



STEINBOCK VALVES

OPERATION AND MAINTENANCE MANUAL

(Ball valves)

INTRODUCTION

This document presents information which should give help and general guidance to the users of valves supplied by Edmund Valve Company (1965) Ltd. It does not make reference to specific applications but is presented to make users more aware of some of the problems which may arise.

INSTALLATION

Before fitting a valve into an installation it is important to check the following, and establish that the valve is in a satisfactory condition:-

- 1) Unpack valve and check that any identification plates, direction of rotation of hand-wheel markings/levers etc. are in compliance against specifications etc.
- 2) Note that when large valves are provided with lifting lugs or eye nuts, these should be used to lift the valve. Valves should NOT be lifted using the hand-wheel, levers or stem.
- 3) Valves must be provided with adequate support. Adjoining pipework must be supported to avoid the imposition of pipeline strains on the valve body, which would impair its performance.
- 4) Take note of special warning tags or instructions which may be attached to the valve.
- 5) All valves are supplied with ports sealed and the seals must not be removed until immediately prior to the valves being installed.
- 6) Check the valve for 'direction of flow' arrow (where applicable) and install the valve in accordance with this instruction. However, if for some reason the marks have been obliterated, it should be noted that, in the case of most ball valves are normally bi-directional, but please see note 12 for exception.
- 7) As far as is possible, inspect the valve interior and ascertain that it is free from foreign matter i.e. packing materials or blocks which are used to prevent damage in transit.
- 8) Immediately prior to valve installation, the pipework to which the valve is to be fastened should be checked for cleanliness and freedom from debris.
- 9) The mating flanges (both valve and pipework flanges) should be checked for correct gasket contact face, surface and condition. If a condition is found which might cause leakage, no attempt to assemble should be made until the condition has been corrected.
- 10) The Gasket should be suitable for operation conditions or maximum pressure/temperature ratings. The gaskets should be checked to ensure freedom from defects or damage.
- 11) If valves have been supplied in a degreased condition and sealed in polythene bags, then care must be taken during installation that they are handled in such a way that they do not become contaminated.



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12) Ball valves could have a direction of flow arrow if fitted with a ball having a bleed hole. This would mean that the valve would be unidirectional and would seal on the downstream face, relieving pressure to the upstream side of the valve.

BALL VALVE TRIM (3-Piece Floating Ball)

1 Seats

Owing to the nature of soft seat inserts repair is by replacement.

a) Remove body bolting and end covers. Remove seats from end covers. Fit new seats into end covers. Replace all body seals. Reassemble and tighten bolts.

1.1 Ball

a) Remove body bolting and end covers. Rotate ball into closed position. Remove ball. Inspect ball for damage, replace as necessary. Replace all body seals. Reassemble and tighten bolts

1.2 Stem

1. Remove body bolting and end covers. Rotate ball into closed position. Remove ball. Remove handle, stop plate, gland nut and gland follower. Carefully remove stem, damage to gland packing may occur. Inspect stem for damage and replace as necessary. Fit new stem seals. Remove old gland packing. Refit stem into valve body. Fit new gland packing. Re-assemble handle, stop plate, gland nut and gland follower. Turn handle to closed position and refit ball. Replace all body seals. Reassemble and tighten bolts.

BALL VALVE TRIM (2-piece bolted construction floating ball)

Seats

Owing to the nature of soft seat inserts repair is by replacement.

Remove body bolting and end covers. Remove seats from end covers. Fit new seats into end covers. Replace all body seals. Reassemble and tighten bolts.

Ball

Remove body bolting and end covers. Rotate ball into closed position. Remove ball. Inspect ball for damage, replace as necessary. Replace all body seals. Reassemble and tighten bolts

Stem

Remove body bolting and end covers. Rotate ball into closed position. Remove ball. Remove handle, stop plate, gland nut and gland follower. Carefully remove stem, damage to gland packing may occur. Inspect stem for damage and replace as necessary. Fit new stem seals. Remove old gland packing. Refit stem into valve body. Fit new gland packing. Re-assemble handle, stop plate, gland nut and gland follower. Turn handle to closed position and refit ball. Replace all body seals. Reassemble and tighten bolts.



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BALL VALVE (3-piece split body trunnion-mounted)

Remove gearbox or lever. Remove gland and stop plate where fitted. Remove top cover plate and stem retaining cover. Remove stem. Remove trunnion cover and trunnion. Remove body bolting and separate body and ends/closures. Remove ball. Remove seat assemblies noting order. Remove springs. Inspect all parts for damage and replace as necessary. Soft seat inserts must be removed by machining after checking the over-ball dimension and angle. Replacement soft seats must be pushed into the seat carrier and then machined to suit the correct angle to achieve same over-ball dimension as previous. Replace the ball into the body and insert the trunnion and stem. Fit the stem retaining flange and trunnion cover. Fit springs into end covers using spring carriers when fitted. Assemble seat backing ring, seals and seat carrier and fit into end covers avoiding disturbance of the springs. Bolt end covers/closures onto valve body tightening bolts in a standard cross-pattern manner. Fit top plate and lever/gearbox.

NB: Reference should be made to the GA drawing.

BALL VALVE (2-piece split body trunnion-mounted)

Remove gearbox or lever. Remove gland and stop plate where fitted. Remove top cover plate and stem retaining cover. Remove stem. Remove trunnion cover and trunnion. Remove body bolting and separate body and ends/closures. Remove ball. Remove seat assemblies noting order. Remove springs. Inspect all parts for damage and replace as necessary. Soft seat inserts must be removed by machining after checking the over-ball dimension and angle. Replacement soft seats must be pushed into the seat carrier and then machined to suit the correct angle to achieve same over-ball dimension as previous. Replace the ball into the body and insert the trunnion and stem. Fit the stem retaining flange and trunnion cover. Fit springs into end covers using spring carriers when fitted. Assemble seat backing ring, seals and seat carrier and fit into end covers avoiding disturbance of the springs. Bolt end covers/closures onto valve body tightening bolts in a standard cross-pattern manner. Fit top plate and lever/gearbox.

NB: Reference should be made to the GA drawing.

NOTES

Should you have any queries regarding the use or maintenance of valves supplied by Edmund Valve Company (1965) Ltd, please contact our Technical Department. Any other material action required must be undertaken by an approved installer/technician with full written approval from Edmund Valve Company (1965) Ltd failure to do this can invalidate any warranties.