

Proposed Ordinance Language for Hydromechanical Grease Interceptors (HGIs)

Interior Installations

Hydromechanical grease interceptors (HGIs) for interior installation must be sized as follows:

Step 1: size by flow rate based on fixture volume with a one-minute drainage period.

Fixture Volume Formula (one minute drainage period) = (length X width X depth) / 231 X .75 (displacement factor) = total drainage load for one-minute period.

Fixture Volume Flow Rate Example for One-Minute Drainage Period

Single compartment sink (sink 48” long by 24” wide by 12” deep):

48” X 24” X 12” / 231 X .75 = 44.9 gallons per minute (GPM)

HGI must be rated to a minimum 44.9 GPM flow rate

Step 2: determine required grease storage capacity by using the formula below with a minimum 30 days per pump-out cycle.

Meals Per Day 	×	Grease Production Values (see A B C D E F below) 	×	Days Per Pump-Out Cycle 	=	Grease Capacity Needed 
Restaurant Type	Grease Production Values		Examples			
Low Grease Production	A	0.005 lbs (2.268 g) / meal (no flatware)	Sandwich Shop, Convenience Store, Bar, Sushi Bar; Delicatessen, Snack Bar, Frozen Yogurt, Hotel Breakfast Bar; Residential			
	B	0.0065 lbs (2.948 g) / meal (with flatware)				
Medium Grease Production	C	0.025 lbs (11.340 g) / meal (no flatware)	Coffee House, Pizza, Grocery Store (no fryer), Ice Cream Parlor; Fast Food, Greek, Indian, Low Grease Output FSE (w/fryer)			
	D	0.0325 lbs (14.742 g) / meal (with flatware)				
High Grease Production	E	0.035 lbs (15.876 g) / meal (no flatware)	Cafeteria, Family Restaurant, Italian, Steak House, Bakery, Chinese, Buffet, Mexican, Seafood, Fried Chicken, Grocery Store (w/fryer)			
	F	0.0455 lbs (20.638 g) / meal (with flatware)				

Grease Storage Capacity Example

Greek restaurant with flatware going serving 150 meals per day

Storage Capacity for a minimum 30 day pump-out cycle = 150 meals/day X 0.0325 lbs/meal X 30 day pump-out cycle = 146.25 lbs

HGI must be rated to 147 lbs of grease storage or greater

Note: If the grease storage capacity of the HGI as determined in step 1 is less than the minimum required as determined in Step 2, the size of the interceptor must be increased to provide the minimum grease storage capacity required by Step 2.

The grease production sizing method is designed to calculate the estimated grease production of the FSE and determine the required pump-out frequency based on the grease storage capacity of the HGI. All approved interior HGIs must be third party certified to the ASME A112.14.3 grease interceptor performance standard.

For interior installations, an appropriately sized HGI will have sufficient grease storage capacity to support a minimum 30 days of grease production and shall be pumped no fewer than once every 90 days.

Exterior Installations

Hydromechanical grease interceptors (HGIs) approved by the manufacturer for exterior installations must be sized as follows:

Step 1: size by flow rate based either upon the grease waste pipe diameter with a two-minute drainage period or the fixture volume with a two-minute drainage period.

Pipe diameter flow rate determined by using the left column found on the table below.

Hydromechanical Grease Interceptor Sizing Using Gravity Flow Rates (Per Ch. 10 of the Uniform Plumbing Code)

Diameter of Grease Waste Pipe	Maximum Full Pipe Flow*	Size of Grease Interceptor	
		One-minute Drainage Period	Two-minute Drainage Period
2" (51 mm)	20 GPM (1.3 L/s)	20 GPM (1.3 L/s)	10 GPM (0.6 L/s)
3" (76 mm)	60 GPM (3.8 L/s)	75 GPM (4.7 L/s)	35 GPM (2.2 L/s)
4" (102 mm)	125 GPM (7.9 L/s)	150 GPM (9.5 L/s)	75 GPM (4.7 L/s)

Pipe Diameter Flow Rate Example

Drain line diameter = 4"

Flow rate of 4" diameter drain line = 75 GPM for a two-minute drainage period

HGI must have minimum 75 GPM flow rate

Fixture Volume Flow Rate Example for Two-Minute Drainage Period

Fixture Volume Formula (two-minute drainage period) = (length X width X depth) / 231 X .75 (displacement factor) / 2 = total drainage load for two-minute period.

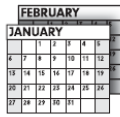
Single compartment sink (sink 48” long by 24” wide by 12” deep):

48” X 24” X 12” / 231 X .75 = 44.9 / 2 = 22.5 GPM for two-minute drainage period.

HGI must be rated to a minimum 22.5 GPM flow rate

Note: minimum recommended flow rate for exterior installations is 75 gpm

Step 2: determine required grease storage capacity by using the formula below with a minimum 30 days per pump-out cycle. Using 90 days per pump-out cycle is recommended for exterior installations.

Meals Per Day 	×	Grease Production Values (see A B C D E F below) 	×	Days Per Pump-Out Cycle 	=	Grease Capacity Needed 
Restaurant Type	Grease Production Values		Examples			
Low Grease Production	A	0.005 lbs (2.268 g) / meal (no flatware)	Sandwich Shop, Convenience Store, Bar, Sushi Bar, Delicatessen, Snack Bar, Frozen Yogurt, Hotel Breakfast Bar, Residential			
	B	0.0065 lbs (2.948 g) / meal (with flatware)				
Medium Grease Production	C	0.025 lbs (11.340 g) / meal (no flatware)	Coffee House, Pizza, Grocery Store (no fryer), Ice Cream Parlor, Fast Food, Greek, Indian, Low Grease Output FSE (w/fryer)			
	D	0.0325 lbs (14.742 g) / meal (with flatware)				
High Grease Production	E	0.035 lbs (15.876 g) / meal (no flatware)	Cafeteria, Family Restaurant, Italian, Steak House, Bakery, Chinese, Buffet, Mexican, Seafood, Fried Chicken, Grocery Store (w/fryer)			
	F	0.0455 lbs (20.638 g) / meal (with flatware)				

Grease Storage Capacity Example

Family Restaurant with Flatware serving 250 meals/day

Minimum Storage Capacity for **90 day** pump-out cycle = 250 meals/day X 0.0455 lbs/meal X 90 day pump-out cycle = 1023.75 lbs

HGI must be rated to a minimum 1024 lbs of grease storage

Note: If the grease storage capacity of the HGI as determined in step 1 is less than the minimum required as determined in Step 2, the size of the interceptor must be increased to provide the minimum grease storage capacity required by Step 2.

Multiple interceptors installed in series may be used to satisfy the amount of grease capacity required as determined in Step 2.

The grease production sizing method is designed to calculate the estimated grease production of the FSE and determine the required pump-out frequency based on the grease storage capacity of the HGI. All approved exterior HGIs must be third party certified to the ASME A112.14.3 grease interceptor performance standard.

For interior installations, an appropriately sized HGI will have sufficient grease storage capacity to support a minimum 30 days of grease production and shall be pumped no fewer than once every 90 days.

Non-certified gravity interceptors must have a minimum liquid capacity of 1,000 gallons and be pumped-out when 25% of the liquid capacity is grease and/or solids or no fewer than once every 90 days.