



Understanding the Difference between Diaphragm and Piston Flushometers

Q&A Summary

Presenters



Rolando Zambrano
Associate Product Line Manager
Sloan Valve Company
Franklin Park, IL



Don Yurkovich
Regional Sales Manager
Sloan Valve Company
Franklin Park, IL

Understanding the Difference between Piston and Diaphragm Flushometers Q&A

Q: Does Sloan manufacture flushometers with special finishes like brushed nickel?

A: Yes, we are the industry leader in special finishes. [Click HERE](#).

Q: Can I swap piston and diaphragm parts freely between brands?

A: Because Sloan invented the flushometer and our products are the basis of design for most manufacturers, it is likely that many components will fit other brands. Contact our Technical Support Department at techsupport@sloan.com if you have questions.

Q: Which technology, piston or diaphragm, would be less likely to cause water hammer?

A: Water hammer is typically a system issue. With a properly designed plumbing system neither flushometer should cause a water hammer.

Q: What is the cost differential between diaphragm and piston flushometers?

A: This comes down to features and benefits. Royal (diaphragm) and Crown (piston) have the most features and benefits and have higher price points. Sloan (diaphragm) is our middle tier. Regal (diaphragm) and Gem (piston) are our competitive flushometers.

Understanding the Difference between Piston and Diaphragm Flushometers Q&A

Q: Does the fixture still meet EPA WaterSense requirements if they are field adjusted?

A: If the fixture met current EPA WaterSense requirements prior to service, it will still comply with that certification if the Gallons Per Flush (GPF) is maintained. If the GPF is increased the fixture may no longer comply. Always be sure to match the rating of the fixture to the piston or diaphragm kit. Contact Sloan [Tech Support](#) if you have any questions.

Q: Can you adjust the water volume per flush by replacing the diaphragm or piston?

A: Yes, the diaphragm or piston is the primary component controlling the gallons/liters per flush.

Q: Does Sloan manufacture kits for converting manual flushometers to touch-free sensor operation?

A: Yes. Refer to the retrofit brochure [HERE](#) or request a copy of our training webinar on this subject from training@sloan.com.

Q: What is the best solution for hard water where the owners refuse to treat their water?

A: Diaphragm flushometers with filtered bypasses and synthetic rubber components are recommended for harsher conditions. Sloan would advise using our Royal or Sloan series flushometers for this application. Please contact Sloan [Tech Support](#) with any questions.

Understanding the Difference between Piston and Diaphragm Flushometers Q&A

Q: What is the warranty for Sloan flushometers?

A: Sloan has a Limited 3 Year Manufacturers Warranty for most products that can be read [HERE](#).

Q: Does changing out the parts extend the warranty of the units?

A: No.

Q: You showed only manual flushometers here, is this piston vs. diaphragm information also true for sensor and retrofit flushometers?

A: Yes.

Q: When is Sloan going to have official trouble-shooting videos on YouTube? These videos are great for service guys!

A: You can access hundreds of official Sloan videos, including trouble-shooting videos, on Sloan's official YouTube channel [HERE](#). You can also request a copy of our online resources training catalog from training@sloan.com.

Q: How does adjusting the flow rate with the stop affect the diaphragm flush curve?

A: The flush curve is controlled by the diaphragm kit or the piston kit (in the case of piston flushometers). Adjusting the stop in either does not affect the flush curve. Adjusting the stop "dials in" the flushometer with the particular fixture to make sure the water being supplied properly clears the fixture and does not create any issues with splashing, "rooster tailing," or over-flow.

Understanding the Difference between Piston and Diaphragm Flushometers Q&A

Q: Do many facilities have low water pressure in the USA?

A: Some do for various reasons. If the facility has newer low-flow fixtures (as mandated after 1997), they would need to have at least 25 PSI of flowing pressure for the fixture to evacuate properly.

Q: Is there a reason many other manufacturers are supplying piston flushometers vs. diaphragm?

A: Due to local water conditions (low pressure) in many international markets, piston flushometers are sometimes preferred there and are imported by other brands from low cost suppliers. They are also easier to manufacture. Remember, almost all of these are based upon Sloan's original 1928 piston design. Sloan offers both diaphragm and piston flushometers that are manufactured in the USA. In most applications, the diaphragm is the best choice.

Q: A competitor claims their brass piston will never wear out. I would rather use Sloan – can you give me some ammo?

A: Regardless of what the piston is made of, it's actually the lip seals on the piston that will wear as the piston slides up and down during regular operation. Both diaphragm and piston flushometers are subject to wear and tear that can be impacted by usage, water conditions, and temperature, amongst other factors.

Q: Is there any noise difference between the two types of flushometers? Which is quieter?

A: The noise from the flush is created by the fixture, not the flushometer. In our laboratories, when we activate either type of flushometer without a fixture attached they sound the same.

Understanding the Difference between Piston and Diaphragm Flushometers Q&A

Q: What is the maximum water pressure recommended for the flushometers to operate correctly?

A: The limit is set by the fixtures to which the flushometers are applied and not by the flushometers themselves. Local plumbing code dictates the maximum, which is usually around 80 PSI maximum water pressure.

Q: Can I receive CEU credits for viewing this webinar?

A: No, not at this time. It is something we are exploring for future training presentations.

Q: Do any of these flushometers work with salt water and which type would you recommend?

A: Sloan manufactures other flushometers called [Dolphin](#) and [Naval](#) that we recommend for salt water applications. Please contact [Tech Support](#) to discuss which one would be best for your projects.

Q: Can you safely state that almost every competitor, whether they offer a piston or diaphragm valve, have imitated Sloan's technology?

A: Yes.

Q: Can this webinar be repeated?

A: We will be sending a copy to all attendees and making a version available on [sloan.com](#).

Understanding the Difference between Piston and Diaphragm Flushometers Q&A

Q: Is there any flush rate reducer that could be fixed on an existing flushometer irrespective of whether or not it is piston or diaphragm?

A: The gallons per flush (gpf) is controlled by the piston or diaphragm. If you want to reduce the gpf you will need to change out the piston or diaphragm.

Q: I saw a webinar on copper sinks and how these can slow bacteria growth rates. Will manual flush valves have copper handles at some point?

A: Our [CuVerro](#) flushometer handles already utilize the bacteriostatic capabilities of copper alloy and can be used to replace manual flushometer handles to improve hygiene.

Q: Is there a clinical study documenting the germ fighting abilities of the [CuVerro](#) alloy used in your flushometer handles?

A: Yes, you can find the information [HERE](#).

Q: Does Sloan supply other products with antimicrobial coatings besides [CuVerro](#) to improve hygiene?

A: Yes. Our SaniGuard antimicrobial coatings on manual flushometer handles and bedpan washers utilize silver ion technology to help inhibit the growth of bacteria. To see all of the Sloan products that incorporate SaniGuard coatings, click [HERE](#). To see parts with SaniGuard that can be used for retrofits, click [HERE](#).

Understanding the Difference between Piston and Diaphragm Flushometers Q&A

Q: I have diaphragm type flushometers in my school. Sometimes they will groan at the end of the cycle even if the diaphragm has just been replaced. Any suggestions?

A: When you contact our [Tech Support](#) department, they will ask if this a Sloan flushometer and if so, is it a water closet or urinal, and is it limited to one device or several. It is common to try swapping diaphragm kits with a flushometer that doesn't groan to determine if the problem follows the diaphragm kit or if it stays with the flushometer body. If it stays with the flushometer body, we would recommend cleaning the inside of the barrel of the flushometer body or replacing the flushometer body.

Q: Can I adjust a flushometer using the control stop?

A: The water volume from the incoming water supply can be adjusted with the control stop. The gallons per flush (gpf) can only be modified by changing the piston or diaphragm.

Q: Why do ESCOs (Energy Efficiency Service Companies) say that pistons are more easily adjusted?

A: If we're discussing adjusting gallons per flush (gpf), all of our most popular diaphragm and piston flushometers (Regal, Sloan, Royal, Gem, and Crown) take the same amount of effort to adjust. The water is first shut off at the control stop, the cover of the flushometer is removed, and the diaphragm or piston can be replaced to get the desired flush volume.

Q: Can you put a [EBV-500-A](#) retrofit kit on a piston flushometer?

A: Yes, it's available for use on both Crown and Gem piston flushometers.

Understanding the Difference between Piston and Diaphragm Flushometers Q&A

Q: Are there any new technologies or concepts coming in the near future for flushometers?

A: Yes, but nothing we'd want to discuss here. Keep checking at [sloan.com](https://www.sloan.com) for news about new products and technologies being launched by Sloan.

Q: I'm seeing a lot of water saver projects at schools. They come in for big bucks and change all the flushometers to piston – stating you can't increase the water flow on these. Is this true?

A: You can change the gallons per flush (gpf) on either a piston or diaphragm flushometer by changing out the piston or diaphragm. You can change gpm to some degree with the control stop.

Understanding the Difference between Piston and Diaphragm Flushometers Q&A

Additional Questions? Please feel free to contact Sloan Customer Service or Technical Support.

Sloan Customer Care Center

Phone: 800.982.5839

Hours: 7:00 AM - 5:00 PM (CST) Monday – Friday

customer.service@sloan.com

Sloan Technical Support

P: 888.756.2614

F: 800.737.3061

techsupport@sloan.com

Training Comments, Questions, or Suggestions?

Andrew Warnes

Manager – Technical Training

Sloan Valve Company

10500 Seymour Avenue

Franklin Park, IL USA 60131-1259

Office: +1-800-982-5839

E-mail: training@sloan.com

Web: sloan.com