



R-TANK OPERATION, INSPECTION & MAINTENANCE

Operation

Your ACF R-Tank System has been designed to function in conjunction with the engineered drainage system on your site, the existing municipal infrastructure, and/or the existing soils and geography of the receiving watershed. Unless your site included certain unique and rare features, the operation of your R-Tank System will be driven by naturally occurring systems and will function autonomously. However, upholding a proper schedule of Inspection & Maintenance is critical to ensuring continued functionality and optimum performance of the system.

Inspection

Both the R-Tank and all stormwater pre-treatment features incorporated into your site must be inspected regularly. Inspection frequency for your system must be determined based on the contributing drainage area, but should never exceed one year between inspections (six months during the first year of operation).

Inspections may be required more frequently for pre-treatment systems. You should refer to the manufacturer requirements for the proper inspection schedule.

With the right equipment your inspection and measurements can be accomplished from the surface without physically entering any confined spaces. If your inspection does require confined space entry, you **MUST** follow all local/regional requirements as well as OSHA standards.

R-Tank Systems may incorporate Inspection Ports, Maintenance Ports, and/or adjoining manholes. Each of these features are easily accessed by removing the lid at the surface. With the cover removed, a visual inspection can be performed to identify sediment deposits within the structure. Using a flashlight, ALL access points should be examined to complete a thorough inspection.

Inspection Ports

Usually located centrally in the R-Tank System, these perforated columns are designed to give the user a base-line sediment depth across the system floor.

Maintenance Ports

Usually located near the inlet and outlet connections, you'll likely find deeper deposits of heavier sediments when compared to the Inspection Ports.

Manholes

Most systems will include at least two manholes - one at the inlet and another at the outlet. There may be more than one location where stormwater enters the system, which would result in additional manholes to inspect.

Bear in mind that these manholes often include a sump below the invert of the pipe connecting to the R-Tank. These sumps are designed to capture sediment before it reaches the R-Tank, and they should be kept clean to ensure they function properly. However, existence of sediment in the sump does **NOT** necessarily mean sediment has accumulated in the R-Tank.

After inspecting the bottom of the structure, use a mirror on a pole (or some other device) to check for sediment or debris in the pipe connecting to the R-Tank.

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If sediment or debris is observed in any of these structures, you should determine the depth of the material. This is typically accomplished with a stadia rod, but you should determine the best way to obtain the measurement.

All observations and measurements should be recorded on an Inspection Log kept on file. We've included a form you can use at the end of this guideline.

Maintenance

The R-Tank System should be back-flushed once sediment accumulation has reached 6" or 15% of the total system height. Use the chart below as a guideline to determine the point at which maintenance is required on your system.

R-Tank Unit	Height	Max Sediment Dept
Mini	9.5"	1.5"
Single	17"	3"
Double	34"	5"
Triple	50"	6"
Quad	67"	6"
Pent	84"	6"

Before any maintenance is performed on your system, be sure to plug the outlet pipe to prevent contamination of the adjacent systems.

To back-flush the R-Tank, water is pumped into the system through the Maintenance Ports as rapidly as possible. Water should be pumped into ALL Maintenance Ports. The turbulent action of the water moving through the R-Tank will suspend sediments which may then be pumped out.

If your system includes an Outlet Structure, this will be the ideal location to pump contaminated water out of the system. However, removal of back-flush water may be accomplished through the Maintenance Ports, as well.

For systems with large footprints that would require extensive volumes of water to properly flush the system, you should consider performing your maintenance within 24 hours of a rain event. Stormwater entering the system will aid in the suspension of sediments and reduce the volume of water required to properly flush the system.

Once removed, sediment-laden water may be captured for disposal or pumped through a Dirtbag™ (if permitted by the locality).

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Step-By-Step Inspection & Maintenance Routine

1) Inspection

- a. Inspection Port
 - i. Remove Cap
 - ii. Use flashlight to detect sediment deposits
 - iii. If present, measure sediment depth with stadia rod
 - iv. Record results on Maintenance Log
 - v. Replace Cap
- b. Maintenance Port/s
 - i. Remove Cap
 - ii. Use flashlight to detect sediment deposits
 - iii. If present, measure sediment depth with stadia rod
 - iv. Record results on Maintenance Log
 - v. Replace Cap
 - vi. Repeat for ALL Maintenance Ports
- c. Adjacent Manholes
 - i. Remove Cover
 - ii. Use flashlight to detect sediment deposits
 - iii. If present, measure sediment depth with stadia rod, accounting for depth of sump (if present)
 - iv. Inspect pipes connecting to R-Tank
 - v. Record results on Maintenance Log
 - vi. Replace Cover
 - vii. Repeat for ALL Manholes that connect to the R-Tank

2) Maintenance

- a. Plug system outlet to prevent discharge of back-flush water
- b. Determine best location to pump out back-flush water
- c. Remove Cap from Maintenance Port
- d. Pump water as rapidly as possible (without over-topping port) into system until at least 1" of water covers system bottom
- e. Replace Cap
- f. Repeat at ALL Maintenance Ports
- g. Pump out back-flush water to complete back-flushing
- h. Vacuum all adjacent structures and any other structures or stormwater pre-treatment systems that require attention
- i. Sediment-laden water may be captured for disposal or pumped through a Dirtbag™.
- j. Replace any remaining Caps or Covers
- k. Record the back-flushing event in your Maintenance Log with any relevant specifics

