



## 1.0 Product Overview and Technical Details

### Eco-Duo Continuous Isolation Valve - RED

Continuous Isolation Valve for 15mm W1599 RD  
Continuous Isolation Valve for 22mm W1600 RD  
Continuous Isolation Valve for 28mm W1601 RD  
Continuous Isolation Valve for 35mm W1602 RD  
Continuous Isolation Valve for 42mm W1603 RD  
Continuous Isolation Valve for 54mm W1604 RD

The Valve shall be drawn from the Eco-Duo Continuous Isolation Valve range (available from Water Kinetics Ltd) , manufactured from Brass. They are intended for the isolation of sections of pipework and equipment in potable water applications. The valve is quarter turn operation with grip for ease of operation.

### 1.1 Tube compatibility

#### Valve Type

Compression Ends

#### End Connection Specification

Compression ends suitable for use with Copper Tube to BS EN1057 (R250 temper, R290 temper)

### 1.2 Pressure Ratings

Valves must be installed in a piping system whose normal pressure and temperature does not exceed the stated rating of the valve. The maximum allowable pressure in valves as specified in the standards is for non shock conditions. Water hammer and impact should also be avoided.

System testing will subject the valve to pressures in excess of the working pressure, this should be within the “shell test pressure for the body” to a maximum of 1.5 times the PN rating of the valve and conducted with the valve fully opened.

It may be hazardous to use these valves outside of their specified pressure and temperature limitations and also when not used for the correct application



## **Technical Performance Specification**

(SKU) (Compression ends) all sizes rated at PN16, brass valves with chrome plate finish.

(SKU) (Compression ends) all sizes rated at PN16, dezincification resistant brass raw finish

Full Bore

Quarter Turn Operation

Blow out proof system

Size range 15mm to 76.1mm

PTFE seals

Viton Stem O Rings

## **2.0 Installation**

### **2.1 Electrical Continuity**

All metallic pipework should comply with the equipotential bonding requirements of the current edition of the IEE wiring regulations (BS7671:2001). After all plumbing work has been completed continuity checks are to be conducted by a qualified electrician in accordance with the regulations.

### **2.2 Heat Free**

The Water Kinetics Eco-Duo Range offers Heat free jointing across it's whole range. These valve connections must not be brazed.

### **2.3 Insulation**

For all Water Kinetics Eco-Duo valves, it is recommended that you adhere to the insulation requirements as specified by the Water Supply (water fittings) Regulations 1999, ensuring at all times that access for valve operation is taken into consideration.



## 2.4 Valve Selection

Valves must be properly selected for their intended services conditions. Provided it is installed correctly and receives adequate preventative maintenance it should give years of trouble free service.

They must be compatible with the system design, pressure and temperature requirements and must be suitable for the fluids that they are intended to carry. Interactions between metals in the pipe system must be considered as part of the valve selection.

Ball valves perform best when they are installed in an upright position. The direction of flow is not important. They are fitted when the valve is in the open position.

Ball valves are designed for isolation and should either be fully opened or fully closed and should not be used for regulation or throttling of flow.

## 2.5 Location/end of line service

To ensure ease of operation, adjustment, maintenance and repair, valve siting should be decided during the system design phase.

Eco-Duo Ball Valves are suitable for end-of-line service.

## 2.6 Pre Installation - Health and Safety

Before starting work on any installation a risk assessment must be made to consider the possibility of operational limits being exceeded and reduction or elimination of any potential hazards.

1. Protective clothing and safety equipment must be utilized as appropriate to the hazard presented by the nature of the process to which the valve is being installed or maintained.
2. Before installing or removing a valve the pipeline circulating pumps (when fitted) must be turned off. The pipeline must be depressurised, drained and vented. Valves must be fully opened to ensure release of any pipeline or valve pressure.
3. Fitters must be trained in manual and mechanical handling to enable them to safely lift and install Pegler valves.
4. The valve selected must be suitable for the required service conditions. The pressure and temperature limitations are indicated on the valve nameplates, body or data plate. They must not be exceeded.



5. Valve seats, seals and internal components can be damaged by system debris. Protective devices may need to be fitted and system flushing may be required.

6. Any flushing fluid used to clean the pipeline must not cause any damage to the valve and its components.

7. Eco-Duo Valves must not be misused by lifting them by their levers

8. Eco-Duo valves are not suitable for fatigue loading, creep conditions, fire testing, fire hazard environment, corrosive or erosive service, or for carrying fluids containing abrasive solids. There is no allowance for corrosion in the design of these valves. Design for this valve do not allow for decomposition of unstable fluids and must not be used where this could occur.

9. Eco-Duo valves are not designed to withstand the effects of fire, wind, earthquakes and traffic.

10. All Health and Safety Rules must be followed when installing and maintaining valves.

Eco-Duo Valves have Type A compression ends manufactured to EN 1254 part 2. These compression ends are suitable for mechanically joining copper or stainless steel tube by means of compressing a cone on to a tube without the application of heat.

The range is designed for use with copper tube to BS EN 1057:1996 (formerly BS2871: Part 1), BS2871:Part 2, or stainless steel tube to BS4127: 1994.

To make a joint:

1. Ensure that the fitting is the correct size for the pipe being used. Cut the pipe to length, making sure that the cut is square and the pipe is not deformed. Remove any burrs from the cut ends.

EITHER

2a. Insert the pipe into the fitting without removing the cone, ensuring that the cone is in the correct position and that the pipe makes firm contact with the stop in the body of the valve.

OR

2b. Unscrew the cap nut and cone from the fitting. Slide the cap nut and cone onto the pipe and insert the pipe into the fitting as far as the stop.

3. In both cases, tighten the cap nut onto the valve until the pipe cannot be rotated by hand. A drop of light machine oil on the threads will facilitate tightening- particularly on the larger size valves.

4. Tighten the cap nut with a good, well-fitting spanner, using the table below as a guideline taking into consideration any variations in installation conditions.



Nominal Pipe Size	Guide to Tightening
15mm	3/4 to 1 Turn
22mm	3/4 to 1 Turn
28mm	3/4 to 1 Turn
35mm	1 to 1.1/4" Turns
42mm	1 to 1.1/4" Turns
54mm	1 to 1.1/4" Turns

**NB.**

- Jointing compounds or sealants are not necessary with Eco-Duo compression ended valves; the use of these materials could impair the efficiency of the joint and may contravene water regulations.
- Over tightening will not produce a better joint, and may lead to problems in service.
- Cap nuts are made from brass.

**3.0 Testing**

15mm to 54mm - each products shall be pneumatically tested at 6 bar (90psi) for 5 sec. There shall be no signs of visible leakage from the Body / Cap joint, surfaces or seals.

**After testing**

the valves shall be left fully 'Open'.

**Type Testing**

These tests shall be carried out at Water Kinetics Limited on a sample basis in accordance with BS6001

15mm to 54mm

- |                          |          |
|--------------------------|----------|
| a) Hydrostatic body test | 24 bar   |
| b) Hydraulic seat test   | 17.6 bar |
| c) Pneumatic body test   | 6 bar    |
| d) Pneumatic seat test   | 6 bar    |



Valve Type	Max Working Pressure (bar)	Temp at Max Working Pressure	Max Working Temperature	Max. Working pressure at Max. Temperature (bar)
Compression Ends	16	Up to 30°C	Up to 110°C	6

## Certification

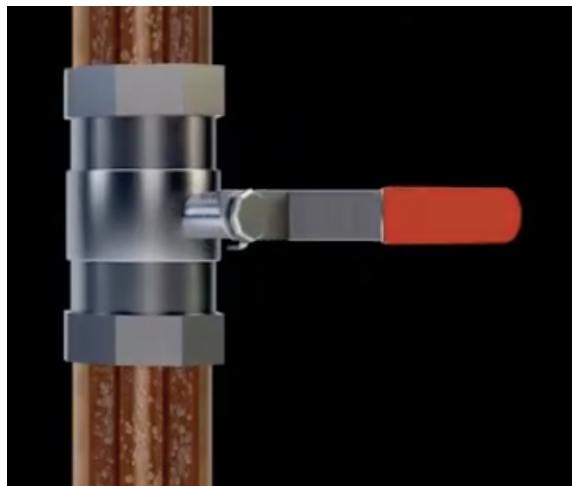
WRAS approved

## Operation/ Commissioning

Eco-Duo valves are operated by a quarter turn (90°) movement of the of the lever handle so that to open it is in line with the pipe run in which it is installed. To close - turn the lever 90° so that it is across the line of the pipe in which installed. Full opening and closing is completed when a full 90° is achieved and the lever is firmly set against the stop on the valve body.



Open Position



Closed Position

## 3.1 Additives

For information on additives compatible with Water Kinetics systems visit [www.water-kinetics.co.uk](http://www.water-kinetics.co.uk) it is strongly recommended to consult a commissioning engineer in conjunction with the manufacturer prior to their use.



## 3.2 Warranty

Products are subject to a 5 year guarantee that is between Water Kinetics and the final purchaser of the product.

The guarantee is subject to proof of purchase being supplied.

This guarantee does not affect any statutory rights the consumer may have in law.

The guarantee covers manufacturing or material defects and does not cover parts subject to normal wear and tear.

This product range has been designed for the use of homeowners, domestic and commercial applications and therefore the guarantee is subject to the product being properly selected for their intended service conditions.

The guarantee is not applicable where the product is fitted contrary to the conditions in the fitting instructions.

This is reinforced where valves are covered by the European Pressure Equipment Directive (PED97/23/EC) where Installation, Operating and Maintenance Instructions are supplied with each product and/or carton.

Provided it is installed correctly and receives adequate preventative maintenance it should give years of trouble –free service.

Abusive behaviour and accidental damage to the product are not covered by this guarantee.

The extent of this liability is limited to the cost of the replacement of the defective item and not to fitting or consequential damages.

## 4.0 Storage

Valves should be stored off the ground in a clean, dry, indoor area. Where desiccant bags are included these should be changed after a period of six months.

Eco-Duo valves are supplied in appropriate packaging to give adequate protection from damage.

When Eco-Duo valves are fitted to pressure equipment or assemblies, suitable protective devices may be required.

## 5.0 Contact

For further details please contact our technical department: 0141 280 9585

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