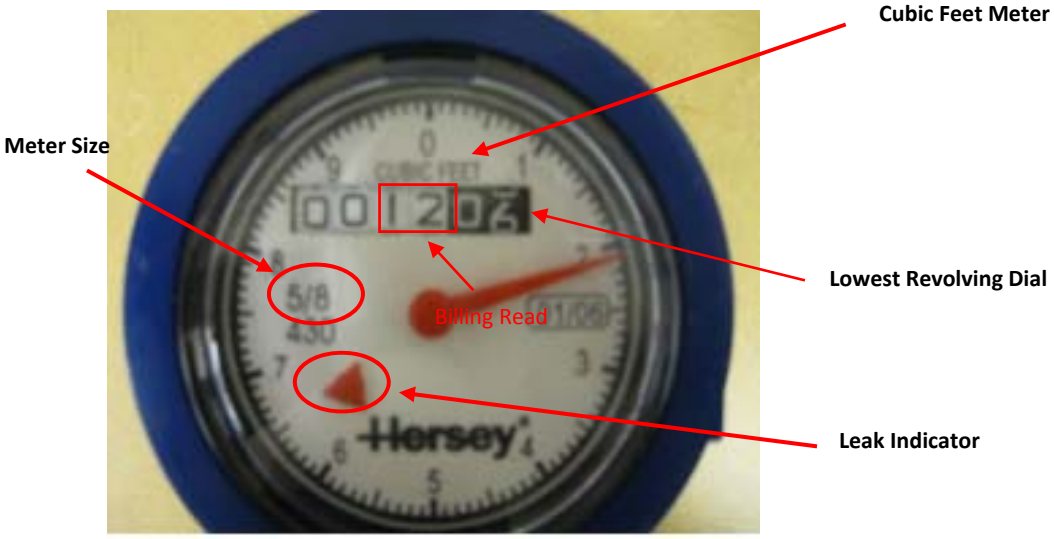
HOW TO READ A WATER METER

All CFPUA water meters are **billed** in thousand gallons. However, some meters measure the water in cubic feet while others measure the water in gallons. Below are examples to help identify the type of water meter you may have and give you instructions on how to read the meter.

1. Cubic Feet Meters
   - 1 cubic feet = 7.48 gallons
   - Meters are read in *hundred cubic feet* (HCF)
   - 1 HCF = 748 gallons
   - The billing system is programmed to take these readings and calculate the correct water usage in thousands of gallons. For smaller meters, 5/8" and 1", the lowest revolving dial (the farthest dial to the right) equals one cubic foot.

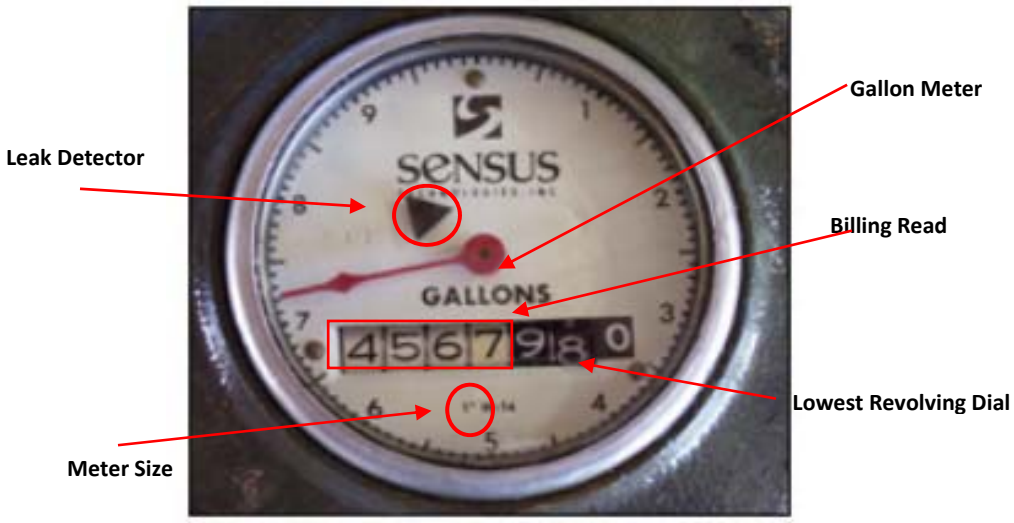


   - You may have noticed that the last two digits are dark, and those to the left are white or light colored. This is an industry standard for manual reading. When manually reading, meter readers ignore the black/dark dials and only read the white dials which are then

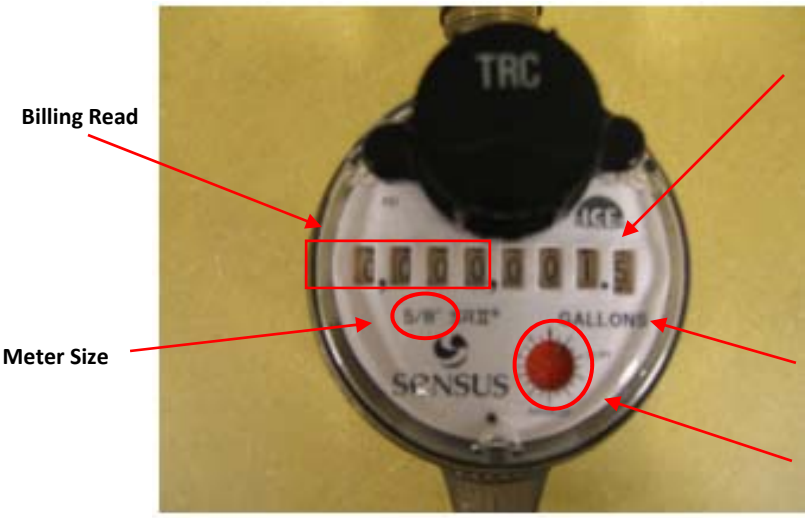
entered into their handheld computer. Some registers do not have different background colors for the dials. These meters have a different indicator to indicate which dials are used for billing. The reading for the meter above would be 12.

- On larger meters, the lowest revolving dial may register ten cubic feet or 100 cubic feet. These meters will have a fixed zero at the right end of the reading. The reading on the meter below would be 278. There are numerous brands of cubic feet meters in our system but they are all read the same as the two examples shown.

2. Gallon Meters
    - Meters are read in thousands of gallons.
    - There are four different types of registers in our system.
    - The meters are read the same as cubic feet meters.
    - Below is one type of gallon meter in our system. The reading for this meter is 4,567 or 4,567,000 gallons of water. The lowest revolving dial for this meter is 10 gallons.

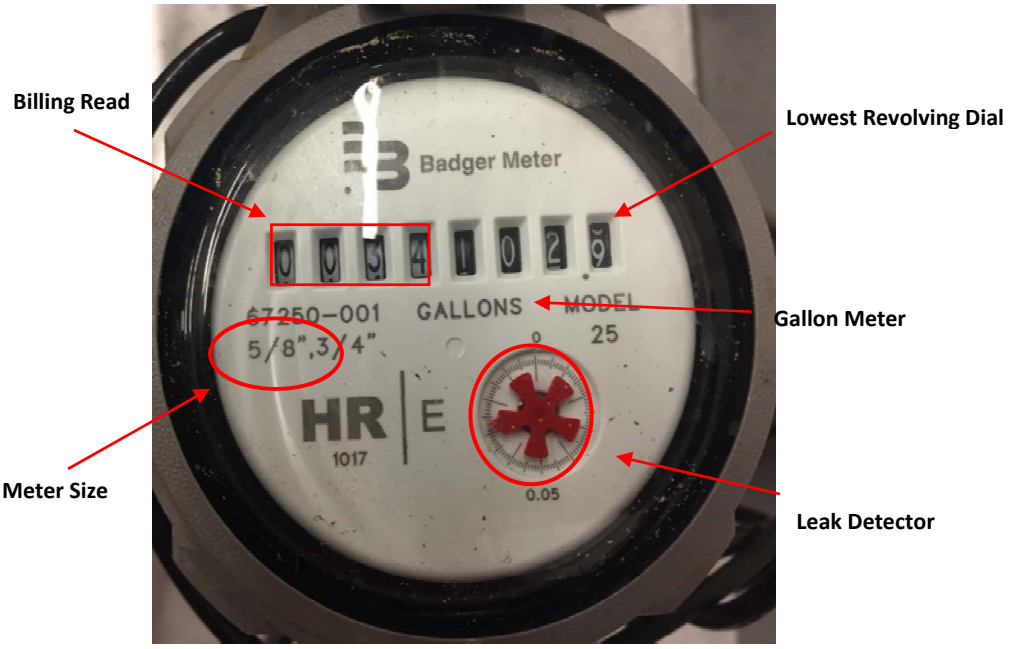


- Below is another example of a gallon register in our system. This is one of the registers mentioned that does not have different background colors to indicate billing dials. Instead the register below has a comma at the one million dial and one thousand dial. Since we bill to the thousand gallons, we would read the meter from left to right to the thousand-gallon comma. The reading for this meter is 0. The lowest revolving dial measures to the 1/10 of a gallon.



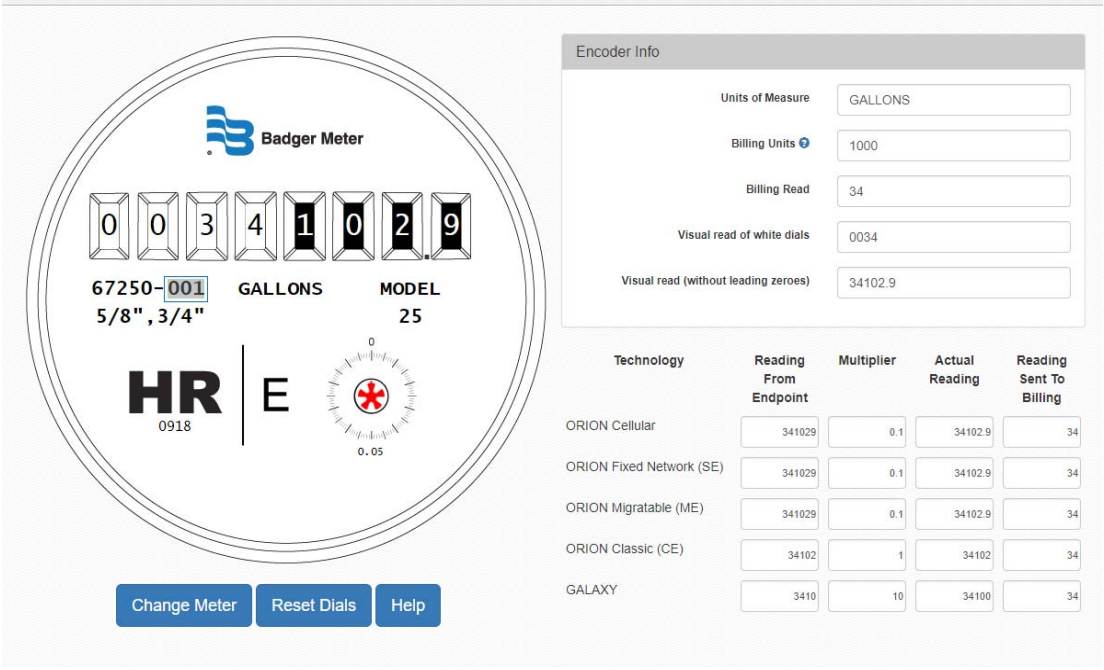
- Below is another type of register in our system that measures in gallons. This is a called a LCD register. This type of register has commas to indicate the million and thousand-gallon digits. The lines above the first four digits indicates the number of dials programmed for AMR/AMI. The reading for this meter is 134. The register also has a leak detector which is indicated with a "+" sign to the far right of the display when water is flowing. The last digit on this register indicates 1/100 of a gallon.

- This is the newest type of meter being installed in our system. The register's lowest revolving dial is to the 1/10 of a gallon. The reading for this register is 34.



All meter manufacturers provide specification sheets on their respective websites. Some even offer tools to help understand the different components on a register. For example, Badger offers an interactive tool that allows customers to enter reads and it will display the read sent to billing. Below is a screenshot and the link to this tool.

http://hreapp.badgermeter.com/tool



Encoder Info

Units of Measure	GALLONS
Billing Units	1000
Billing Read	34
Visual read of white dials	0034
Visual read (without leading zeroes)	34102.9

Technology	Reading From Endpoint	Multiplier	Actual Reading	Reading Sent To Billing
ORION Cellular	341029	0.1	34102.9	34
ORION Fixed Network (SE)	341029	0.1	34102.9	34
ORION Migratable (ME)	341029	0.1	34102.9	34
ORION Classic (CE)	34102	1	34102	34
GALAXY	3410	10	34100	34