

Frequently Asked Backflow 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 & 835 are 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 835 & 845 are removable.
4. The model 830 can be hung around pipes or supports with a ball chain while the 835 & 845 can be hung or worn around the neck or shoulder with the supplied strap.
5. Because of the portable design of the 835 & 845 it is easier to bleed and drain than the model 830.
6. Since the 835 & 845 are not permanently mounted, cost to service the test kits are lower.

What are the similarities/differences between the Model 835 & 845?

1. First, here are the similarities: The model 845 5 Valve is the same gauge in both kits. Same Hoses, Test Procedures, Adapter Kit and Calibration Certificate.
2. Both models 845-5 and 835 come with shoulder straps for ease or carrying or hanging unit for testing purposes.

What are the differences?

3. Model 835 comes mounted in a black case. You can leave the gauge in the case or remove it with ease. Quick & Easy, One pull of the latch pin and it's out.
4. Model 835 case has latch pin hinges which allow the tester to remove just the front of the case while leaving the gauge mounted firmly inside.
5. Model 845-5 comes in a tackle box type case with foam inserts in the top and bottom to protect your gauge from damage and easily remove for testing.

In either case it is the testers preference as to which Model they prefer both preform the exact same tests and carry the identical 5 Year warranty.

Bottom line – The Model 830 while reliable and capable is less popular than the Model's 835 & 845 as it is less portable, more expensive, and has a higher cost of ownership.

What are the similarities between the Model 830, 835 Model 845?

1. All models come complete with adapter fittings for test cocks from 1/4" NPT through 3/4" NPT, in-line hose filters, soft seated needle valves, line pressure gauge and laminated test procedures.
2. All models carry an industry best 5-year limited warranty for material and workmanship.
3. All models are capable of performing all known test procedures including those recommended by ASSE, AWWA, CSA, FCCC & HR-USC and NEWWA.
4. All 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. All models can be serviced at any of our 20 regional service centers.
6. All 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 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 & 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 cannot be passed per the procedure.



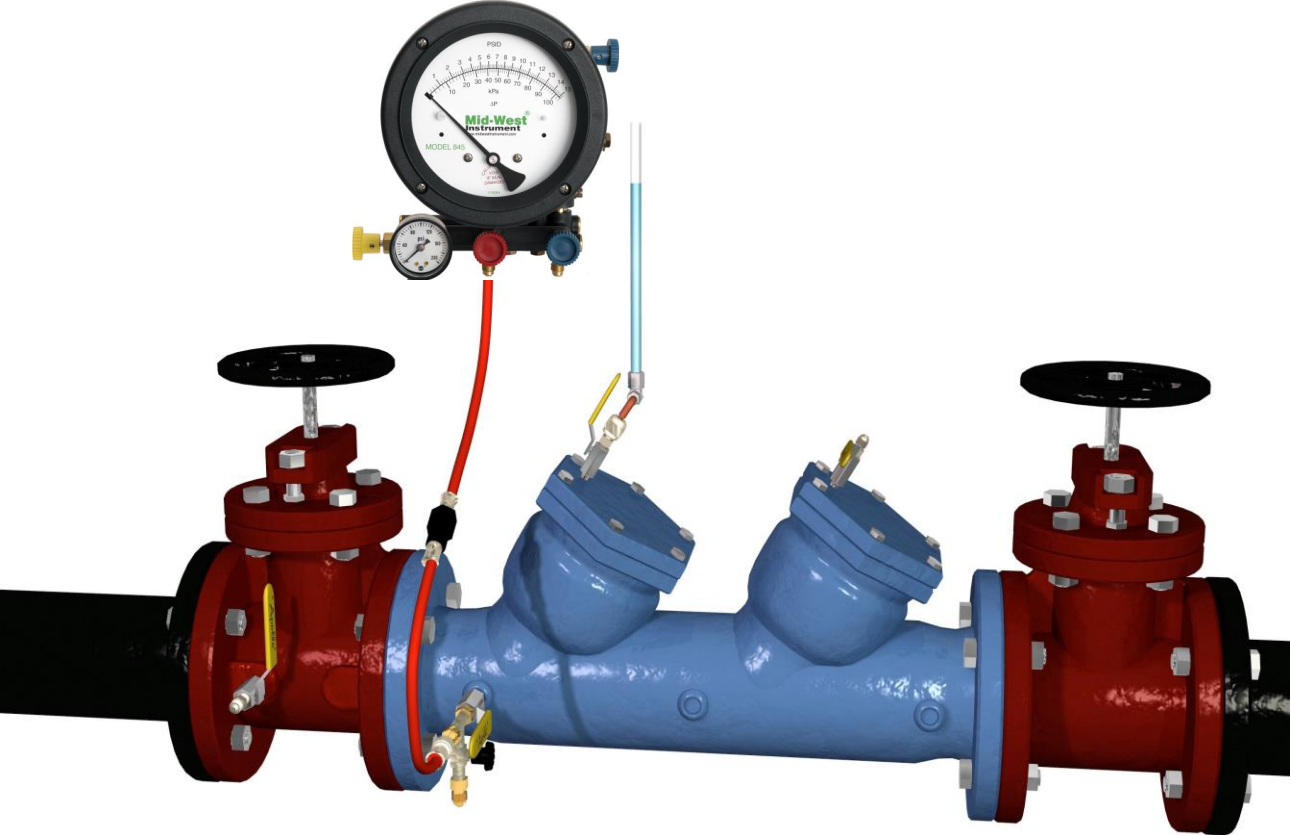
The 830-0001 has a soft seated needle valve, a quick coupler for connection to a ¼” flare fitting at the test cock and a flare connection for connection of the test kit hose to the assembly.

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 installation, 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.