle can seriously damage the valve.

### Break away torque - Nm

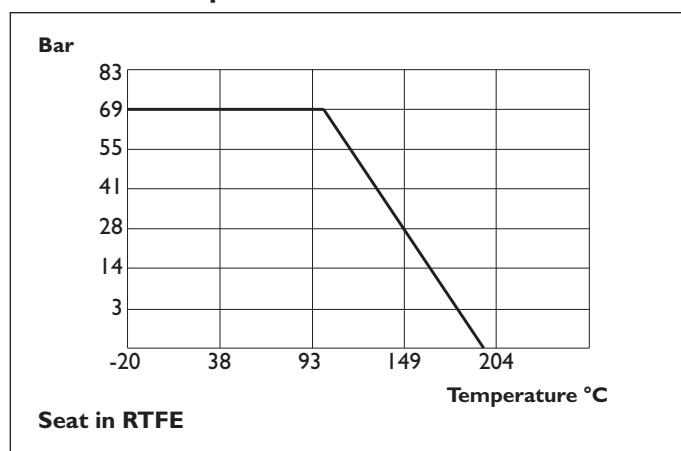
DN	Full port	Reduced port
8	9	9
10	9	9
15	12	9
20	17	12
25	36	17
32	42	36
40	51	42
50	94	51

30 % safety factor included

### Torque of stem nut - Nm

DN	Full bore	Reduced bore
8	6,9	6,9
10	6,9	6,9
15	7,8	6,9
20	10,8	7,8
25	10,8	10,8
32	15,7	10,8
40	18,6	15,7
50	18,6	18,6

### Pressure / Temperature



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