

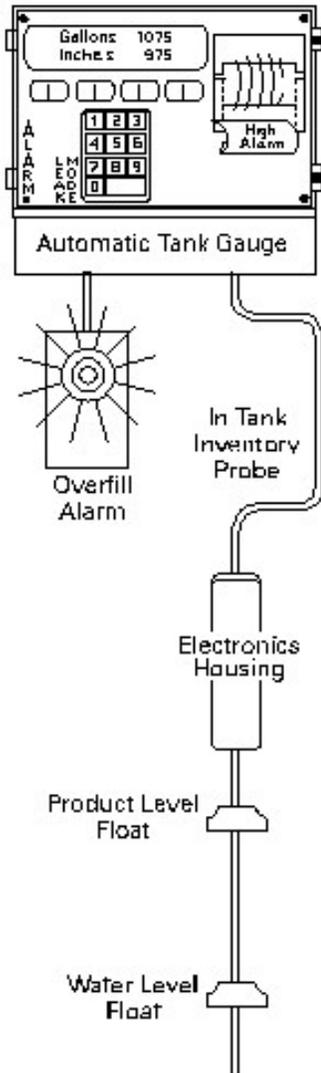


Automatic Tank Gauges for Underground Storage Tank Leak Detection

How does the automatic tank gauge method for leak detection work?

This method uses automated processes to monitor product level and inventory control. A probe permanently installed in the tank is connected to a monitor to provide information on product level and temperature. These

systems calculate changes in product volume that can indicate a leaking tank. Automatic tank gauging systems (ATG systems) perform leak tests, either in-tank static tests or continuous in-tank leak detection tests.



Features of ATG systems include:

- The product level and temperature in a tank are measured and recorded by a computer, this saves labor and time.
- In the inventory mode, the ATG system replaces the use of the gauge stick to measure product level and perform inventory control. This mode records the activities of an in-service tank, including deliveries.
- In the leak detection mode (in-tank static test), the tank is taken out of service and the product level and temperature are measured.
- Continuous ATG systems do not require the tank to be idle to perform a test. These systems can gather and analyze data during many short periods when no product is being added to or taken from the tank. They operate on an uninterrupted basis within a process that allows the system to gather incremental measurements to determine the release status of the tank at least once every 30 days.

What are the regulatory requirements?

The ATG system must be able to detect a leak no larger than 0.2 gallon per hour with certain probabilities of detection and false alarm. Some ATG systems can also detect a leak of 0.1 gallon per hour with the required probabilities. Leak detection equipment must be listed on the National Work Group on Leak Detection Evaluations (www.nwglde.org) and leak monitoring must be performed in accordance with the manufacturer's instructions and NWGLDE listing required at installation.

Operability tests are required at installation. For existing systems, the operability test must be performed by Jan. 1, 2020. Release detection equipment must be checked annually to ensure it is working properly:

- Verify the system configuration.
- Test alarm operability and battery backup (unless you have remote connection or storage).
- Inspect probes and sensors for residual build-up.
- Ensure floats move freely, the shaft is not damaged and cables are free of kinks and breaks.
- Keep records of these tests.



Testing must be performed in accordance with regulations and the manufacturer's instructions, including any technician or certification requirements.

Will it work at your site?

ATG systems are the most commonly used for leak detection. Continuous automatic tank gauging (e.g. CSLD or SCALD) may allow for monitoring larger tank capacities and higher system throughputs. However, these methods have limitations as well. Check the capabilities of any method you use to ensure your system meets all regulatory performance requirements.

Anything else you should consider?

- Detecting water in the tank is important. Water around a tank may mask a hole in the tank or distort the data to be analyzed by temporarily preventing a release. To detect a release in this situation, check for water at least once a month. Depending upon the product in the tank, detecting water may be difficult to do, but not impossible. Products such as ethanol-based fuels may not form a water bottom. An unexplained presence of water in the tank is considered an unusual operating condition. If you find water in your tank, you must investigate and correct the source of the water. Suspected releases must be reported to the department within 24 hours.
- The ATG system probe is permanently installed through an opening (not the fill pipe) on the top of the tank. Each tank at a site must be equipped with a separate probe. The ATG system probe is connected to a monitor that displays ongoing product level information and the results of the monthly test. Printers can be connected to the monitor to record this information.
- ATG systems are often equipped with alarms for high and low product level, high water level, and theft.
- ATG systems can be linked with computers at other locations from which the system can be programmed or read.
- For ATG systems that are not of the continuous type, no product should be delivered to the tank or withdrawn from it for at least 6 hours before the monthly test or during the test (which generally takes 1 to 6 hours).
- An ATG system can be programmed to perform a test more often than once per month (a recommended practice).

Will you be in compliance?

For underground storage tanks installed before July 1, 2017, owners and operators may use ATG systems (static or continuous) as their primary method of release detection. When installed and operated according to the manufacturer's specifications, NWGLDE listing and UST regulations, ATG systems meet the release detection requirements.

Beginning at installation for new sites, or by Jan. 1, 2020 for existing sites, monthly walkthrough inspections are required. These monthly inspections include a check of the primary leak detection system. The person conducting the inspection must check to make sure the release detection system is operating with no alarms or other unusual operating conditions present and ensure release detection records are reviewed and current.



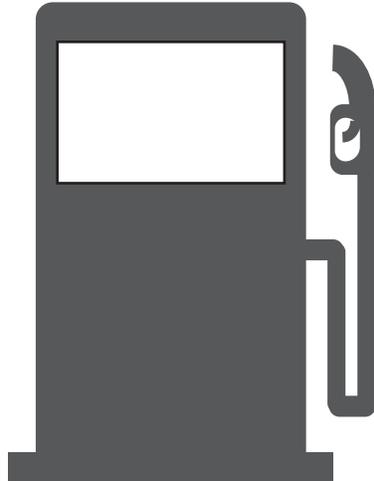
Can I use remote monitoring programs with my ATG?

Yes, remote monitoring and data storage programs may be used. The department strongly recommends using remote monitoring systems and programs offered by the ATG manufacturer, as they design their programs specifically to read their software systems accurately. Third party remote monitors may only be used if they accurately read, store, format and report data from the ATG system. Reports must be complete and accurate, and meet all of the recordkeeping items listed below.

What records do I need to keep to demonstrate that I am in compliance?

Records must include:

- Facility information and identification.
- Tank and sensor identification (product, location, size, etc.)
- Test dates (you must retain documentation of testing at least every 30 days.)
- Product and water levels and tank size.
- Test data, including test duration, leak threshold, leak rate, pass/fail.
- Monitoring type - continuous ATG (e.g. CSLD or SCALD) or static testing.
- The previous 12 months of monthly monitoring.
- The current operability test of the ATG system.
- The previous 12 months of walkthrough inspections.



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