

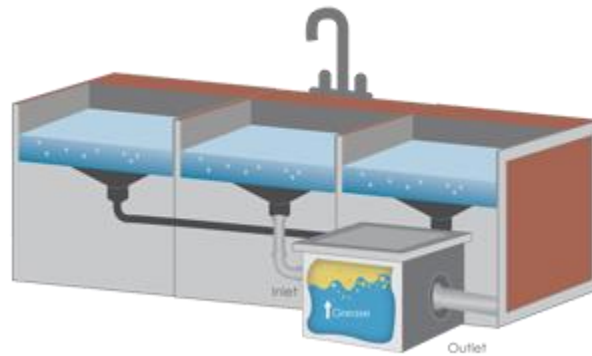


Grease Interceptor
Guidelines for
Commercial Fats, Oils
and Grease

(Based on the Amended
2021 International
Plumbing Code)

Introduction

Restaurants play a major role in helping keep Scottsdale's sewer system working properly. Reducing the amount of food waste that is put into the city's sewer helps

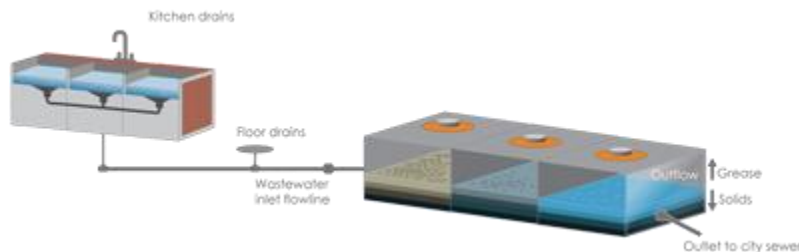


Hydro-Mechanical Type Grease Interceptor

reduce odors, avoid clogs or blockages and prevent costly repairs. Grease interceptors and Grease Removal Devices (GRD's) are the best options to help keep the sewer system operating properly.

Grease traps (Hydro-mechanical Grease Interceptors) are small devices (typically less than 50 gallon/100lb capacity) located inside the kitchen, directly plumbed to the 3-compartment sink. They help trap food debris and grease that can mistakenly be washed into the sewer.

Grease interceptors (Gravity type) are much larger, 2- or 3-stage systems. Located underground outside of the building, they act as mini wastewater treatment systems to remove the fats, oils and grease from a restaurant's liquid waste.



Hydro-Mechanical Type Grease Interceptor

Grease interceptors must be documented that they are cleaned and maintained on a regular basis. The routine varies for each restaurant and depends on the size of the kitchen and volume of food prepared each day.

Scottsdale's Water Quality Department is responsible for inspecting each restaurant and ensuring that all grease traps and interceptors are properly cleaned and maintained.

Minimum Submittal Requirements

1. Plans may be required to be prepared and stamped by an Arizona Registrant.
2. **Grease Interceptor(s) shall not be allowed to be installed "AT RISK".**
3. Grease Interceptors shall be single-user only (***Amended 2021 IPC Section 3001.1.1***).
4. Provide a list of all kitchen equipment.
5. Show location of kitchen equipment, floor drains, floor sinks, service sinks, etc.
6. Show sizes of drains and vents when possible.
7. **Dishwashers shall not be connectedly to a Grease Trap (Hydro mechanical Grease Interceptor).**
8. Provide Grease Interceptor calculations per Scottsdale City Ordinance #4550 Resolution #12501, the Amended 2021 International Plumbing Code (IPC) using the method(s) provided.
9. Should a Gravity Grease Interceptor be required, Site plans and Civil drawings shall be required along with two (2) copies of all documents. Show all setbacks and PUE's.
10. All work shall be performed by a licensed plumbing contractor **per ROC** requirements.

Excerpts from the 2021 IPC with Amendments:

SECTION 202

GENERAL DEFINITIONS **GREASE INTERCEPTOR**

Fats, oils and greases (FOG) disposal system. A plumbing appurtenance that reduces nonpetroleum fats oils and greases in effluent by separation or mass and volume reduction.

Gravity. Plumbing appurtenances of not less than 500 gallons (1892 L) capacity that are installed in the sanitary drainage system to intercept free-floating fats, oils and grease from waste water discharge. Separation is accomplished by gravity during a retention time of not less than 30 minutes.

Hydro mechanical. Plumbing appurtenances that are installed in the sanitary drainage system to intercept free-floating fats, oils and grease from waste water discharge. Continuous separation is accomplished by air entrapment, buoyancy and interior baffling.

1003.1 General

Interceptors and Separators shall be provided to prevent the discharge of oil, grease, sand and other substances harmful or hazardous of the building drainage system, the public sewer, the private sewage disposal system or the sewage treatment plant or processes. Traps, Interceptors and Separators shall be installed.'

New facilities

An existing facility, not equipped with an Interceptor or Separator, for additions, alterations or remodeling.

An existing facility not equipped with an interceptor or separator, which has caused a blockage or is contributing to fats, oil or grease build-up in the city sewer system. When an existing facility is equipped with an interceptor or separator and additions, alterations or remodeling will increase volume to the interceptor or separator, the interceptor or separator shall be sized for the new volume.

1003.3 Grease interceptors.

Grease interceptors shall comply with the requirements of Sections 1003.3.1 through 1003.3.5.

1003.3.1 Grease interceptors and automatic grease removal devices required.

A grease interceptor or automatic grease removal device shall be required to receive the drainage from fixtures and equipment with grease-laden waste located in food preparation areas, such as in restaurants, hotel kitchens, hospitals, school kitchens, bars, factory cafeterias and clubs. Fixtures and equipment shall include service/mop sinks, pot sinks, pre-rinse sinks; soup kettles or similar devices, wok stations; floor drains or sinks into which kettles are drained, automatic hood wash units and dishwashers without pre-rinse sinks. Grease interceptors and automatic grease removal devices shall receive waste only from fixtures and equipment that allow fats, oils or grease to be discharged. Where lack of space or other constraints prevent the installation or replacement of a grease interceptor, one or more grease interceptors shall be permitted to be installed on or above the floor and upstream of an existing grease interceptor.

1003.3.2 Food waste grinders.

Where food waste grinders connect to grease interceptors, a solids interceptor shall separate the discharge before connecting to the grease interceptor. Solids interceptors and grease interceptors shall be sized and rated for the discharge of the food waste grinder. Emulsifiers, chemicals, enzymes and bacteria discharge into the food waste grinder.

1003.3.5 Hydromechanical grease interceptors and automatic grease removal devices.

Hydromechanical grease interceptors and automatic grease removal devices shall be installed in accordance with the manufacturer's instructions. Where manufacturer's instructions are not provided, hydromechanical grease interceptors and grease removal devices shall be installed in compliance with ASME A112.14.3, ASME 112.14.4, CSA B481.3 or PDI G101. Hydro mechanical grease interceptors and automatic grease removal devices shall be designed and tested in accordance with ASME A112.14.3 Appendix A, ASME 112.14.4, CSAB481.3 or PDI G101.

1003.3.5.1 Hydromechanical Grease Interceptor (HGI or Grease Trap) Sizing.

Hydromechanical Grease Interceptors (Grease Traps) are allowed only when there are four (4) or fewer than four (4) fixtures used for food preparation. The only size allowed shall be a 50gal/1 00lb HGI. Any facility installing a dishwasher shall install a Gravity Grease Interceptor. For the purpose of sizing a HGI, a fixture means the entire unit (e.g., a three (3) compartment sink is considered a unit). A flow restriction valve shall be installed upstream of the HGI and vented properly. If the HGI is placed below floor level the flow restriction valve must be installed in a manner which allows for inspection and maintenance.

1003.3.7 Gravity grease interceptors and gravity grease interceptors with fats, oils, and greases disposal systems.

The required capacity of gravity grease interceptors and gravity grease interceptors with fats, oil and grease disposal systems shall be sized in accordance with the following formula:

Total dfu's x 3gpm (flow rate) x retention time.
Retention time minimum:
12 minutes for systems without garbage disposal.
17 minutes for systems with garbage disposal.

1003.3.5 Automatic grease removal devices.

Where automatic grease removal devices are installed, such devices shall be located downstream of each fixture or multiple fixtures in accordance with the manufacturer's instructions. The automatic grease removal device shall be sized to pretreat the measured or calculated flows for all connected fixtures or equipment. Ready access shall be provided for inspection and maintenance.

1003.9 Venting of interceptors and separators.

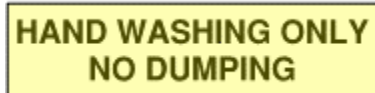
Interceptors and separators shall be designed so as not to become air bound where tight covers are utilized. Each interceptor or separator shall be vented where subject to a loss of trap seal.

1003.10 Access and maintenance of interceptors and separators.

Access shall be provided to each interceptor and separator for service and maintenance. Interceptors and separators shall be maintained by periodic removal of accumulated grease, scum, oil, or other floating substances and solids deposited in the interceptor or separator.

How to use worksheets:

When determining what fixtures should be routed to the grease interceptor, ask one, important question, “can this fixture possibly receive any fats, oils or grease?” Hand sinks in FOOD PREP AREAS shall be included when calculating the interceptor size. To keep from including the hand sinks from being included, provide a note on the plumbing sheet that states:



In addition, any floor sink in the food prep area that receives discharge from a fixture (i.e. 3-compartment sink) shall not be included in the calculation. By not including the hand sinks and floor sinks, you will end up with a more manageably sized interceptor.

2500 is a key number to watch for. Should your calculations determine you need an interceptor larger than 2500 gallons, operation costs increase. Standard pumping trucks have a 2500 gallon limit. Should you exceed this, a special, larger, truck or multiple trucks would be needed for pumping out the interceptor. Costs go up accordingly.

Utilizing multiple interceptors for an establishment is acceptable. If this is the choice, it is **strongly** suggested to design the interceptors to serve zones rather than connecting them in series or parallel. The interceptors may then be on separate cleaning cycles.

GREASE INTERCEPTOR SIZE DETERMINATION WORKSHEET

Plan Check #:

	PLUMBING FIXTURE	QUANTITY PLUMBING FIXTURE	TRAP SIZE (Use Appropriate)	DFU* per PLUMBING FIXTURE (Use Appropriate)	TOTAL DFU* per PLUMBING FIXTURE
1	3 Compartment Sink		2	9	
2	2 Compartment Sink		2	6	
3	Pre-Rinse Sink		1.5	3	
4	Prep Sink		1.5	3	
5	Hand Sink		1.25	2	
6	Mop Sink		1.5/2	3	
7	Floor Sink		2	3	
8	Floor Drain (Emergency)		2	0	
9	Trench Drain		4	6	
10	Floor Drain		2	2	
11	Running Water Dipper Well for Bulk Ice Cream Service		1.25	1	
12	Dishwasher				
13	Glasswasher				
TOTAL REQUIRED PLUMBING FIXTURES DFU'S					

* **DFU - Drainage Fixture Unit**

** DISHWASHER and/or GLASSWASHER SPECIFICATION:

MAKE	MODEL	Discharge rate (GPM)

Interceptor Size w/o Garbage Disposal = 0 (Total DFU x 3 x 12)
 Interceptor Size w/ Garbage Disposal = 0 (Total DFU x 3 x 17)

** - Cut Sheet of Dishwasher Specification to be provided as a part of Plumbing Drawings for Grease Interceptor Size Determination.

