



Installation, Operation & Maintenance Instructions: **Double Union Plastic Ball Valves**



Doc: O&M-PVC-DU-Ball/I

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The information given below is offered as a general guide only for typical plastic double union ball valves with a fully locked (anti blow-out proof) ball. They are not specific to any particular valve or manufacturer.

OVERVIEW:

The double union valve allows easy replacement of body gasket, seats and seals without the need for any specialist tools. They are a floating ball design, the ball is free to move horizontally inside the valve body when induced to do so by the line pressure. The valve is capable of tight shut-off with flow in either direction or dead end, regardless of the position of the valve in the line. The downstream seat, opposite the pressurised side of a closed valve, carries the load exerted by the line pressure on the ball, whilst the upstream seat is subject to little load or wear.

USE:

Life of the valve can be maximised if the valve is used within its rated range in accordance with compatible flowing media, its pressure and temperature.

MANUAL OPERATION:

To open or close the valve, turn the lever 1/4 turn (90 degrees) until it hits the physical stops.

In OPEN position, the valve lever is in line with the valve.

In CLOSED position, the lever is across the valve.

INSTALLATION:

The valve may be fitted in any orientation.

To prevent seat damage, the pipeline must be flushed, free of dirt, burrs, cutting residues etc., BEFORE installing the valve.

Lift the valve into position and install using sound pipework fitting practice:- Read with exploded view on page 2

Solvent socket or threaded unions: Loosen the union nuts (3) and remove these and the end connectors (5) from the valve body. Retain the end seals (10). Pass the prepared pipe ends through the union nuts and fit the end connectors onto the prepared end of the pipe (after cleaning and applying solvent cement in the case of solvent welded ends, or after applying thread sealing tape in the case of threaded ended valves). Insert the end seals into the recess in the ends of the valve body and connect the valve body to the pipes by screwing the union nuts into place. For flanged ends, fit stub flanges and backing rings to each end of the pipe, then bolt the valve between the flanges using a suitable gasket between the stub and valve flanges.

System pressure tests (normally 1.5 times max working pressure) must be carried out with the valve in the OPEN position to prevent compression damage to the seats.

If the valves contain silicone based lubricants from the assembly at the factory, and if silicone is unacceptable in your application, the valve should be stripped and degreased (solvent washed) before use.



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ADJUSTMENT

- 1 SAFETY - Use sound engineering practice and common sense when removing valves from pipelines – ensure the line is isolated and labelled as such with high visibility 'Danger, men working, do not open' (or signs required by local Health & Safety regulations) attached to the closed valves supplying the line, and drain the line before removing the valve.
- 2 These valves are generally factory adjusted to ensure correct operation over long periods of time, but it is possible to adjust the seat clamping force on the ball if required.
- 3 Insert the key tool (11) supplied with the valve into the slot in the seal carrier (12) and turn in small increments (max 1/4 turn per time) clockwise to loosen the seal or anti-clockwise to tighten the seal. Be aware that over-tightening will increase the torque and will cause problems with automatic operation.

MAINTENANCE

- 1 SAFETY - Use sound engineering practice and common sense when removing valves from pipelines – ensure the line is isolated and labelled as such with high visibility 'Danger, men working, do not open' (or signs required by local Health & Safety regulations) attached to the closed valves supplying the line, and drain the line before removing the valve.
- 2 Use the key tool to completely remove the seat carrier.
- 3 Remove the ball and change the body seals (8,9, 10) and ball seats(6).
- 4 Remove the stem by pressing it into the valve body and extracting it from inside the valve. Replace the 2 washers (7). Replace by inserting the stem from inside the body and pushing it up through the stem hole.
- 5 Re-assemble using silicone or Vaseline - do not use greases or mineral oils.

EXPLODED VIEW

