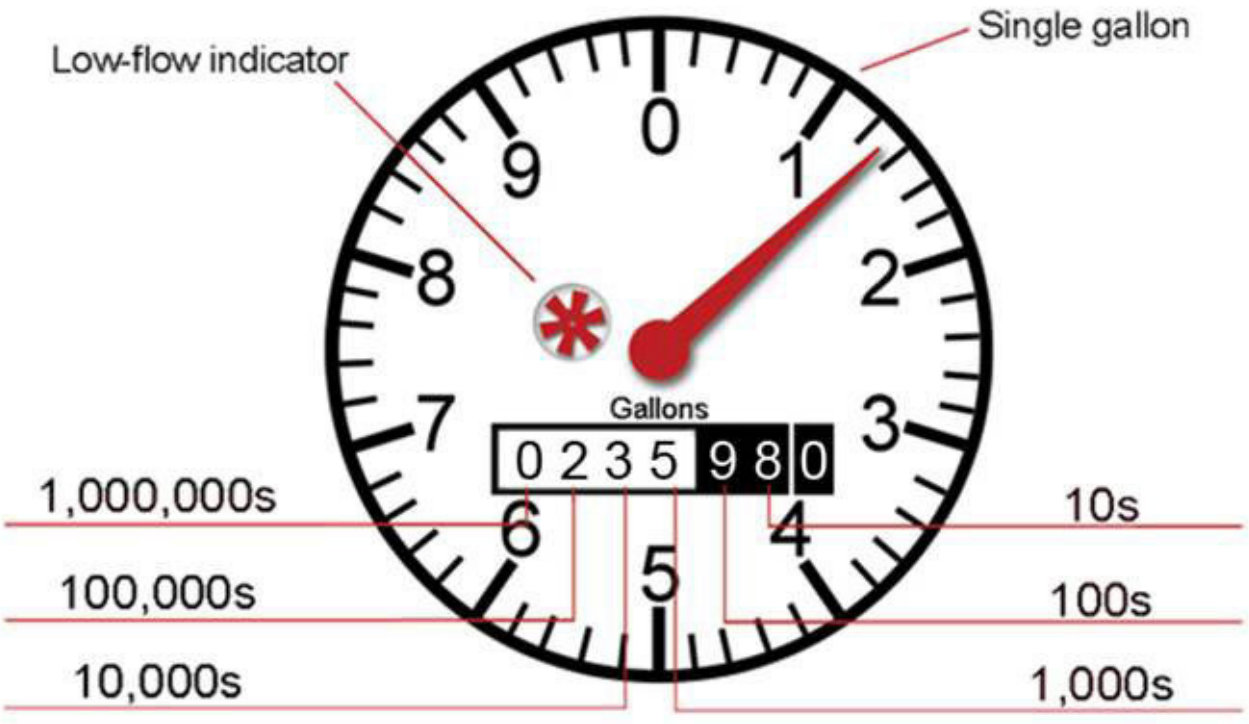
Water Distribution Handbook

The City of Madisonville 2019



How to Check Your Water Meter?

Low-Flow Indicator:

This may be shaped like a star or a triangle. As water passes through, it will spin. The dial will spin fast for high water flow and very slow for small amounts of water movement. If water is not being used in the home or on the property and the detector is moving, it may indicate a leak and should be investigated promptly.

NOTE: If there is air trapped in your pipes, the low-flow indicator can move back and forth.

Red Sweep Hand:

One revolution of the large red hand is 10 gallons of water.

Meter Register:

The meter continually registers any water that passes through it, similar to a car odometer. This particular meter has registered a running total of 235,980 gallons of water, or 235 units. We read the numbers with the white background, or in thousands of gallons.

Do I Have a Leak?

Did you know that a leak that drips once per second wastes more than 250 gallons of water each month? A silent toilet leak wastes between 50 and 500 gallons of water per day, and leaky pipes can waste hundreds of gallons of water, destroy valuable property and increase your water bill. Save valuable time and money by preventing, finding, and fixing leaks with these tips:

AMR:

Automatic meter reading technology uses (RF) radio frequency to read the water usage by a mobile collector for drive-by and a handheld for the meter reader to carry. This system checks the readings once every hour. If it goes for seven days without seeing a zero consumption, the meter is flagged for a leak and when read, the customer will be notified. If at any point the leak is fixed and a zero consumption is seen, the flag will be pulled. You will notice a wire coming from the meter going to an ERT or antenna, this communicates with the mobile collector or handheld. If you damage these meters, it will be at your expense.

READ YOUR UTILITY BILL:

Review your water bill for unusually high use. If you notice an unexplainable increase in water use, or if your bill spikes after freezing weather, or a prolonged drought there's a good chance you might have a leak.

LOCATE YOUR EMERGENCY WATER SHUTOFF (MASTER):

Find the location of your emergency, or whole-house, water shutoff valve which can be found in basements, in utility rooms or outside near the home's foundation. If your valve is inaccessible or you are unable to locate the valve, the water can be shutoff at the meter. The shutoffs at the meter are there for the water utility to work on or to change the meter and are sometimes hard to operate. If you don't know how to operate them, call the Water Department rather than risk damaging the shutoff. Even if you can't or don't want to operate the shutoff yourself, you need to know where your meter is located. The Water Department has over 10,000 customers so it's hard to know where every meter is, especially in bad weather, if you can point us in the right direction it speeds things up. Fixtures sometimes have their own shutoff valve so that you don't have to shut off water to the entire house.

If you shut off your water, it's always good to turn the cold water on at a high point in your home (upstairs bathtub, kitchen sink-remove strainer), before turning the water back on to flush out air and any sediment. Turn the water back on slowly to prevent a "water hammer" - a sudden change in pressure that can damage pipe joints and fittings. If you've ever shut a faucet or valve very quickly and heard banging noise in your pipes, that is also a water hammer.

USE YOUR EYES AND EARS:

a) Listen for toilets that run. These are the most common household leaks and the number one cause of high water bills. Every homeowner should know how to determine what the problem is. The leak may be caused by a failing flapper, plunger, ball float or fill valve. Listen closely for hissing or trickling sounds, or a periodic “whoosh” caused by the toilet topping itself off every few minutes. These are all tell-tale signs that a leak exists.

b) Watch for faucets that drip. A faucet that drips once per second wastes 3,150 gallons of water per year. Most faucet leaks can be fixed by replacing the washer.

c) Look for soggy soil or bright green areas in the heat of summer, or areas that are not frozen or have no snow in the winter.

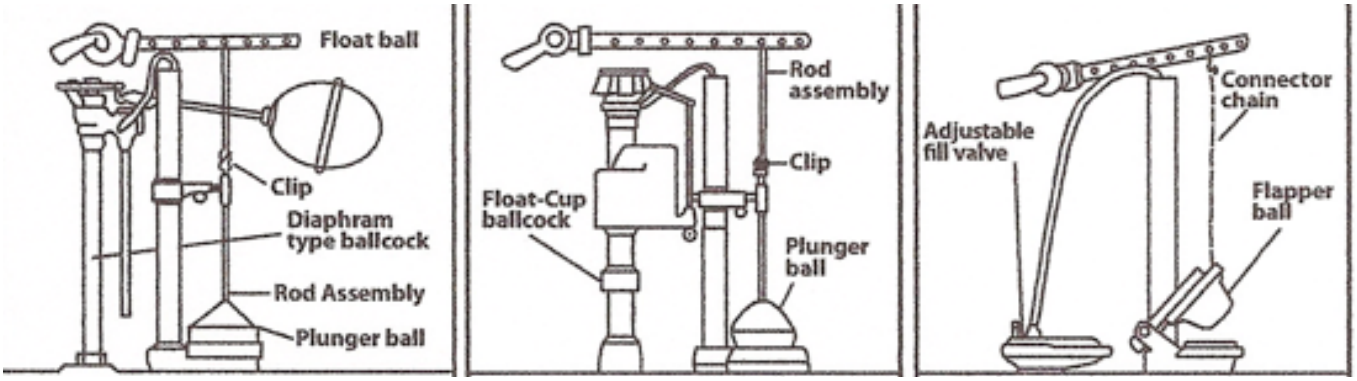
TYPICAL TOILET TANKS:

Here are some toilet tanks with different ballcock and plunger ball arrangements.

The first step is to drop a dye tablet or several drops of ordinary food coloring into the toilet tank. Wait several minutes. If color shows up in the toilet bowl, you have a leak. NOTE: The utility office has free dye tabs for you.

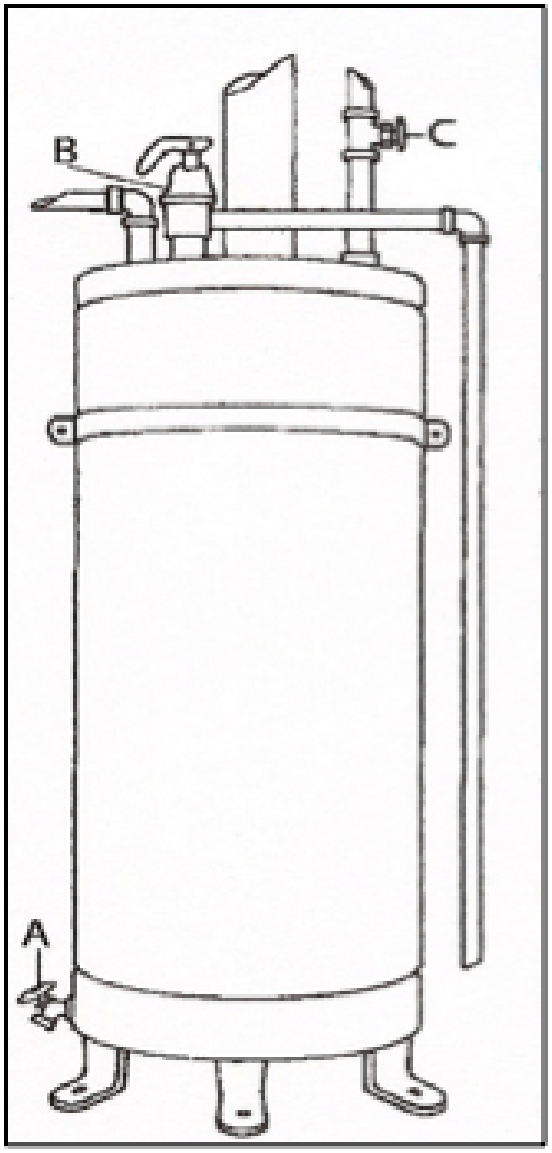
The second step is to turn off the toilets water supply (usually it has a diamond shaped handle, near the wall at the base of the toilet) and mark the water level inside the tank. Wait 15 minutes and then check the water level. If it has dropped below your mark, the problem is at the bottom of the toilet tank at the flapper or plunger ball. However - if the water level has stayed the same, then the problem is an overflow near the top of the tank, involving the float ball or the fill valve or both.

The last step is to empty the tank and take damaged parts to the hardware store far a perfect match. All of these items are inexpensive and easy to replace. Look for products labelled chloramine resistant at your local hardware store.



CHECK YOUR WATER HEATER FOR LEAKS:

A: Drain Valve; B: Pressure Relief Valve; C: Cold-Water Inlet Valve



Most people visit their water heater only if the hot water stops. Check yours. If you notice a puddle of water around the bottom of the tank, it probably indicates a leak caused by corrosion - a sure sign of old age, and the most common reason for tank replacement. If the tank wall is corroding, more problems are to follow, and it's probably time to retire the tank and get a new energy saving model.

Water heaters last about 15 years with proper care. To clear out any sediment, flush a few quarts of water from the drain valve at the bottom of the tank about every 6 months, maybe when you change the fire alarm batteries around the house. Also operate the pressure relief valve at the top of the tank. Don't worry if a little water leaks out; that means it is working. Don't forget to close and reopen the cold-water inlet valve at the top, so you're sure it's easy to operate in an emergency.

PREVENT FROZEN PIPES

Expansion caused by freezing water is a common cause of leaky pipes. Prepare your plumbing for winter to prevent leaks with some simple steps.

1. **Insulate pipes & valves.** Wrap pipes exposed to freezing temps with pipe insulation. This includes pipes located outdoors, in attics, crawl spaces, basements and garages. Pipe insulation is available at many hardware stores. Wrap hose bibs with insulation material.

2. **Turn off hose bibs & valves.** Shut off and drain outside faucets to prevent freezing. Turn off the individual shutoff valves and open hose bibs to drain faucets, remember to remove and drain hoses.

3. **Circulate air.** If there will be a deep freeze, open doors inside the house allowing warm air to circulate. Keep your thermostat set no lower than 55 degrees while away from home. If you have water lines on exterior walls, such as bathrooms and kitchens you can leave cabinet doors open to allow heat to keep the pipes from freezing.

4. **Drain outdoor water lines.** Irrigation systems and water features need to be drained in the fall.

WHAT TO DO IF YOUR PIPES FREEZE?

If your home is without water, the problem could be in the pipes leading up to the water meter. More often however, only one or two faucets in the home are waterless, which means the problem is in your house. The Madisonville Water Department is responsible for repairs to the water lines in the street and up to and including, the meter. You are responsible for repairs from the meter to your home.

IF YOUR PIPES FREEZE:

SHUT OFF WATER: Turn off water at your emergency shutoff.

a) Call Madisonville Water if you can't turn off your shutoff or don't have one (270) 824-2140

b) If you are completely without water, prevent damage to your water heater by turning off the power to it.

c) Turn on your water and power to your water heater only after water service is restored.

SWIMMING POOL BUCKET TEST

Evaporation is dependent on a variety of environmental and pool related conditions, (wind, water temp, dew point, barometric pressure, and other to a lesser extent). Because of this the evaporation rate can vary greatly from day to day and even pool to pool.

Before becoming too concerned about a leak you can do a simple test to determine if water loss in your swimming pool is due to a leak or is just evaporation. This simple test is called the bucket test.

Basically, the bucket test exposes water in a bucket to the same conditions as those affecting your swimming pool. By comparing the water loss in each, it is possible to determine if the pool is leaking or if supposed leaks are just the result of water being lost to the air.

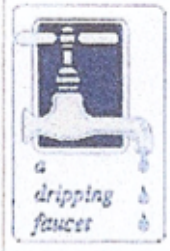
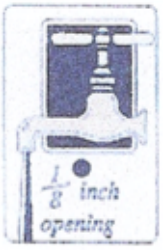
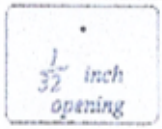
SWIMMING POOL BUCKET TEST PROCEDURE

- Bring the pool water to its normal level
- Fill an empty bucket with pool water to about one inch from the top of bucket. (By filling the bucket close to the top you are ensuring that air movement over the surface of the bucket will similar to that of the poolL)
- Place the bucket on the first or second step of the pool. To keep it from floating away it may be necessary to place a few bricks or rocks into the bucket. (By placing the bucket in the pool water you are ensuring that the water temperature of each will be similar).
- Mark the water level inside the bucket.
- Mark the water level of the pool on the outside of the bucket, on the pool wall, or skimmer face plate.
- Operate the pool for 24 hours as it had been operated when a leak was first suspected.
- After 24 hours, compare the two levels. If the pool water (outside mark) goes down more than the inside water level, there is probably a leak.

Leak Impact Chart

Are water leaks costing you money?

The following chart shows the amount of water that can be lost (and billed to your account) for various size leaks.

	A dripping leak consumes: 15 gal. per day 450 gal. per month	A 1/8 in. leak consumes: 3,806 gal. per day 114,200 gal. per month	
	A 1/32 in. leak consumes: 264 gal. per day	A 1/4 in. leak consumes: 15,226 gal. per day 456,800 gal. per month	
	A 1/16 in. leak consumes: 943 gal. per day 28,300 gal. per month	A 1/2 in. leak consumes: 60,900 gal. per day 1,827,000 gal. per month