

Grease Interceptor Sizing and Installation Guidelines

Grease protection is an essential element for restaurants, cafes, catering facilities, commissaries, hotels, cafeterias, convenience stores, full service grocery stores, schools, hospitals, and food manufacturing plants. Grease interceptors are installed on “gray” water drain lines and are designed to remove fats, oils and grease (FOG) from wastewater. The retained FOG should be regularly removed or pumped out of the interceptor. The interceptor must be cleaned whenever 25 percent of any chamber becomes filled with FOG or solids. See the [City’s Grease Interceptor Installation and Sizing Policy](#).

DEFINITIONS

- Hydromechanical Grease Interceptors (HGIs) can be located inside or outside the facility and are required to have an approved type of vented flow restrictor. Flow restrictors slow the flow of water entering the grease interceptor. The total capacity of the fixtures discharging into an HGI, in gallons, shall not exceed two and one-half (2 ½) times the certified gallons-per-minute flow rate of the interceptor.
- Gravity Grease Interceptors (GGIs) are generally installed in the ground outside the facility, upstream from the “black” water (sanitary waste) drain line, and are at least 500 gallons in capacity. In existing buildings like the downtown corridor, space for a GGI usually does not exist. Breaking down the fixtures into smaller groups and running them through an appropriately sized HGI is the best solution.
- A Drainage Fixture Unit (DFU) is a unit of measure for the load-producing effects on a plumbing system from different kinds of plumbing fixtures. Things like produce prep sinks and hand washing sinks do not need to be connected to the grease device. If they are not plumbed into the device then they should not be included in the sizing calculation.

EXAMPLES OF DFU CALCULATIONS

- Table 1** on the next page (“Determining DFUs”) lists the number of DFUs per fixture.
- Table 2** (“Fixture Equivalents”) lists the number of DFUs per pipe diameter.

Example 1: Restaurant with 40 seats, serves 120 meals per hour*:

3-comp sink (9 DFUs) 2-comp food prep sink (6 DFUs)
mop sink (3 DFUs)
3 hand washing sinks (3 DFUs)
2 floor drains (4 DFUs)
dishwasher w/ 2” pipe to floor sink (2” drain line for 4 DFUs)
Total = 29 DFUs

Example 2: Restaurant with 40 seats, serves 40 meals per hour* or less:

3-comp sink (9 DFUs)
2-comp food prep sink (not connected)
mop sink (3 DFUs)
hand wash sink (not connected),
pre-rinse sink (3 DFUs)
+ dishwasher (not connected)
Total = 15 DFUs

***Meals per peak hour** is determined by multiplying the number of seats by 60, and dividing by the estimated time (minutes) it takes for a patron to eat.

- Table 4** on the next page (“HGI Sizing Chart”) is used to determine the size of HGI needed, if that is the type of grease interceptor being installed. In Example 1, based on 29 DFUs a 75 gallon per minute (gpm) unit would be required. In Example 2, a 50 gpm unit would be required.
- Table 5** (“GGI” Sizing Chart”) is used to determine the size of GGI needed. Example 1 would require a 100 gallon unit. Example 2 would require a 750 gallon unit.

The following flow chart can be used to determine what type of grease interceptor is allowed, whether or not a garbage disposal is allowed, and what the next steps of permitting might be.



Note: This Tip Sheet does not substitute for codes and regulations.

The applicant is responsible for compliance with all codes and regulations, whether or not described in this document.

More information: City of Tacoma, Planning and Development Services | www.tacomapermits.org (253) 591-5030

To request this information in an alternative format or a reasonable accommodation, please call 253-591-5030 (voice).

TTY or STS users please dial 711 to connect to Washington Relay Services.

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Table 1		
Type of Fixture	# of DFUs	Comments
3-compartment sink	9	
2-compartment sink	Use floor sink criteria based upon drain size or number of sinks, whichever is larger	Each compartment is 3 DFUs.
Floor sinks	DFUs based upon sink drain size*	See table 2 below or section 702.1 in the UPC. *Floor sinks that receive only ice machine and cooler condensate are not counted.
Mop sink	3	If cooking meat, then new mop sinks must be connected to grease protection.
Wok sink	3	
Floor drains	2	
Trench drains	2 DFUs per lineal foot of drain	
Soup Kettle	2 DFUs per lineal foot of trench drain	
Braziers	2 DFUs per lineal foot of trench drain	
Steam tables	Use floor sink or trench drain criteria, whichever is appropriate.	
Dishwasher pre-rinse sink	3	
Dishwashers	Use floor sink criteria	
Food waste disposers, including pulpers	Use next larger size of GGI than would otherwise be required	FOG bearing food waste disposers can only discharge to properly sized GGIs

Table 2		Table 3		
Fixture Unit Equivalents from section 702.1 of the UPC		Pipe Size, GPM, Maximum DFU Count		
Drain Size in Inches	DFUs	Pipe Size, Inches	Max. Full Pipe Flow (gpm)	Max. DFU Count
1-1/4	1	2	20	8
1-1/2	3	2-1/2	38.2	14
2	4	3	60	35
3	6	4	125	216
4	8	5	230	428
		6	375	720



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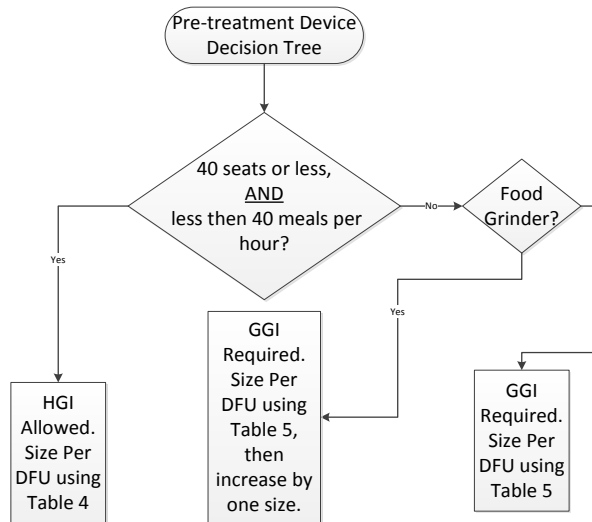
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Table 4		Table 5	
Hydromechanical Grease Interceptor (HGI) Sizing Chart		Gravity Grease Interceptor (GGI) Sizing	
DFUs ⁽¹⁾	HGI Flow (gpm)	DFUs ⁽¹⁾	GGI Volume
8	20	8	500 gallons
10	25	21	750 gallons
13	35	35	1,000 gallons
20	50	90	1,250 gallons
35	75	172	1,500 gallons
172	100	216	2,000 gallons
216	150	307	2,500 gallons
342	200	342	3,000 gallons
428	250	428	4,000 gallons
576	350	576	5,000 gallons
720	500	720	7,500 gallons
		2112	10,000 gallons
		2640	15,000 gallons

(1) The maximum allowable number of DFUs that can be connected to the grease interceptor.
 The information in the above tables is from section 702.0 and tables 7-5, 10-2 and 10-3 of the Uniform Plumbing Code.

Pre-treatment Device Decision Tree Fats Oils and Grease (FOG) Pretreatment Device Decision Tree



Key
 HGI – Hydromechanical Grease Interceptor
 GGI – Gravity Grease Interceptor
 DFU – Drainage Fixture Unit

11/12/13



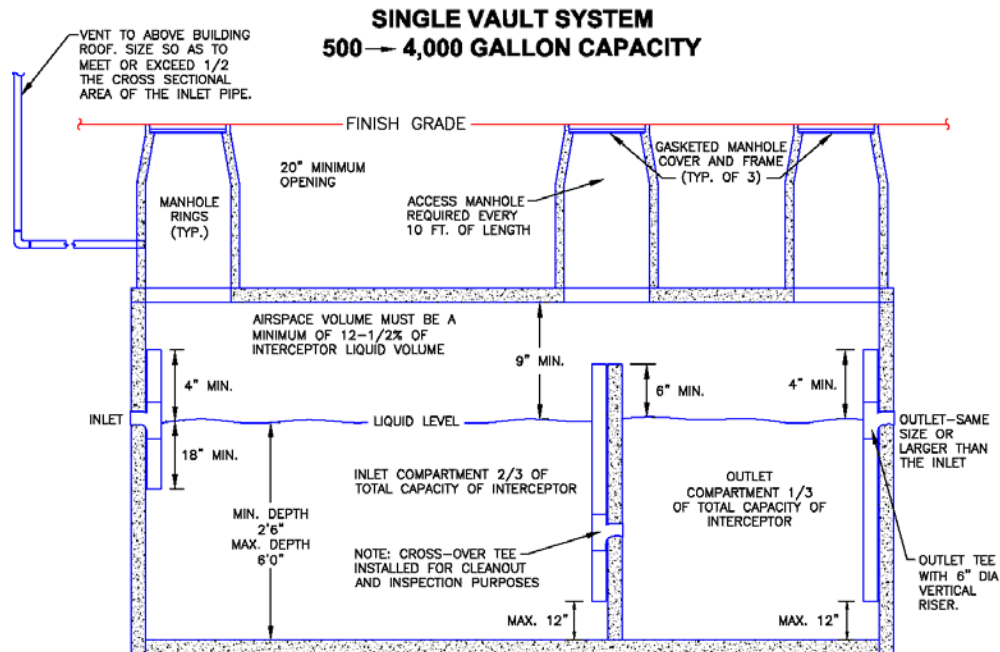
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1. INTERCEPTORS ARE TO BE SIZED AND INSTALLED PER THE REQUIREMENTS OF THE UPC AND THE CITY OF TACOMA.
2. INTERCEPTOR SHALL BE INSTALLED AND CONNECTED SO THAT IT IS ACCESSIBLE AT ALL TIMES FOR INSPECTION, CLEANING, AND REMOVAL OF INTERCEPTED GREASE.
3. CORE DRILL ALL PENETRATIONS IN VAULT.
4. INSTALL OUTLET TEE WITH 6" DIA. VERTICAL RISER.
5. FILL VAULT WITH CLEAN WATER PRIOR TO START-UP.
6. INTERCEPTOR SHALL BE CLEANED WHENEVER 25 PERCENT OF ANY COMPARTMENT BECOMES FILLED WITH GREASE AND SOLIDS.

Questions? Contact Environmental Services / Site Development
www.cityoftacoma.org (253) 591-5760



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