Arrow Valves Ltd

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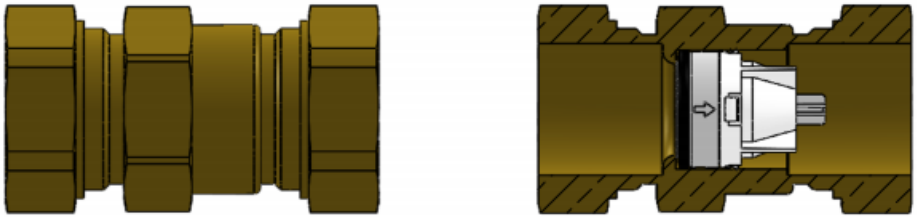
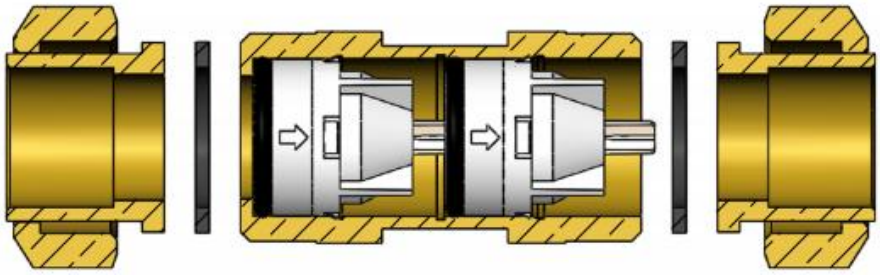
Installation Instructions/ Operating & Maintenance Manual Check Valves



Single Check Valve



Double Check Valve

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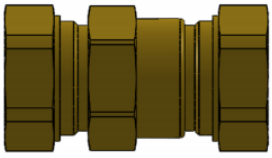
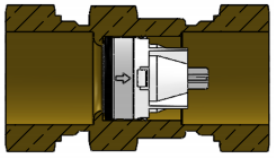
FOREWORD

Check valves are used to prevent backflow within a water system. There are two types, a single check valve and a double check valve with various sizes, applications and connections.

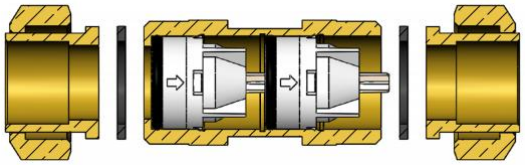
INSTALLATION NOTES

- The water must flow in the direction of the arrow (found on the outside of the valve/s as shown in the figures below).
- The valve/s can be installed in any orientation.
- Before fitting, it is advised to exercise the valve gently to free the closing system if it has become sticky.
- **Temperature Range Note**
  The valves are suitable for water systems operating between 3°C and 65°C. Below 3°C, ice crystals may form; above 65°C, material integrity may be compromised.





Single Check Valve



Double Check Valve

RECOMMENDED FITTINGS AND CONNECTIONS

The following are the fittings and connections that Arrow Valves suggest using to connect the valves to the relevant piping:

Compression Fittings

There are two acceptable methods. Hand tighten the nut until the pipe stops turning (Machine oil on the thread can help). Or follow the “number of turns rule” using a suitable spanner or wrench. Tighten to the recommended torque setting as outlined in the table below :

Fitting size (mm)	Number of Turns	Recommended Torque (Nm)
15	¾ to 1	40
22	¾ to 1	45
28	¾ to 1	80
35	¾ to 1	110
42	1 to 1 ¼	150
54	1 to 1 ¼	190

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MDPE Fittings

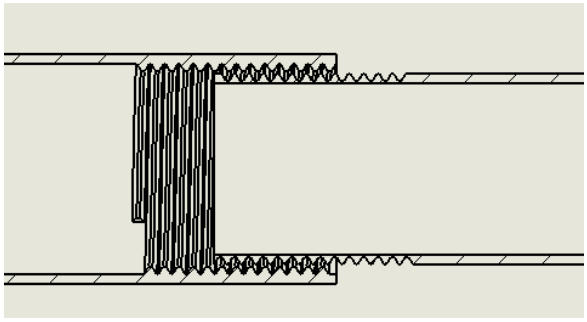
No need for inserts for these fittings.

Pipe Diameter (mm)	Recommended Torque (Nm)
20	23
25	32
32	38
40	43
50	60
63	130

BSP Parallel

Apply a suitable sealant to the male threaded part, this can be PTFE tape or liquid sealants. Arrow Valves recommend Permabond MH052. Do not use hemp. Check the internal thread length and make sure that the male thread does not exceed this length when fitted together as shown in the figure below .

Thread Size (DN)	Number of turns after hand tightening
15	¾ to 1
20	¾ to 1
25	¾ to 1
32	¾ to 1
40	1 to 1 ¼
50	1 to 1 ¼



NOTE: Hoop stress is a radial stress applied to cylindrical objects such as pipework and can occur when too much sealant or tape is placed on the male thread causing an outward force on the female fitting when connected and over tightened. Tapered fittings are more prone to hoop stress and great care should be taken when making a tapered joint.

MAINTENANCE

- A common problem is for debris to become lodged in the opening thereby preventing the valve from sealing properly.
- The valves should be disconnected and cleaned
- If backflow is suspected despite the check valve/s, the water should be turned off upstream from the valve/s
- If water does come up past the valve/s, this may indicate the valve/s are obstructed or stuck and should be cleaned.

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