



Environmental Services
GREASE INTERCEPTOR SIZING REQUIREMENTS

On January 2, 2006, the City of Grand Prairie adopted the International Building Code as required by state law. Due to the passage of this ordinance, the Environmental Services Department has changed the method in which grease traps are sized. The City of Grand Prairie requires that all of the plumbing fixtures in each food preparation and utensil washing area be connected to a waste line that will flow through a grease interceptor. In accordance with the International Plumbing Code (IPC) the interceptor will be sized by calculating the TOTAL FLOW RATE of the three compartment sink(s), prep sink(s) scrap or pre-rinse sink(s) and automatic dishwasher(s) in the facility. An example follows:

STEP 1.

Determine the FLOW RATE for each three compartment sink(s), prep sink(s), scrap sink(s) or pre-rinse sink(s) and automatic dishwasher(s) in the facility. (This does not include mop sinks, hand lavatories, floor drains, hub drains or floor sinks because it is unlikely that all will discharge simultaneously).

****NOTE****

Manufacturer specifications for automatic dishwashers must be provided to determine the flow rate for those units.

To determine the **FLOW RATE**,

Take the Length x Width x Depth of the sink x number of compartments in the sink = CUBIC INCHES
(i.e. 3 compartment sink = 3 compartments, 2 compartment sink = 2 compartments)

Then, **Take the CUBIC INCHES ÷ 231 = TOTAL GALLONS** (because 231 cubic inches are in 1 gallon)

Take the TOTAL GALLONS x .75 = GALLONS PER MINUTE (gpm)
(because pots and pans in the sink can displace 25% of the water in the sink)

STEP 2.

Determine the TOTAL FLOW RATE. The total flow rate is determined by the discharge of all fixtures.

ADD the GALLONS PER MINUTE of each fixture = TOTAL FLOW RATE

STEP 3.

CALCULATE THE VOLUME BASED ON MINIMUM RETENTION PERIOD TO SOLIDIFY GREASE IN THE TANK. Typically, in commercial kitchen applications, 7-10 minutes retention time would be required. The detention time is equal to the flow rating.

Take the TOTAL FLOW RATE x 7 = TOTAL GALLONS FOR THE GREASE INTERCEPTOR

****Refer to the example commercial kitchen calculations example on back****

****REQUIREMENT FOR PLANS REVIEW****

Applicants for a building permit must show on their plans the calculations used to determine the size of the proposed grease interceptor. The grease interceptor size and location must be shown on the building plans submitted for approval.

EXAMPLE COMMERCIAL KITCHEN

3 COMPARTMENT SINK
18" x 18" x 24"

AUTOMATIC DISHWASHER
Manufacturers Specifications – 60 gpm

TWO - 2 COMPARTMENT PREP SINKS
12" x 12" x 18"

CALCULATIONS

3 COMPARTMENT SINK
 $18" \times 18" \times 24" \times 3 = 23,328$ cubic inches $\div 231 = 100.98$ total gallons $\times .75 =$ **75.74 gallons per minutes (gpm)**

AUTOMATIC DISHWASHER
Manufacturers Specifications – **60 gpm**

TWO - 2 COMPARTMENT PREP SINKS
 $12" \times 12" \times 18" \times 2 = 5,184$ cubic inches $\div 231 = 22.44$ total gallons $\times .75 =$ **16.83 gallons per minute (gpm)**

AND
 $12" \times 12" \times 18" \times 2 = 5,184$ cubic inches $\div 231 = 22.44$ total gallons $\times .75 =$ **16.83 gallons per minute (gpm)**

ADD **75.74 (gpm) - Total gallons for 3 compartment sink**
 60 (gpm) - Total gallons for automatic dishwasher
 16.83 (gpm) - Total gallons for 2 compartment sink
+ 16.83 (gpm) - Total gallons for 2 compartment sink

= 169.40 TOTAL FLOW RATE x 7 (RETENTION TIME) = 1185.8 total gallons

A 1250 gallon grease interceptor would be required

Because interceptors are manufactured in 250 gallon increments, the "Total Gallons" would be rounded up, so an 1185.8 total gallon calculation would require a 1250 gallon interceptor.