



EUROTORC EV303 BALL VALVE

OPERATING AND MAINTENANCE INSTRUCTIONS

Safety Information

The following general safety notices supplement the specific warnings and cautions appearing elsewhere in this manual. They are recommended precautions that must be understood and applied during operation and maintenance of the equipment covered herein.

- a. Always wear protective eye glasses, gloves and overalls.
- b. Do not touch surface of valve when being used with high temperatures.

WARNING :- pipeline pressure can cause personal injury and equipment damage. Isolate & relieve pipeline pressure before attempting any maintenance.

Preparation

- a. To prevent valve distortion, inefficient operation or early maintenance problems, support piping on each side of the valve, as necessary.
- b. Make sure the valve is positioned such that there is sufficient space so that the handle is easily and safely reached, and operated.
- c. 3-Piece ball valves can be installed in any position without regard for the direction of the flow, unless specifically marked in the body casting.
- d. 3-Piece ball valves are not designed for throttling and should be kept in the fully open or closed position. Should the valve be used in a partially open or closed position, the ball and seats may become eroded prematurely.

Installation

- a. The Valve should not be dismantled prior to fitting.
- b. Always position the Valve to facilitate convenient operation and maintenance.
- c. 3-Piece Ball Valves can be installed in any position with regard to the direction of the flow, unless marked with a directional arrow on the valve casting.

Operation

This valve is of quarter turn operation and is opened and closed by means of a hand lever, rotating the valve stem and ball in the appropriate direction limited by the integral travel stop.

Any media which might solidify, crystallise or polymerise should not be allowed to stand in the ball valve cavities unless regular maintenance is provided.

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Inspection and Maintenance

A periodic inspection and maintenance schedule should be established for each valve. The time frame given for the implementation of these schedules are to be used as a guide only in establishing routine inspection and maintenance schedules. Exact time periods for performing these procedures should be determined based on the frequency of operation and service conditions each valve is subjected to.

Inspection should include the following:

- a. Open and close the valve. The actions should be smooth without any binding of the stem and ball through full travel.
- b. If valve is in service and under pressure:
 - (1) Examine the body to end cap connection for leakage through the body seal. If leakage is found, tighten the end cap bolts until the leakage stops. If the leakage persists, see 'Trouble shooting' section.
 - (2) Check the stem packing for any leakage during the opening and closing action. If a leak is found, remove the hand lever and tighten the gland nut with no more than a quarter turn at a time until the leak stops. If the leakage persists, see 'Trouble Shooting' section.

Post Inspection.

After completion of the inspection, valves that are providing satisfactory service require no further disassembly or inspection. Should a valve be found which is not performing satisfactorily, see 'Trouble Shooting' section

Maintenance.

Other than periodic inspection, no routine maintenance is required. Routine replacement of parts, such as gasket and packing is not usually performed until required. Once in service, it may become apparent that these and other parts require repair or replacement due to usage and service conditions. A maintenance schedule should be developed taking these conditions into consideration. Parts can be replaced during a routine overhaul.

Stem Packing Replacement

- a. Check original tightness of valve operation. Remove stem nut, washer, handle, and gland nut. Clear the packing chamber.
- b. Remove the existing or defective packing rings with a sharp tool or packing remover.
- c. Examine the machined surfaces of the stem and packing chamber. Remove any scoring or burrs with emery cloth or hand filing. Clean the stem with a solvent soaked rag.
- d. Install new packing. Install rings individually, compressing each ring by hand tightening the gland nut.
- e. When packing chamber becomes filled with packing, reassemble gland nut. Tightening the gland nut until gland nut begins to get tight.
- f. Compare valve operation to original tightness. If valve operation is considerably tighter than original operating tightness, back off ¼ turn on the gland nut and recheck tightness.
- g. Several hours after a repacked valve has been returned to service, inspect the packing area to ensure full compression, tight bolting and no leakage. Should leakage occur, tighten the gland nut at ¼ turn increments until leakage stops.

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Trouble-Shooting

The following chart will cover the various problems which are common to most valves.
The information provided will aid in isolating and correcting these problems.

PROBLEM	PROBABLE CAUSE	SOLUTION
Leakage through the Stem and packing	a. Gland nut loose b. Packing aged or failed c. Thrust washer is damaged d. Stem is damaged	a. Tighten gland nut. b. Replace packing. c. Replace with new thrust washer. d. Replace with new valve.
Leakage between body and end cap	a. End cap is loose b. Body seal is damaged c. Body or End cap faces are damaged	a. Tighten the End cap. b. Replace the Body seals c. Replace with new valve.
Seat Leakage	a. Valve not isolating b. Valve seats are damaged or worn c. Ball and/or stem are damaged or worn	a. Check to see if valve is fully closed. b. Replace seats and body seals. c. Replace with new valve.

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