

How to Determine If You Have a Water Leak

One of the easiest water leak tests is to place dye in your toilet tank and see if the dye gets into the toilet bowl without having to flush. If so, water is getting by the flapper valve and will need to be serviced. Another uncomplicated test is to read your water meter before going to bed. Then read it again in the morning before using any water. If the readings are the same, there is no leak. A variation of this test is as follows:

1. Locate your water meter. Usually it is in the basement by a wall nearest the street.
2. Locate the shut-off valve for your home.
3. For the duration of this test, do not use any water associated with this water service. This includes flushing toilets, using refrigerator water and ice dispensers, humidifiers, irrigation systems, etc. Turn off all water faucets and any appliances that use water.
4. Check the position of the "1 cubic foot" dial on your water meter and record your reading.
5. After a period of at least 30 minutes, record another meter reading.
6. If no leaks are present, the readings should be identical, since no water is being used. Any advancement of the dial would indicate that water *is* being used somewhere and a leak may be present.
7. If the needle on the "1 cubic foot" dial is moving, use the shut-off valve to turn off the water to the home.
8. If the needle stops moving after shutting off the water supply, this would indicate that the leak is inside the house. Check faucets and toilets for slow leaks.
9. If the needle continues to move after shutting off the water supply to the house, the leak is between the meter and the shut-off valve.
10. Remember to turn the valve back on when you are done.

Testing Your Water Meter for Accuracy

If you feel that your water meter is not accurate, you can test the meter yourself.

Check for leaks anywhere in the water service. Any leaks in the system will give an inaccurate test result and must be fixed before proceeding. You will need the assistance of at least one other person to conduct the test.

Supplies for testing you will need:

- 5 gallon bucket
- Carpenter's level (longer than the bucket's diameter)
- Felt tip marker
- Garden hose
- Measuring container (which can measure quarts)

Meter Testing Procedure

NOTE: In the following test procedure, we have rounded off one cubic foot (7.48 gallons) to 7.5 gallons to simplify the procedure. Also, prior to starting the test, make sure all air is bled from faucet and/or hose. Water must be visible at the end of the hose prior to test. Failure to do so will invalidate the test. Also, ensure that water will not be used on property during test. Water used for other than testing purposes will invalidate test.

1. Place the five gallon bucket on level ground beneath an outdoor faucet. Alternatively, run a garden hose from the faucet to the bucket in some other, convenient, level area. Be certain the hose is not kinked.
2. Optimally you should level the bucket. Do this by placing a carpenter's level on top of the bucket. Level the bucket by digging or shimming until the air bubble on the level is between the two reference lines.
Raise and lower each side of the bucket as needed. Repeat this procedure in a crisscross pattern, rotating the level 90 degrees between each adjustment until the bucket is level. The bucket should rest solidly on its surface. Unsteady buckets will invalidate the accuracy of the test.
3. Using the measuring container, pour exactly 15 quarts of water inside the bucket.
4. Mark the water level inside the bucket. Markings should be every 90 degrees.
5. Empty the bucket. Check your marks on the bucket; and re-mark if necessary.
6. Move the position of the register pointer on the water meter to a position that works best for you. You can do this by positioning a person at the meter and another person at the faucet. Turn water on and off until the .1 dial pointer, reaches the 12:00 or 6:00 position.
7. Place the bucket back in its original position.

8. Station a person at the meter, position the end of the hose over the bucket. Open the faucet to establish a medium flow rate of water. As soon as the .1 dial rotates 180 degrees to the 6:00 or 12:00 o'clock position, immediately shut off the water. If the water was shut off too soon or too late, repeat the test.

Evaluate the Test Results

If the water level is below the mark, the water meter is possibly over-registering:

Ensure bucket is still level. Double check the reading on the meter to ensure it rotated no more or no less than one half turn on the .1 dial. The pointer should be at the 12:00 or the 6:00 position, opposite from the point from which you began your test. (See step 6.) Verify that there are no water leaks on property and that the only water used during the test was for the test. Verify that the hose was full of water prior to test.

If the water level is above the mark, the water meter is possibly under-registering:

Make sure the bucket is still level. Double check the reading on the meter to ensure that it traveled no more or no less than $\frac{1}{2}$ cubic foot.