Critical laboratory applications require water that is free of particles, micro-organisms and dissolved compounds. To create the purified water that labs require, processes such as reverse osmosis, deionization or distillation are used.

Once water has been purified, it can easily react with the materials it comes into contact with, such as pipe, fittings and valves. These reactions can reintroduce impurities into the water and cause corrosion in the valves and fittings the water is passing through.

To respond to this need, for many years WaterSaver has offered faucets and valves for purified water that utilize inert materials to protect the purity of the water. The most widely used faucets are equipped with an inert plastic lining of either polypropylene or PVDF which is encased inside a brass exterior. The purified water only comes into contact with the inert plastic lining. The brass exterior casing provides strength and durability.

Plastic-lined fixtures incorporate a diaphragm valve to control the water flow. In the closed position, the valve stem pushes a flexible diaphragm against the valve seat, closing the orifice in the valve. When the handle is turned to open the valve, the valve stem retracts, allowing the diaphragm to flex open and permitting the water to flow. When the handle is turned to close the valve, the valve stem re-compresses against the diaphragm, closing the waterway. Most manufacturers, including WaterSaver, have used a molded synthetic rubber diaphragm for these type of valves. Unfortunately, over time, it is possible for a rubber diaphragm to wear, abrade and deform.

As the innovation leader in lab fixtures, WaterSaver is committed to addressing the needs of its customers. Therefore, in order to enhance the durability of our plastic-lined fixtures, we are pleased to introduce a new diaphragm for these fixtures that is manufactured from solid polytetrafluoroethylene (PTFE). The PTFE diaphragm is made with a spring-like shape to easily flex as the valve is opened and closed. The material is both very strong and highly inert. As a result, the new PTFE diaphragms will not be subject to the fatigue that occurs in the older rubber diaphragms.

Effective as of May 1, 2016, the new PTFE diaphragms will be furnished in all WaterSaver plastic-lined fixtures. These diaphragms can also be easily retrofitted into older faucets in the field, enhancing the durability and performance of these products as well.
### ColorTech Construction - Manual Control

All WaterSaver plastic-lined fixtures manufactured after May 1, 2016 will be furnished with new PTFE diaphragms. For fixtures manufactured prior to this date, it will be easy to retrofit the new diaphragm into older fixtures in the field.

To order components to upgrade manual control fixtures, order the UK7800R upgrade kit or the UK210-7800 handle/unit kit as shown on the following page. The fixtures that utilize these kits are shown below.
ColorTech Construction - Manual Control

For fixtures with manual control (i.e. manual on/manual off), installing the new diaphragm simply requires opening the valve, removing the old diaphragm and stem cap, installing a new PTFE diaphragm and stem cap, and reassembling the valve. There are three ways to order parts to upgrade manual control fixtures in the field:

1. **UK7800R Upgrade Kit** This kit includes new PTFE diaphragms, gaskets, stem caps and seals to upgrade six (6) fixtures. This kit replaces the RK7800R repair kit previously offered.

2. **UK210-7800 Handle/Unit Kit** This kit contains all parts needed to completely rebuild one (1) manual control faucet, including a new handle, valve bonnet, stem, diaphragm, seals, etc. Specify finish for exposed brass components when ordering.

3. **Individual Parts** Each of the parts shown below may be ordered in package quantities as shown. Specify finish for exposed brass components when ordering.

### UK7800R Upgrade Kit, Plastic-Lined Pure Water Fixtures, Manual Control
(Kit includes components to upgrade (6) faucets)

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### UK210-7800 Handle/Unit Kit, Plastic-Lined Pure Water Fixtures, Manual Control

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Fixtures with manual/self-closing control (designated by the suffix “MSC”) have a spring-loaded lever handle that is vertical when closed. When the handle is pushed forward and then released, the handle returns to the closed position. When the handle is pulled all the way down to the horizontal position, the valve remains open until the handle is manually returned to the closed position.

All WaterSaver plastic-lined fixtures manufactured after May 1, 2016 will be furnished with new PTFE diaphragms. For fixtures manufactured prior to this date, it will be easy to retrofit the new diaphragm into older fixtures in the field.

For fixtures with manual/self-closing control, installing the new diaphragm will require changing all of the working components of the fixture, including the valve stem, bonnet and handle. However, all of these components are shipped preassembled, so upgrading the fixture is quick and easy. Simply loosen the retainer nut, remove the old handle/unit assembly and diaphragm, install the new PTFE diaphragm and reassemble the valve with the new handle/unit assembly.

To order components to upgrade manual/self-closing fixtures, order the UK7800MSC handle/unit kit. Specify the finish for exposed brass components when ordering. The fixtures that utilize this kit are shown below.
ColorTech Construction - Self-Closing Control

Fixtures with self-closing control (designated by the suffix “SC”) have a spring-loaded lever handle that is horizontal when closed. When the handle is pushed down and then released, the handle returns to the closed position.

All WaterSaver plastic-lined fixtures manufactured after May 1, 2016 will be furnished with new PTFE diaphragms. For fixtures manufactured prior to this date, it will be easy to retrofit the new diaphragm into older fixtures in the field.

For fixtures with self-closing control, installing the new diaphragm will require changing all of the working components of the fixture, including the valve stem, bonnet and handle. However, all of these components are shipped preassembled, so upgrading the fixture is quick and easy. Simply loosen the retainer nut, remove the old handle/unit assembly and diaphragm, install the new PTFE diaphragm and reassemble the valve with the new handle/unit assembly.

To order components to upgrade self-closing fixtures, order the UK7800SC handle/unit kit. Specify the finish for exposed brass components when ordering. The fixtures that utilize this kit are shown below.

**UK7800SC Handle/Unit Kit**
**ColorTech Construction - CT7853/7854 Series**

WaterSaver manufactures two styles of plastic-lined pure water fixtures in which the valve is located at the base of the faucet, rather than at the outlet. These fixtures utilize a different internal valve construction than the fixtures shown on the preceding pages. Therefore, upgrading these fixtures to the new PTFE diaphragm is slightly different than for the other types of fixtures.

**Manual Control Fixtures** Options for upgrading are:

1. **UK7800R Upgrade Kit** New PTFE diaphragms, gaskets, stem caps and seals for six (6) faucets.

2. **UK210-7850 Handle/Unit Kit** All parts to rebuild (1) manual control faucet.

**Self-Closing Control Fixtures** Options for upgrading are:

1. **UK7850R Upgrade Kit** Includes new PTFE diaphragms and gaskets to upgrade (6) fixtures

2. **UK035-7850 or UK030-7850 Handle/Unit Kits** All parts to rebuild (1) self-closing faucet. Select kit for four-arm or lever handle, as required.
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