

## When is it time to replace that old backflow assembly?

Backflow valves are manufactured using several types of materials: ferrous metals, nonferrous metals and nonmetallic plastics. Ferrous metals include cast iron, ductile iron and steel and are used for 2 ½" -12" backflow assemblies. Nonmetallic materials such as plastics are used on some smaller backflows 2" and below. Nonferrous materials include brass, bronze and stainless steel, while bronze and brass is used for sizes ranging from ¼" -2". Stainless steel has now become the preferred material for newer backflow assemblies 2 ½" - 12" because the stainless steel body assembly is lighter, corrosion resistant and stronger. Which leads us to the question, "When do you make the decision to replace an old ferrous backflow valve size 2 ½"-12" with a either the same type backflow or the new stainless steel model?"

When making the decision to repair or replace the assembly it comes down to cost. When the repair cost exceeds 50 % of the cost to replace the old ferrous valve the best option is to replace it with a brand new backflow assembly. There are many reasons for this and they are as follows:

1. If the old valve is an obsolete model or is being phased out, the repair parts for these older models are much more expensive. Sometimes the old designs even dictate replacement of the entire check or relief assembly, which is more expensive than just rubber parts.
2. Most of the existing installed ferrous backflow assemblies also contain lead. While 95% of all new stainless steel valves are lead free and meet the new EPA requirements for lead free rules implemented on January 3, 2014.
3. Thinking of replacing a ferrous backflow assembly with the same ferrous backflow assembly is the better choice? Even if the same models are still available it's probably not your best option. Here's why:
  - a. They are heavier and more difficult to work on making your job to replace them labor intensive.
  - b. They are still designed utilizing the old engineering designs making future repairs more time consuming and replacement parts more expensive.
  - c. Manufacturers are continuing the phase out of these older models and are not stocking parts, so repair parts have to be made-to-order, extending the lead time it takes to get these replacement parts.
  - d. Ferrous backflow valves are epoxy coated to prevent corrosion, but once the epoxy chips off of the inside of the body of the valve there isn't anything you can do to stop it from corroding. Then it's only a matter of time before the valve continues to fail as the corrosion and epoxy flake off and lodge in the checks or relief valve causing a failure. Now even if you were able to replace the checks there is no guarantee how long it would last and still end up having to replace it anyways.
1. Here are a few reasons why switching to a new stainless steel body backflow assembly is the best decision:
  - a. The newer stainless steel backflow assemblies are sometimes 3 times lighter than the ferrous backflows and much easier to install.
  - b. Typically only rubber parts are needed to repair the stainless steel assembly, and cost less than their ferrous counterparts.
  - c. The new valves are typically less expensive than a like replacement of an old design. This is because the new backflow assemblies are designed so there is less manufacturing processes involved to make the product.
  - d. Installing a new valve allows you to take advantage of better flow characteristics and technology designs.
  - e. The new stainless steel backflow assemblies have a shorter take-out and can be installed in a smaller area.
  - f. Most newly designed backflow preventers gain approval to be installed in various orientations allowing better flexibility for installation locations
  - g. Stainless steel will not corrode and there is no need to worry about epoxy chipping either because the body is not epoxy coated.
  - h. The stainless steel models are lighter, easier to work on, and the repair parts are less expensive.

- i. Stainless steel assemblies have a longer life expectancy than those of their predecessors made of ferrous metal. It is important for the owner of a backflow assembly to follow the manufacturer specifications for installation, testing and repairs when issues arise to ensure the maximum life of the backflow assembly.

I hope this short article provides a better understanding of when? Why? And the advantages of replacing that old antiquated ferrous backflow assembly. If you have a backflow assembly that may need replacing, contact our expert staff at one of our five Test Gauge & Backflow Supply locations for technical support on these types of backflow matters.

Here are the most common stainless steel backflow models 2 ½" -12" which are available for purchase by contacting a Test Gauge & Backflow location near you.

Ames DC [2000SS](#) | [C200 / C200N](#) Ames DCDA [3000SS](#) | [C300 / C300N](#)  
Ames RP [4000SS](#) | [C400 / C400N / C400Z](#) Ames RPDA [5000SS](#) | [C500 / C500N / C500Z](#)

Apollo DC [4ALF-100 LBF](#) | [4ANLF-100](#) Apollo DCDA [4ALF-600](#) | [4ANLF-600](#)  
Apollo RP [4ALF-200\(LBF\)](#) | [4ANLF-200](#) Apollo RPDA [4ALF-700](#) | [4ANLF-700](#)

Watts DC [774](#) | [757 / 757N](#) Watts DCDA [774DCDA](#) | [LF757DCDA / LF757NDCDA](#)  
Watts RP [994](#) | [957 / 957N / 957Z](#) Watts RPDA [994RPDA](#) | [LF957RPDA / LF975NRPDA / LF957ZRPDA](#)

Wilkins DC [350AST](#) Wilkins DCDA [350ASTDA](#)  
Wilkins RP [375AST](#) Wilkins RP [375ASTDA](#)

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