** DO NOT USE IN-TANK DROP-IN TOILET BOWL CLEANERS CONTAINING BLEACH OR CHLORINE. USE OF SUCH PRODUCTS WILL RESULT IN DAMAGE TO TANK COMPONENTS AND MAY CAUSE FLOODING AND PROPERTY DAMAGE. USE OF SUCH PRODUCTS WILL VOID THIS WARRANTY. *Instead, we recommend using Flush 'n Sparkle® automatic toilet bowl cleaner.*

Frequently Asked Questions

How is the 5403 flapper different than 5401'3 flapper?

1. The 5401 is a direct replacement for both the Glacier Bay and American Standard models that are equipped with a 540 Flapper and flush system.
2. The 5403 is a universal replacement for most 3 inch flapper and flush systems including Glacier Bay and American Standard.
3. The 5403 comes with on additional adjustment for the hinge, it allows the flapper to attach to wider 3 inch systems that are not Glacier Bay and American Standard.

What is the difference between solid frame and flexible frame flappers? Does one have more advantages than the other?

1. A solid frame is sturdy and does not allow the flapper ball to twist or mis-align with the drain seat. It center punches the drain every time for a perfect seal.
2. The all flexible flappers are great to use when you have an over sized 2 inch flush valve which does not allow a solid frame to fit (it may stick on the drain and not close).
3. The flexible flapper comes equipped with an overflow pipe adaptor which allows you to connect the flapper to the drain when it does not have mounting pins for a flapper to attach to.

What size flapper do I need?

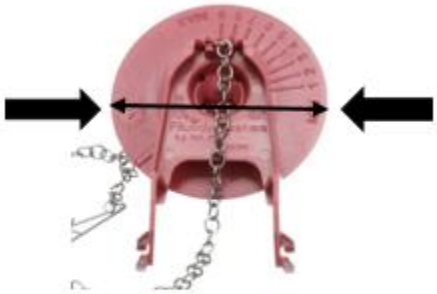
Fluidmaster manufactures a universal 2" flapper and a universal 3" flapper. To determine the size of flapper you need, measure the drain hole the flapper covers, if the hole is 2.5 inches use a 2 inch flapper and if the drain hole is 3.5 inches use a 3 inch flapper. To learn more what how to determine what size flapper you need, please click here: Measure Size of Flapper

Determining Whether You Have a 2" or 3" Flush Valve and Flapper

One of the biggest challenge to finding the right flapper for your toilet is to determine which size of flapper will fit your toilet. Most toilets will have a 2-inch drain or a 3-inch drain. Fluidmaster manufactures a standard or universal size of flush valves with flappers and are among the most common flush valves to be used. All though there are many different types of flush valves most flush valves are interchangeable and depend on the size of the ceramic flush hole that is bored through the tank by the porcelain manufacturer.

Fluidmaster's Flush Valves use flappers to connect to the flush valve and can be easily replaced by snapping them off and on to the flush valve. These flappers are labeled as 2 inch or 3 inch for their corresponding flush valve size to make it easier for you to select the correct flapper.

The simplest way to determine which Fluidmaster flush valve and flapper to use is to measure the flapper that is already on the flush valve. To identify what size is needed measure the width of the flapper from end to end. If the flapper measures 3 inches across select a 2 inch flapper (like the 502 Fluidmaster model) if the flapper measures 4 inches across select a 3 inch flapper (like the 5403 Fluidmaster model).



Measure across the flapper to identify the size of flapper you have

How do adjustable flappers work?

The 5403 flapper can be turned like a dial and has numbers on it that range from minimum to a maximum setting. Turning the flapper to a lower number forces the flapper to close sooner for a shorter flush and setting it to a higher number will allow it to stay open longer for a longer flush. To learn more about how adjustable flappers work, please click here: How adjustable flappers work

How "Adjustable" toilet flappers work

This article will address both how adjustable flappers work and instructions for adjusting an adjustable flapper.

How Adjustable Flappers Work

1. Traditional flappers use air to hold the flappers open, adjustable flappers don't allow the flapper to trap or hold air inside their cone/bulb.
2. Adjustable flappers are designed to flush toilets that use a flush volume of 1.28 and 1.6 gallon per flush (GPF)
3. Adjustable flappers should not be used on toilets made before 1994.
4. Adjustable flappers may use a float to delay the flapper from closing right away.
5. Adjustable flappers may use a dial in place of a float. The dial sets a secondary hole in the flapper cone to release air and force the flapper to close.

If you are unsure, which size of flapper you need for your toilet, please click here: Determine size of flapper

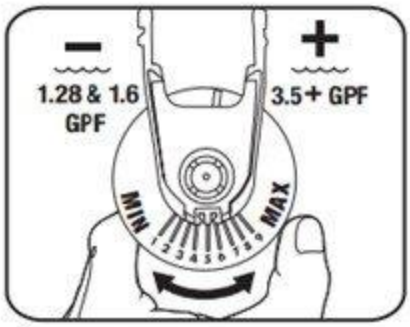
Instructions for Adjusting an Adjustable Flapper

Fluidmaster flappers can be adjusted in three different ways:

1. Turning the flapper cone from a minimum to maximum setting, so you are moving the secondary hole away from the top of the tank which traps the air in the flapper cone for a longer period of time.
2. Moving a float (a float is placed on the flapper chain) up the chain, so you are setting the flapper to close faster. By lowering the float on the chain you are causing the flapper to stay open longer.
3. Pulling slightly on the cone and turning the cone from a minimum to maximum setting, so you are closing the cone window and causing the flapper to stay open longer.



The Universal Adjustable Long Life Flapper (model 5051) works using a float that allows you to fine tune the water usage from the tank to the bowl



The PerforMax Adjustable Flapper (model 502) works using a dial system that allows you to fine tune the water usage from the tank to the bowl



Universal 3 Inch Adjustable Flapper(s) (model 5403 & 5401GB works by turning the cone which allows you to fine tune the water usage from the tank to the bowl

Choosing the right flapper for your toilet

Selecting the right flapper for your toilet is very important since the flapper valve is what regulates the water to the bowl. Fluidmaster has developed a universal design set of flappers to help stop the confusion and select the right flapper. The flapper valves we offer are categorized by Frame, Size and Type.

If you are unsure what size of flapper you will need for your toilet, please click here: Determine size of flapper

Read below to learn more about:

1. Frame: Two styles of flappers

2. Size: The actual size of the flapper ball and which size of drain it will seal properly.

3. Type: The flushing capacity, which is the amount of water used to flush the toilet bowl, that the toilet was designed to use.

4. Keys to selecting a flapper

5. Fluidmaster flappers available

1. Frames: Fluidmaster currently has two styles of flappers

1. Flexible Frame (All- Rubber): These flappers will fit most Flush Valve Drains and the all rubber-style flappers can stretch to fit oddly sized flush valves, angled seated flush valves and flush valves that do not have mounting posts for a fixed attachment.
2. Solid Frame (Hard Plastic Frame): The plastic frame forces the flapper ball to consistently center onto the drain to seal every time. Solid Framed Flappers are designed to stop toilets from leaking for longer periods of time. This flapper style does not work with all Flush Valve Drains; however, the key to using this one is to know what you are currently using. There is a good chance that if you are using a plastic framed flapper already then the Solid Frame can be used as a replacement.

2. Size: Currently Fluidmaster offers two sizes of flappers for the two most common size Flush Valve Drains, 2-inch drains and 3-inch drains.

1. 2-inch flappers are available in both styles: Flexible and Solid Frame.
2. 3-inch flappers are only available in the Solid Frame style.

3. Types: There are two types of flappers, Adjustable Flappers and Non-Adjustable Flappers, and these flappers are designed for specific flushing capacities of toilets. There are 4 main toilet flushing capacities that are commonly used in the United States today; 5 gallon per flush and larger; 3.5 gallon per flush; 1.6 gallon per flush and 1.28 gallon per flush toilets.

1. Toilets that are manufactured from 1994 to present come in both styles and in both size categories; Adjustable flappers are designed to flush toilets that flush 1.28 and 1.6 gallon per flush (GPF) toilets.
2. Toilets that were manufactured before 1994 are all considered to be the larger gallon per flush toilets and are still in use. Non-Adjustable Flappers are designed to flush toilets that flush 3.5, 5 and larger gallon per flush (GPF) toilets. Non Adjustable Flappers come in both Styles but only in 1 size category, 2-inch.

To learn more about your toilet's flush volume, please click here:

Determining your toilet type

4. Keys to understanding how to select a flapper can be as easy as:

1. Know the age of your toilet (if you don't know, guess the age of the home).
2. Know if the flapper has a Solid Frame or if it's a Flexible Frame.
3. Know the size of your flapper, 2- or 3-inch (measuring the drain hole your flapper covers will tell you the size you need).

How to identify and fix toilet flapper leaks

This article will help you repair and find a leak in your tank.

Read below if you:

1. Have a brass flush valve

2. Have a plastic flush valve

3. Need tips on inspecting your flapper

4. Need instructions on finding a slow leak

5. Need a diagram of leak points within a toilet tank

6. Need to know what "Ghost Flushing" is

7. Need to know what "Siphoning" is

1. Brass Flush Valve

1. Check the flush valve seat for corrosion or unevenness. Move your finger around the seat rim to check for irregularities or nicks. If there are any irregularities on the flush valve seat, then you will need to replace the flush valve.
2. If your brass overflow pipe requires a flapper adapter ring to connect your flapper to the overflow pipe make sure the pipe adapter is square to the drain.
3. If you are using a flapper pipe adaptor to hold your flapper to the flush valve turn the pipe adapter to the left or right to center the flapper over the drain hole. If the back half of the flapper has a gap between the rubber and the seat Fluidmaster recommends exchanging the flapper with our Flexible Frame Flapper models (503, 504 or 5051).
4. Some brass overflow pipes are threaded at the bottom. This is a potential leak location that can be tightened by turning it. If the pipe has pin holes or corrosion in this area, replace the brass overflow pipe.
5. Some flush valves that have oval overflow pipes or have an angled seat may not accommodate rigid frame flappers. In this case, use an Flexible Frame models 503*, 504* and 5051*.

Note: The Fluidmaster flappers # 503 and # 504* are for toilets manufactured before 1994.

*Note: The 5051 flapper is for a toilet manufactured after 1994.

2. Plastic Flush Valve

1. Check the flush valve seat for corrosion or unevenness. Move your finger around the seat rim to check for irregularities or nicks. If there are any irregularities on the flush valve seat, you will need to replace or repair the flush valve.
2. If you are using a flapper pipe adaptor to hold your flapper to the flush valve turn the pipe adapter to the left or right to center the flapper over the drain hole. If the back half of the flapper has a gap between the rubber and the seat Fluidmaster recommends exchanging the flapper with our Flexible Frame Flapper models 503*, 504* or 5051*.
3. Some flush valves that have oval overflow pipes or have an angled seat may not accommodate rigid frame flappers. In this case, use an Flexible Frame models 503*, 504* and 5051*.

*Note: The Fluidmaster flappers # 503 and # 504 are for toilets manufactured before 1994. The 5051 flapper is for a toilet manufactured after 1994.

3. Inspecting the flapper

1. If the flapper is more than 5 years old, simply change it. The time saved will outweigh the cost of fussing with an aged flapper.
2. If the flapper is less than 5 years old, check the rubber surface for debris. Wipe slime and/or debris from the underside and flush valve seat with a clean cloth.
3. Cut excess chain if it is interfering with the seating of the flapper. Makes sure the chain is not too straight. It may lift the flapper from the seat. Have 1/4”to 1/2” slack in chain.
4. If the flat rubber piece is warped then replace it. If you use chlorine tablets in the tank this would be the cause of the warping.
5. Remove the tablet (it damages parts in the tank) and replace with 8300 Flush ‘n Sparkle Bleach Kit.

Please refer to Fluidmaster warning: DO NOT USE IN-TANK DROP-IN TOILET BOWL CLEANERS CONTAINING BLEACH OR CHLORINE.

Use of such products will: (1) RESULT IN DAMAGE to tank components and MAY CAUSE FLOODING and PROPERTY DAMAGE and (2) VOID FLUIDMASTER WARRANTY.

Fluidmaster Flush ‘n Sparkle Toilet Bowl Cleaning System is recommended for those choosing to use in-tank bowl cleaners and WILL NOT VOID the FLUIDMASTER WARRANTY because it will not damage the components.

4. Finding a slow leak (Instructions)

Die tablets or food coloring can be used in a tank to confirm they have a leak. This is great for verifying a faster leak but it does not always verify a slow leak and does not confirm where the leak is occurring. The best troubleshooting procedure for determining the leak point is as follows:

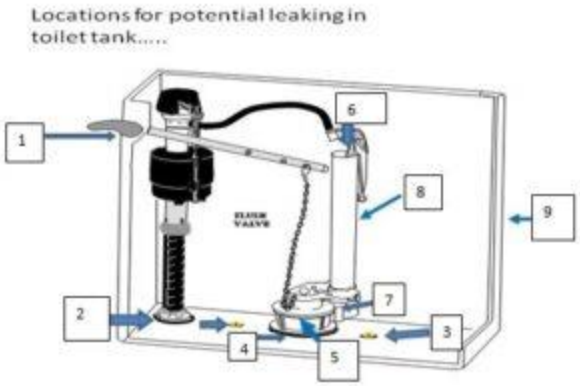
1. With a full tank, turn the water off at the shut of valve. DO NOT flush the toilet.
2. Make a pencil mark in the tank at the current water level.
3. Wait 15 minutes. If the water level has dropped, make a new pencil mark. If it hasn’t changed significantly wait a little longer.
4. Repeat step C until the water level no longer changes.
5. Inspect the flush valve for a leak point just above the surface of the water.

Results:

- The water level will drop down to the level of the leak and stop.
- If the flapper is worn or the seat that the flapper rests on is damaged, the water level will stop just below the flapper.
- If the gasket that seals the flush valve into the tank is deteriorated and leaking, the water would most likely drain completely out of the tank.
- If a leak occurs at a flush valve gasket in new installations, the lock nut may need to be tightened further. The flush valve lock nut should be tightened no more than 1/2 turn beyond hand tight.

5. Diagram of leak points within a toilet tank

Take a look at the diagram below, to get the info on the corresponding numbered part.



1. Tank Lever: Leaking out the handle hole should never happen as long as your overflow pipe (8) is cut or adjusted to the correct height. Fluidmaster recommends 1 inch (or more) below the Tank Lever.
2. Shank Washer: If you see water leaking from the area of the fill valves shank; shut the water off at the wall. If the leak stops, then replace the supply line. If the leak continues, try tightening the fill valve’s lock nut by hand only. If the leak continues, remove the fill valve and replace the shank washer.
3. Bolts: Leaks at the bolts are sometimes hard to identify, but most leaks that occur between the tank and bowl are caused by deteriorating bolt gaskets or loose nuts. First, make sure the tank is securely tightened

to the bowl so that it does not rock. If there is any movement in the tank, tighten each tank bolts a little at a time until the tank is sturdy and does not rock. Second replace using only Brass Bolts and new bolt washers.

4. Flush Valve Gasket: Leaks at the flush valve gasket are usually not visible and almost always leaks into the bowl. Although, if both the flush valve gasket and tank to bowl gasket are failing to create a tight seal then it is possible you would see it leak out onto the floor. Replacing the flush valve and gaskets are recommended.
5. Flapper or Flush Valve Seal: Flapper leaks are the most common leak point and always leaks directly into the bowl. Tower or canister style flush valves will have a flat seal in place of a traditional flapper.
6. Refill Tube: Water dripping from the refill tube into the overflow pipe could be caused by siphoning. Siphoning occurs when the refill tube is pushed too far into the flush valves overflow pipe.
7. Flush Valve Joints: Leaks can also occur at the joints (plastic flush valves) or threaded joints (brass flush valves).
8. Overflow Pipe: Cracks in the plastic overflow pipes are not uncommon as after time the plastic can become brittle.
9. Tank: Cracks or chips in the tank are another cause of leaks.

6. Ghost Flushing

Ghost Flushing is merely a fill valve's way of letting you know you have water leaking out of your tank. The time interval between ghost flushes will vary as the leak rate increases or decreases.

For example, the most common leak is a flapper leak. The time duration between refills could be seconds apart or minutes apart depending on the severity of the leak.

On the other hand, a flush valve gasket leak is much slower and the ghost flushing can occur hours apart or even days apart.

7. Siphoning

Siphoning occurs when the refill tube is pushed too far into the flush valves overflow pipe.

If the end of the tube is inserted into the overflow pipe and the end of the tube is lower than the water level inside the tank, water will siphon out of the tank and into the bowl.

This will cause the water level in the tank to drop and a Ghost Flush will occur.

Make sure the refill tube is connected to the top of the flush valves overflow pipe so that it is above the water line at all times.