



Templeton Community Services District

Fats, Oils and Grease (FOG) Program

Hydromechanical and Gravity Grease Interceptor Selection and Maintenance Guide

Introduction

Templeton Community Services District (District) Sewer Code requires food service establishments to install a properly sized grease interceptor and properly maintain it on a regular basis. Proper and regular grease interceptor maintenance significantly reduces the discharge of fats, oils, and grease (FOG) into the District's sewer system.

Questions and Answers

WHY IS FOG A PROBLEM?

When FOG enters the sewer system, it coats sewer pipes and causes blockages. This can lead to sanitary sewer overflows (SSOs) which can require costly repairs, temporary closures of your food service establishment, and health hazards. Properly maintained grease interceptors prevent excess FOG from entering the District's sewer system by slowing the flow of wastewater so that FOG rises to the top of the grease interceptor and solidifies instead of discharging into the sewer laterals.

WHAT DETERMINES WHETHER I NEED A HYDROMECHANICAL GREASE INTERCEPTOR OR A GRAVITY GREASE INTERCEPTOR?

The type of grease interceptor required is determined by the number of fixtures in the food service establishment that may discharge FOG to the sewer system and the flow from these fixtures. Refer to the "Sizing Worksheets" section of this guide.

WHAT ARE THE REQUIREMENTS AFTER THE GREASE INTERCEPTOR IS INSTALLED?

Food service establishments are required to implement best management practices (BMPs) for reducing FOG discharged. Refer to the "Your Restaurant and FOG" brochure to see recommended BMPs. Required regular maintenance of grease interceptors protects the sewer system. A grease interceptor maintenance log is required to be kept to document cleaning intervals. Receipts for cleaning interceptors should be maintained and available for review.

WHO PERFORMS MAINTENANCE ON A HYDROMECHANICAL GREASE INTERCEPTOR?

Hydromechanical grease interceptors are maintained by a state licensed septic hauler, grease hauler, or recycler. This maintenance consists of removing all solids and liquids from the

hydromechanical grease interceptor and disposing of the material in accordance with federal, state, and/or local laws. Employees of the food service establishment can also perform maintenance. Refer to the manufacturer's recommended maintenance procedures. The owner is ultimately responsible for the functionality and maintenance of the hydromechanical grease interceptor. As such, the owner may wish to oversee maintenance.

WHO PERFORMS MAINTENANCE ON A GRAVITY GREASE INTERCEPTOR?

Gravity grease interceptors are maintained by a state licensed septic hauler, grease hauler, or recycler. This maintenance consists of removing all solids and liquids from the grease interceptor and disposing of the material in accordance with federal, state, and/or local laws. The owner is ultimately responsible for the functionality and maintenance of the gravity grease interceptor. As such, the owner may wish to oversee maintenance.

HOW OFTEN DO I NEED TO PERFORM MAINTENANCE ON A GREASE INTERCEPTOR?

The frequency of grease interceptor maintenance depends on the amount of FOG generated and FOG-reducing best management practices (BMPs) implemented. Refer to "Your Restaurant and FOG" brochure for BMPs. Generally, a hydromechanical grease interceptor should be maintained on a weekly basis and a gravity grease interceptor should be maintained on a monthly basis.

WHAT FIXTURES OR EQUIPMENT CANNOT BE PLUMBED TO A GREASE INTERCEPTOR?

Food grinders and dish washing machines should not be plumbed through a grease interceptor, nor should waste from toilets, urinals, wash basins, and other fixtures containing human waste.

WHAT REQUIREMENTS MUST BE MET?

New food service establishments and remodeled food service establishments must install a grease interceptor in accordance with the California Plumbing Code. The grease interceptor must be approved by the District.

Existing food service establishments must install a grease interceptor in accordance with the California Plumbing Code; however, the requirements may be modified due to physical constraints. Multiple grease interceptors may be used to achieve the intent of the District Sewer Code. The grease interceptor(s) must be approved by the District.

WHAT IS THE APPROVAL AND INSTALLATION PROCESS REQUIREMENTS?

- Contact a licensed contractor to determine the proper sizing of the grease interceptor.
- Submit your completed Hydromechanical or Gravity Grease Interceptor Sizing Worksheet and all plan sets to the District Engineer for approval. Plans must include the location and size of the grease interceptor.
- Obtain a building permit from the County of San Luis Obispo.
- Install the grease interceptor.
- Provide a copy of the Building Permit application and permit completion (sign-off card) obtained from the County of San Luis Obispo to verify compliance with grease interceptor installation requirements.

Gravity Grease Interceptors

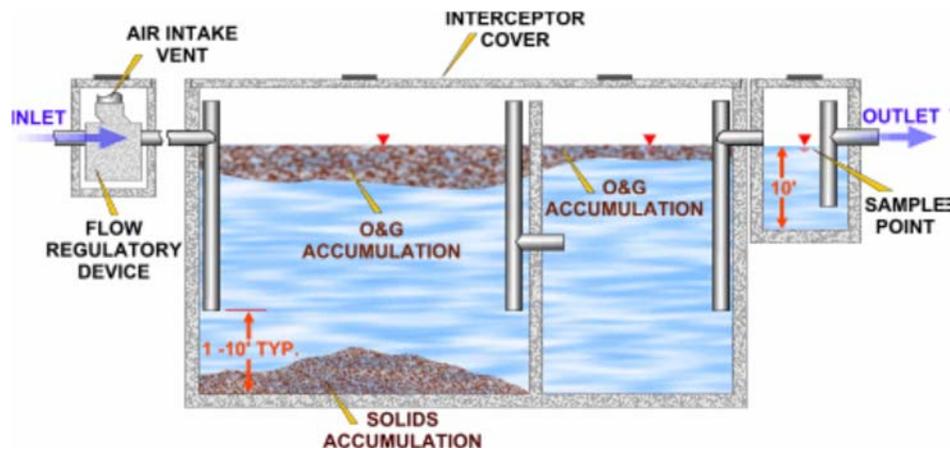
What is a Gravity Grease Interceptor? Gravity grease interceptors are usually in-ground devices located outside a building, made of concrete, with a minimum capacity of 750 gallons, and configured with multiple chambers. The capacity of the gravity grease interceptor allows time for the wastewater to cool so that FOG rises to the top of the gravity grease interceptor where it solidifies. Gravity grease interceptors are the most efficient method for removing FOG from wastewater.

Gravity Grease Interceptor Maintenance

Gravity grease interceptors are cleaned by a state licensed septic hauler, grease hauler, or recycler. It is recommended that gravity grease interceptors be maintained once a month but cleaning frequency is ultimately dependent on the type of food service establishment, the size of the gravity grease interceptor, and the volume of flow discharged to the gravity grease interceptor.

Proper procedure for gravity grease interceptor maintenance:

Step 1	Schedule your septic hauler, grease hauler, or recycler for cleaning service.
Step 2	Shut off the isolation valve to stop flow to the gravity grease interceptor.
Step 3	Remove the lid. Pump out and haul off any water in the gravity grease interceptor.
Step 4	Remove the baffles, if possible.
Step 5	Scoop out and haul off the accumulated FOG.
Step 6	Pump out and haul off the settled solids and any remaining liquids.
Step 7	Using a putty knife or other applicable tool, scrape the sides, lid, and baffles to remove as much FOG as possible. Haul off any FOG removed.
Step 8	Replace the baffle and lid.
Step 9	Document your maintenance on your <i>Maintenance Log</i> .



REMINDER: DEGREASERS, DETERGENTS, AND WATER EXCEEDING 140°F MAY NOT PASS THROUGH A GRAVITY GREASE INTERCEPTOR.

Sizing Worksheet

Gravity Grease Interceptor Sizing Worksheet

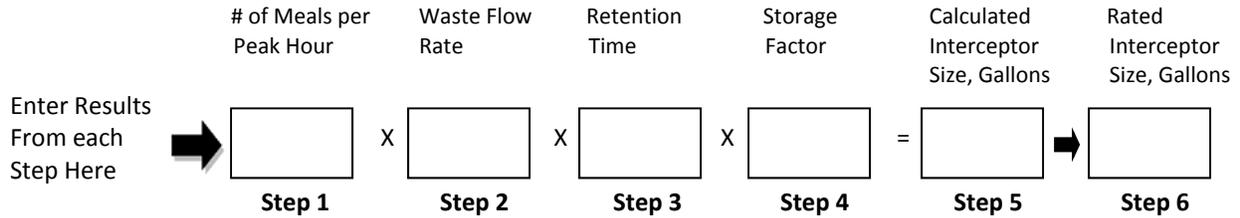
Business Name: _____

Address: _____

Contact Name: _____ Phone: _____

Contact Email Address: _____

Follow these six simple steps to determine the size of your gravity grease interceptor:



Step 1 Number of Meals per Peak Hour (Recommended Formula)

Seating Capacity		Meal Factor		Meals per Peak Hour
<div style="border: 1px solid black; width: 60px; height: 30px;"></div>	X	<div style="border: 1px solid black; width: 60px; height: 30px;"></div>	=	<div style="border: 1px solid black; width: 60px; height: 30px;"></div>

- | Food Service Establishment Type | Meal Factor |
|--|-------------|
| <input type="checkbox"/> Fast Food (45 minutes) | 1.33 |
| <input type="checkbox"/> Restaurant (60 minutes) | 1.00 |
| <input type="checkbox"/> Leisure Dining (90 minutes) | 0.67 |
| <input type="checkbox"/> Dinner Club (120 minutes) | 0.50 |

Step 2 Waste Flow Rate (Add all that apply)

- | Condition | Waste Flow Rate |
|---|-----------------|
| <input type="checkbox"/> With a dishwashing machine | 6 gallons |
| <input type="checkbox"/> Without a dishwashing machine | 5 gallons |
| <input type="checkbox"/> Single service kitchen | 2 gallons |
| <input type="checkbox"/> (Disposable dishes and utensils) | |
| <input type="checkbox"/> Food waste disposer (Grinder) | 1 gallon |

Total Waste Flow Rate ➔

Step 3 Retention Time

- | | |
|--------------------------------------|-----------|
| Commercial kitchen waste | |
| <input type="radio"/> Dishwasher | 2.5 hours |
| Single service kitchen | |
| <input type="radio"/> Single serving | 1.5 hours |

(continued on next page)

Step 4	Storage Factor	
	Fully equipped commercial kitchen	
	<input type="checkbox"/> 8-hr operation	1
	<input type="checkbox"/> 16-hr operation	2
	<input type="checkbox"/> 24-hr operation	3
	Single service kitchen	
	<input type="checkbox"/> Single Service Kitchen	1.5

**Step
5** **Calculate Hydraulic Capacity**

Multiply the values obtained from steps 1, 2, 3, and 4. The result is the minimum approximate gravity grease interceptor size for this application.

**Step
6** **Select Grease Interceptor Size**

Using the approximate required hydraulic capacity from Step 5, select an appropriate size as recommended by the manufacturer.

**Minimum size: 750 gallons

The District Sewer Code requires grease interceptors to be sized and designed in accordance with the California Plumbing Code. This Grease Interceptor Sizing Worksheet follows the formula taken from Appendix H of the Uniform Plumbing Code.

FACTORS AFFECTING GRAVITY GREASE INTERCEPTOR PERFORMANCE:

- **Velocity of Incoming Water.** The higher the velocity of water coming into the system, the more turbulence created. Turbulence disrupts FOG separation and reduces the efficiency of the gravity grease interceptor.
- **FOG to Water Ratio.** The higher the ratio of FOG particles to water, the lower the efficiency of the gravity grease interceptor.
- **Specific Gravity (Density) of FOG.** The specific gravity of FOG is lower than that of water which allows FOG to rise to the top of the gravity grease interceptor where it solidifies. Food particles with a higher specific gravity than water will sink and accumulate on the bottom of the gravity grease interceptor.
- **Degreasers and Detergents.** Degreasers and detergents may not pass through a gravity grease interceptor. Degreasers and detergents will break FOG into small particles and carry FOG through the gravity grease interceptor, into the sewer system.
- **Hot Water.** Water exceeding 140°F may not pass through the gravity grease interceptor. Hot water will dissolve FOG and allow it to pass through the gravity grease interceptor, into the sewer system.

Hydromechanical Grease Interceptors

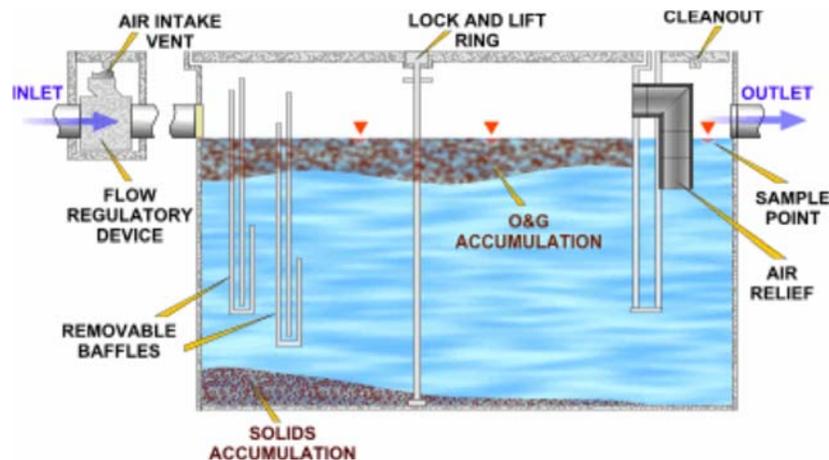
What is a Hydromechanical Grease Interceptor? Hydromechanical grease interceptors are small units usually found inside a building under a sink or near fixtures that may discharge FOG. Hydromechanical grease interceptors are single chambered devices with baffles inside designed to slow the flow of wastewater so that FOG rises to the top of the hydromechanical grease interceptor where it solidifies. Capacities are rated in gallons per minute of flow and pounds of grease retained. Hydromechanical grease interceptors require frequent cleaning due to their small size and to prevent odors.

Hydromechanical Grease Interceptor Maintenance

Hydromechanical grease interceptors are maintained by a state licensed septic hauler, grease hauler, or recycler. Employees of the food service establishment can also perform maintenance. Since these units are much smaller than gravity grease interceptors, it is recommended that hydromechanical grease interceptors be maintained on a weekly basis.

Proper procedure for hydromechanical grease interceptor maintenance:

Step 1	Dip out any water in the hydromechanical grease interceptor. Dispose of this water into the sewer system or haul it off.
Step 2	Remove the baffles, if possible.
Step 3	Scoop out the accumulated FOG and contain it in a watertight container (ex: a 55 gallon drum with lid) or haul it off.
Step 4	Using a putty knife or other applicable tool, scrape FOG off the sides, lid, and baffles. Dispose of FOG into a watertight container or haul it off.
Step 5	Contact a hauler or recycler for grease pick-up as your disposal container nears capacity. This is not necessary if FOG is hauled off during maintenance.
Step 6	Replace the baffle and lid.
Step 7	Document your maintenance on your <i>Maintenance Log</i> .



REMINDER: DEGREASERS, DETERGENTS, AND WATER EXCEEDING 140°F MAY NOT PASS THROUGH THE HYDROMECHANICAL GREASE INTERCEPTOR.

Sizing Worksheet

Hydromechanical Grease Interceptor Sizing Worksheet

Business Name: _____

Address: _____

Contact Name: _____ Phone: _____

Contact Email Address: _____

For a multi-fixture hydromechanical grease interceptor, the following method may be used for hydromechanical grease interceptor sizing:

1. Calculate the capacity of each fixture.

Cubic content of each fixture = $\frac{\text{Length (in)} \times \text{Width (in)} \times \text{Depth (in)}}{231 \text{ (cubic inches per gallon)}}$ = Capacity in Gallons

in X in X in X 75% fill factor / 231 = Gallons

2. Calculate the flow rate.

$\frac{\text{Capacity in Gallons}}{\text{Drainage Period in Minutes}}$ = Flow Rate in gallons per minute (gpm)

Note: The most generally accepted drainage period is one minute. The maximum drainage period allowed is 2 minutes.

$\frac{\text{Capacity in Gallons}}{\text{Drainage Period in Minutes}}$ = gpm

3. Total flow rate. Add the gpm requirement for each fixture to arrive at a total flow rate.

For fixtures that do not have a calculable volume, ie. water wash hoods, wok ranges (with or without curtain) and pre-rinse stations, allow 10 gpm or the actual flow rate, whichever is greater.

4. Hydromechanical grease interceptor capacity. Use the hydromechanical grease interceptor table to approximate capacity. If the maximum flow rate is exceeded from the number of fixtures, the hydromechanical grease interceptor is to be sized by selecting a device with an appropriate flow rate.

Number of Fixtures	Maximum Rate of Flow (gpm)	Grease Capacity (lbs)
1	20	40
2	25	50
3	35	70
4	50	100

