Stopcocks
Committed to sustainable development, Philmac is well renowned for quality products and services. Philmac manufactures pipe fittings and valves under a Quality Assurance System assessed and approved to ISO 9001-2000 and has obtained the prestigious environmental management certification ISO 14000. Philmac has a NATA accredited laboratory and tests fittings and valves to international and national standards. Third party accreditation is carried out by SAI Global.
Disclaimer

Please note that the information, opinions, recommendations and advice given in this manual are supplied only to provide an improved understanding of the technical aspects of fitting systems.

So far as the law allows, Philmac Pty Ltd will not accept liability in respect of any loss or damage of any kind claimed to arise as a result of reliance upon any information claimed in this manual.

Please refer to our Terms and Conditions of sale.
STOPCOCK VALVES

Philmac stopcock valve offers solutions to water utilities, plumbing, agricultural and irrigation industry by providing an economic and reliable shutoff valve.

With its approval this valve is used extensively for drinking water system and with models for a number of different pipes provides an extremely versatile valve.

The valve uses a proven design and with three turns from off to on provides good control and eliminates water hammer commonly experienced with fast acting on/off valves.

A simple and effective design, with longevity of service, Philmac's stopcock valve is designed for harsh outdoor conditions.

APPLICATIONS

Municipal: Curbstop and meter stop valves, manifold valves
Plumbing: Isolating valves
Agriculture: Stock troughs and water tanks
Irrigation: Master valves, field valves, isolation valves and water tanks

BENEFITS

Fast and Easy Installation

- **Easy Grip T-handle**: The blue handle has been ergonomically designed to allow it to be gripped easily and avoid slippage.

- **3G Compression connections**: The stopcocks incorporate Philmac’s 3G compression fitting technology, delivering all the features and benefits of the 3G compression fitting range to stopcocks.

- **Slide & Tighten™ technology**: 3G Metric incorporates all the benefits of Philmac’s unique Slide & Tighten™ technology. No pipe preparation is needed and no force is required to push the pipe past the seal, so installation couldn’t be faster or easier. Simply insert the pipe into the fitting until the first point of resistance is felt, and then tighten the nut. Assembly is so easy you can even do it under live conditions. No special tools are required, and there is no need to disassemble the valve before use because the 3G compression connection is supplied pre-assembled and ready to use.

Complete Security

- **Reliable Operation**: Consistent high quality injection moulded plastic bodies, Nitrile Rubber O-rings and Thermoelastic seals plus a stainless steel screw means years of reliable operation.

- **Corrosion Resistant**: with a plastic body and components, rubber O-rings and seals and a 3/16 stainless steel handle screw, the components used all have a high degree of corrosion resistance.

- **Positive Open-Close**: The blue handle rotates through three turns between fully open and fully closed before resting against an internal stop to ensure there is no guesswork required as to whether it is open or closed.

- **Approvals**: Stopcocks are WRAS approved (UK) and comply with British Standard BS6920 which means the valves are suitable for use with potable (drinking) water.

- **Multi-position Installation**: The blue handled valves can be installed in any orientation for simple installation.

High Performance

- **Manufactured from advanced thermoplastic materials**: Philmac blue handled stopcock valves are manufactured from lightweight high performance thermoplastic materials which have excellent impact, UV and corrosion resistance. The material is non-toxic and taint free.

Complete Coverage

- **Wide range**: The range of blue handed ball valves is comprehensive and includes sizes from 20mm to 32mm or from 1/2" to 1”.

- **The Metric & Imperial connection**: The new Philmac Metric/Imperial™ compression connection is a revolutionary step forward for PE pipe joining. Connections can now be made to both Metric (BS6672/BS6730) and Imperial PE pipe (BS1972/3284 and IRS 135 Heavy Gauge) from the one fitting from either end. And, the innovative design means that inserts are no longer required to connect imperial pipe.
Philmac’s Stopcock valve range are designed to comply with the following standards and undertake a range of tests to ensure they comply with these standards.

**Tests Standards**

BS6920, (United Kingdom) suitability of non metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of water.

Stopcock valves are available for connection to PE pipes and tubes manufactured to the following specifications:

- BS6572/BS6730, MDPE Metric pipe
- ISO 11922 Series 1, Metric PE pipe
- AS4030, Metric PE pipe
- BS1972/3284, Imperial PE pipe
- IRS 135 Heavy Gauge PE pipe
- IRS 134 Normal Gauge PE pipe
- ASTM D3035, Standard Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter (IPS-OD or SDR).
- ASTM 2447, Standard Specification for Polyethylene (PE) Plastic Pipe, Schedules 40 and 80, Based on Outside Diameter.
INSTALLATION INSTRUCTIONS for 3G connections as used on Stopcocks

1. Cut Pipe Square
   Cut the pipe square. There is no need to prepare the pipe end. Chamfering or lubrication is not required. To meet UK WRAS approval insert a liner into MDPE pipe. Liners not required for all other installations.

2. Ready to Use Position
   The fitting is pre-assembled and ready to use, however always ensure the nut is fully relaxed and 2 threads are showing before inserting the pipe.

3. Pipe Insertion
   Insert the pipe until the first point of resistance is felt.

4. Nut Tightening
   The nut should be tightened by hand and then firmly with a wrench. Tighten the nut all the way to the flange on the body of the fitting.

5. Fully Installed
   Fitting is now fully installed.

6. Disassembly
   To disassemble the fitting simply loosen the nut using a wrench until 2 threads are showing. Pipe will be released and can simply be pulled out of the fitting.
SYSTEM DESIGN CONSIDERATIONS

Projected life of Compression Fittings
Whilst the Philmac Stopcocks conform to institutionalized specifications written to have a minimum life of 50 years, its compression fittings are intentionally developed to exceed the expectations of these specifications.

Pipe Connections
Pipe connections use Philmac advanced 3G® compression fitting technology providing reliable long life connections

Operating temperature: Connection is cold water (less than 20°C or 73°F) rated.

Weathering
The materials used contain pigments to provide excellent protection against degradation from ultra-violet radiation. However, long term continuous use above ground does require fittings to be protected from direct sunlight.

Electrolytic Corrosion
Philmac Stopcock is non-magnetising and does not cause electrolytic deterioration.

Thermal Insulation.
Polypropylene has natural thermal insulation of 2000 times over copper and 200 times over steel.

Light Transmission
The all black Philmac Stopcock does not transmit light, thus protecting the water quality in potable water pipelines from growth of micro organisms.

Effect on Water.
Philmac Stopcocks do not impart to the water any odour, taste, colour, or any constituents that could be injurious to health.

Fluids other than Water
Philmac Stopcocks may convey a wide variety of fluids. Philmac’s Stopcock valve is primarily designed for water pipelines, however there may be occasions where the water contains chemicals and/or alternative fluids need to be controlled.
Contact Philmac Technical Services for specific application.

CHEMICAL RESISTANCE

Many factors can affect the chemical resistance of plastics. Some of these include temperature, pressure, exposure time, continuous or cyclic expose and the type of mechanical stress applied. The fact that certain combinations of chemicals and mechanical load can induce stress cracking in many otherwise chemically resistant materials, both metallic and non-metallic, is of particular significance.

Mixtures of chemicals can result in a performance quite different than that of each individual chemical. Equally vapours and corrosive liquids can often be combinations of chemicals.

Due to the number of parameters that influence the performance of metals and plastics in the presence of chemicals and the performance can differ from a laboratory test. Philmac strongly recommends that the final decision be based on the results of a trial installation evaluated under actual service conditions.

To evaluate the performance of a material in the Philmac product in the presence of chemicals please contact Philmac and supply the following five parameters.

Size. What size is the valve and pipework?
Temperature. What temperature will the chemicals be at, is the temperature constant or cycling?
Application. Where and how is the valve being used? Is the chemical on the inside or is the valve immersed in the chemical, ie on the outside of the body rather than the inside?
Media. What chemical is being used? Is it a liquid or gas, is it one chemical or are there combinations? Are there surrounding chemicals or gases in the air?
Pressure. What pressure is being applied to the valve? Does it vary?

Remember the STAMP acronym.
**STOP COCK MATERIAL & COMPONENTS**

<table>
<thead>
<tr>
<th>Handle</th>
<th>Body</th>
<th>3G Nut</th>
<th>3G Collet</th>
<th>Seals</th>
<th>Seat Seals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nylon</td>
<td>Polypropylene</td>
<td>Acetal</td>
<td>Acetal</td>
<td>Nitrile Rubber</td>
<td>Thermoplastic Elastomer</td>
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</tbody>
</table>

**STOPCOCK VALVES RANGE & DIMENSIONS**

**STOPCOCKS with integrated 3G® compression fittings**

<table>
<thead>
<tr>
<th>Size OD</th>
<th>Ref No</th>
<th>Dimensions (mm)</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>20mm/½&quot; Metric Imperial</td>
<td>91282200</td>
<td>A: 95 B: 120 C: 47</td>
<td>155</td>
</tr>
<tr>
<td>25mm/¾&quot; Metric Imperial</td>
<td>91283300</td>
<td>A: 110 B: 137 C: 55</td>
<td>263</td>
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<tr>
<td>32mm/1&quot; Metric Imperial</td>
<td>91284400</td>
<td>A: 132 B: 168 C: 67</td>
<td>381</td>
</tr>
</tbody>
</table>

To meet the WRAS approval in the United Kingdom Stopcocks are available with liners to suit Metric SDR11 MPDE pipe. Liners are not required to meet the requirements of other standards.
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