

Grease Trap's

Operation & Maintenance Manual

MANUFACTURERS OF GREASE & OIL/PETROL SEPARATORS AND RAIN WATER HARVESTING



Functioning

In addition to proper maintenance and operation, there are three key characteristics that affect the functionality of gravity-type grease interceptors: retention time, flow and storage capacity.

Retention time

Greases and oils have a lower specific gravity than water, so when a grease-laden mixture is left undisturbed, they will float to the surface while the sediment settles to the bottom. Grease separators use baffles and/or compartments to detain wastewater long enough for this process to occur. The Uniform Plumbing Code (UPC) recognizes a retention time of 30 minutes.

Flow

The grease separators must be sized and configured to allow for sufficient retention time, taking into account the flow rate of the influent. Furthermore, it must be configured such that it minimizes turbulence to allow the suspended FOG to separate. This is especially important in high-flow situations, such as in the draining of a large sink or the discharge of dishwasher water.

Storage capacity

The separator must be large enough to allow for sufficient storage of accumulated FOG between cleaning operations without affecting the flow characteristics through the unit.

Kitchen Practices & Operation

There are no moving or mechanical parts in gravity-type grease separators that require operation or adjustment. Thus, the passive operation of the interceptor is affected by the way in which it is used and the substances that are allowed to enter it. The following kitchen practices will reduce interceptor maintenance costs:

- Establish Best Management Practice standards in the kitchen to minimize FOG discharge.
- Educate and train your staff on proper kitchen practices. Some regulatory agencies require proof that employees have been trained and comply with such practices.
- Keep records of maintenance on site. Most authorities require proof that the interceptor has regular maintenance.
- Post “No Grease” signs above sinks and other drainage fixtures.
- Dry-wipe pots, pans and dishware prior to washing.
- Use a 3-sink system with separate sinks for washing, rinsing and sanitizing.
- Use dishwashing and general cleaning detergents that promote rapid oil/water separation. These detergents are formulated to release oil quickly so that the oil can rise to the water surface instead of remaining emulsified.
- Use proper concentrations of cleaners and disinfectants. Excessive amounts of either can cause FOG to become emulsified and pass through the interceptor.
- Do not use water that is hotter than necessary to clean and sanitize wash items. Use temperature settings recommended by the dishwasher manufacture.

- Do not dispose of cooking oils, fats or grease into drains. Recycle waste cooking oils.
- Do not use additives such as enzymes, grease solvents or emulsifiers. Most regulatory agencies prohibit their use. Enzymes and solvents temporarily emulsify grease, allowing it to pass through the interceptor. The grease later coagulates on the inside walls of sewer pipes, restricting flow, which could result in sewage backups and blockages.
- Do not allow corrosive agents to drain into the grease interceptor.
- Do not use food grinders. Most regulatory agencies prohibit their use. Dispose of food waste into a solids waste container. Although the separator is designed to remove grease-laden food particles from the wastewater stream, it also increases the pump-out interval and could lead to potential odour and/or reactivity problems due to food particles breaking down biologically and releasing gases within the interceptor.

Odour Prevention

Odour issues with outdoor separators can be eliminated when a properly designed grease separator is incorporated into the building's plumbing/venting system. Most building codes require the separator to be vented back through the inlet plumbing and to a roof vent. In almost all cases odour problems are caused by improper venting of the building's plumbing system. This causes the gases to build up in the separator and allows them to escape, leading to odour problems. Proper building ventilation and separator design along with gastight manhole covers and seals will prevent odours from escaping the separator and allow them to properly escape through the roof vents. Additionally, when gravity grease separators will be dormant for more than 30 days (schools, churches, etc.), the preferred practice is to pump and refill the interceptor with clean water before the long period of inactivity.

Clean Out and Maintenance

All separators require maintenance to ensure an acceptable level of effluent FOG. This requires a regular schedule of pumping and inspection. When the grease separator is new, it is difficult for the local authority to define the maintenance schedule, and so it is difficult to ensure compliance. For these reasons, it may be best to require the owner or establishment to obtain and maintain a maintenance contract with a qualified waste removal business.

For new installations, a monthly or bi-monthly cleaning may be required until the maintenance company can establish a predictable level of FOG accumulation for that particular facility. Thereafter, required cleanings may be extended until an optimum pumping frequency is determined. The local authority may also require notification from either the owner or the maintenance company when a scheduled cleaning is performed (or missed) or when a contract is not renewed.

Inspection

- Service covers should be inspected for defects or missing bolts (if equipped). Check that the gasket (if equipped) is in place and not cracked or broken. Replace the gasket if needed.
- Before pump-out, notice the liquid level. An unexpectedly low level could indicate a leaky tank, while an unexpectedly high level (or signs of grease above the normal operation level) could indicate a plugged fitting, line or filter.
- Once the separator is pumped out, visually inspect all fittings, baffles and fixtures inside the separator to see that they are in good working condition and functioning properly.

Pump-Out

On new installations, determining the pump-out interval will be difficult until the service company has monitored the accumulation rate enough to predict it. Pump out the separator when the combined FOG and solids accumulation is near – but not in excess of – 25 percent of the total liquid depth. With compartmentalized grease separators, be sure that each compartment is checked, cleaned and inspected at the time of pump-out.

It is important to scrape clean the side walls and baffles during pump-out to help maximize removal of greases from the separator during each cleaning. The settled materials should also be thoroughly vacuumed to prevent biological breakdown and the unwanted release of gases