

## Frequently Asked Questions

- **What are the differences between the Model 830 and Model 845?**
  1. The DP gauge in the model 830 is permanently mounted in a sturdy double walled case giving it maximum protection from drops and impacts at a weight of 14 lbs. The model 845 is not permanently mounted in a case making it more portable and light weight at about 3.5 lbs with the DP gauge more exposed during testing.
  2. The model 830 is available as a 5-valve test kit. The model 845 is available as either a 5-valve (845-5), 3-valve (845-3) or 2-valve (845-2) test kit giving the tester more choices.
  3. The hoses for the model 830 are permanently attached to the test kit. The hoses for the model 845 are removable.
  4. The model 830 can be hung around pipes or supports with a ball chain while the 845 can be hung or worn around the neck or shoulder with the supplied strap.
  5. Because of the portable design of the 845 it is easier to bleed and drain than the model 830.

**Bottom line** – Training schools and municipalities that have multiple testers using the same test kit prefer the 830 because of its protection in the case. Individual testers buying a kit for their own personal use prefer the 845 because of its light weight and portability.
- **What are the similarities between the Model 830 and Model 845?**
  1. Both models come complete with adapter fittings for test cocks from 1/8" NPT through 3/4" NPT, in-line hose filters, soft seated needle valves, line pressure gauge and laminated test procedures.
  2. Both models carry an industry best 5-year limited warranty for material and workmanship.
  3. Both models are capable of performing all know test procedures including those recommended by ASSE, AWWA, CSA, FCCC & HR-USC and NEWWA.
  4. Both models will test all brands and types of backflow prevention assemblies including Reduce Pressure Principle Assemblies (RPs), Double Check Valve Assemblies (DCs), Pressure Vacuum Breakers (PVBs), Spill Resistant Vacuum Breakers (SVBs), Reduced Pressure Principle Detector Assemblies (RPDAs) and Double Check Detector Assemblies (DCDAs).
  5. Both models can be serviced at any of our 20 regional service centers.
  6. Both models are on the "Recognized Gages" list of FCCC & HR-USC and CA-NV AWWA.
- **What are the advantages of Quick Connect Test Cock Adapters?**
  1. No wrenching or pipe thread sealant is required for installation or removal making them a big time saver because they are installed and removed by hand.
  2. Since they are installed by hand there is no chance of breaking a test cock which can occur when wrench tightening a traditional NPT adapter.
  3. Since they are removed by hand there is no chance of accidentally removing the test cock rather than the adapter which can occur when removing a traditional NPT adapter.

4. The 90° elbow-360° rotary swivel adapters PN 110705 or in the kit PN 110706 allow easy test kit connection to improperly installed backflow preventers or backflow preventers installed in very tight spaces.

**Bottom line** – These accessories allow you to save time connecting and removing your test kit to a backflow prevention assembly improving the efficiency of testing.

- **What are the advantages of the Professional Test Cock Cleaning Tool PN 110694?**
  1. Safety. The plunger is blow-out protected and will not fly out or your hand like a screw driver, weld rod or coat hanger potentially injuring you, your associates or your customers.
  2. The debris blocking the test cock can be diverted through the hose in a controlled manner into a bucket or drain rather than spraying rusty water all over the tester or customer's property.
  3. The plunger end is blunt and will not damage the internals of the backflow preventer which could happen with a screw driver, weld rod or coat hanger.
- **What is the purpose of the PN 830-0001 Bleed-off Compensating Tee and PN 830-0003 Vertical Tube Kit?**

### **P.N. 830-0001 Compensating Tee Assembly and 830-0003 Vertical Tube Kit Assembly Theory of Operation**

The Mid-West Instrument Backflow Test Kit Accessories 830-0001 and 830-0003 are designed for use with the USC field test procedures for double check valve assemblies, pressure vacuum breaker assemblies and spill resistant pressure vacuum breakers per the USC **Manual of Cross-Connection Control**.

The theory of operation is as follows:

Proper test results can only be obtained when backflow prevention assemblies are in a static “no flow” condition during field testing. The 830-0001 and 830-0003 compensate for leaky number 1 shut-off valves, allow for trouble shooting of shut-off valve conditions and improve the accuracy of test results.

**830-0001 Compensating Tee Assembly** – A leaky #1 shut-off valve on a backflow prevention assembly does not prevent the backflow preventer from stopping backflow but it may prevent an accurate test. The 830-0001 is designed to compensate for a leaky #1 shut-off valve. It is plumbed in a tee configuration that allows for: connection to the test cock of a backflow prevention assembly; connection of the high hose of the test kit to the test cock through the assembly; and has a “bleed-off” valve which opens to atmosphere. If the test results indicate a leaky shut-off valve the 830-0001 will help trouble shoot which shut-off valve is leaking under what conditions. If the #1 shut-off valve is leaking this leak can be compensated by opening the “bleed off” valve and draining the leak by the #1 shut-off valve to atmosphere thus putting the backflow preventer in a static “no flow” condition. When the bleed-off valve is adjusted per the test procedure the flow from the valve is the amount of leakage by the #1 shut-off valve. The #1 shut-off valve only needs repair if the

bleed-off valve is fully open and the test still can not be passed per the procedure.

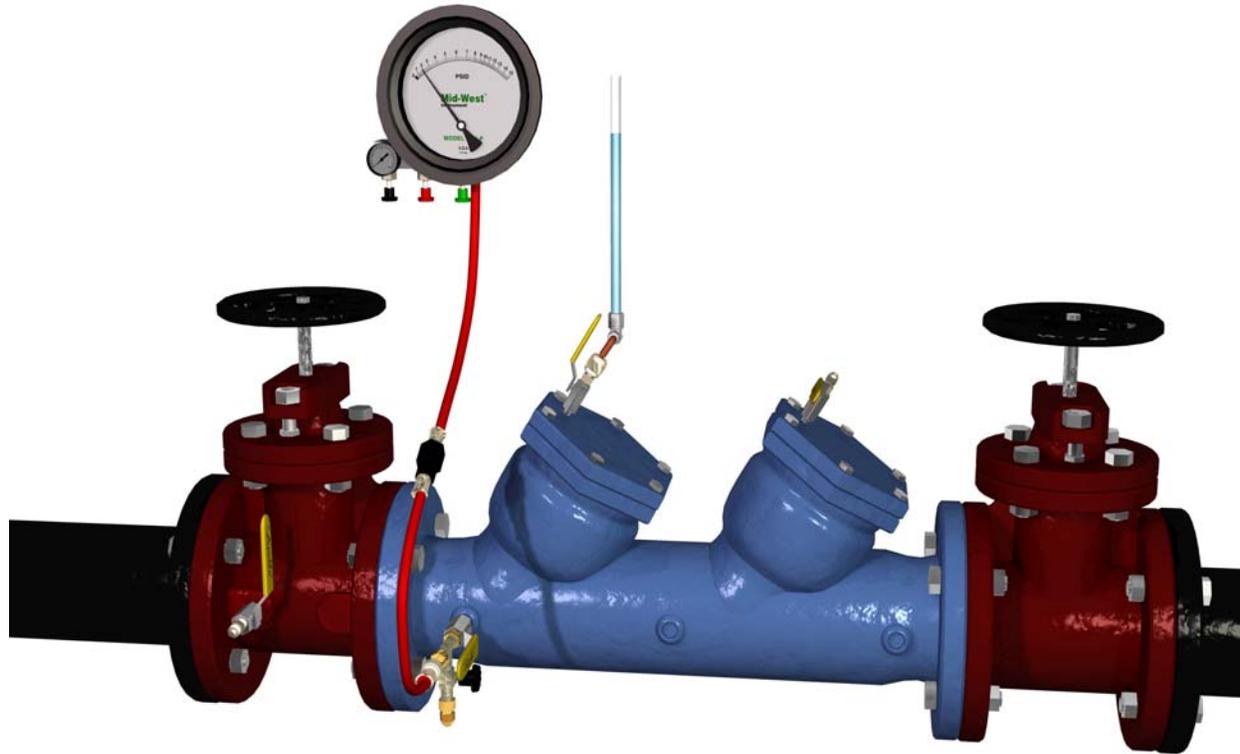


The 830-0001 has a soft seated needle valve, a quick coupler for connection to a ¼” flare fitting at the test cock and a flare connection for connection of the test kit hose to the assembly.

**830-0003 Vertical Tube Kit** – Double check valve assemblies (DCVA) do not always have the test cocks located at the highest point of the assembly, especially when installed in a vertical orientation. Since only a single hose is used for USC test procedures it is critical that the test kit be held at the proper level to account for the weight of water to take an accurate reading. If the test cock is not at the highest point on the DCVA a vertical tube assembly must be attached to the test cock. The procedure fills the tube with water. The test kit can then be held at the level of the water in the tube and an accurate check valve reading can be recorded. The standard tube is 15” in height. For large assemblies or vertical installations a 15” extension can be added for a 30” height.

Water draining from the tube or continuing for flow from the tube are indications of leaky shut-off valves. With the use of the 830-0001 Compensating Tee Assembly and the observations listed in the test procedures the technician can determine which shut-off valve is leaking and under what conditions.

The 830-0003 has a quick coupler for connection to a ¼” flare fitting at the test cock. The design is such that the tube can be rotated into a vertical orientation regardless of the position or angle of the test cock. The 15” extension tube can be added to the assembly without tools. The tube assemblies contain o-ring seals so a leak tight water column is achieved.



### **Detailed Illustrated Test Procedures**

Detailed illustrated test procedures showing the use of these type devices are only available from the Foundation for Cross-Connection Control and Hydraulic Research – University of Southern California.