



Engineered GREASE INTERCEPTORS

PURPOSE

For nearly a hundred years, grease interceptors have been used in plumbing wastewater systems to permit free flow of drainage from sinks and similar equipment. They have played an important role in preventing grease accumulations from clogging waste pipes and sewer lines. They also help to improve operations at wastewater treatment facilities and prevent environmental problems caused by grease.

INSTALLATION

Installation Considerations

Install the interceptor as close as practical to the fixture(s) being served. The interceptor may be placed on the floor, partially recessed in the floor, recessed with top flush with the floor, or fully recessed below the floor, in order to accommodate piping and structural conditions.

Clearances above the interceptor must be greater than the height of the internal removable baffle of the unit to accommodate removing the cover and baffle for cleaning. Measure overall height of internal removable baffle to determine reference dimension of minimum access clearance required above the unit. Also, take into consideration the possibility of pipelines becoming clogged with congealed grease that may collect before reaching the grease interceptor.

Do not install the grease interceptor in a waste line from a garbage grinder. Garbage grinder waste must bypass the interceptor because rapid accumulation of solid matter will greatly reduce the grease interceptor efficiency, preventing operation in compliance with its rated capacity. Solid material should not be permitted to enter the grease interceptor. In an application where solids are present, a solids interceptor should be used.

A separate grease interceptor is recommended for each commercial dishwasher. The size of the interceptor is determined by the discharge rate of the dishwasher as specified by the manufacturer.

Placement of the interceptor in a high traffic area is an important concern. If the interceptor is to be installed flush with the floor, it is necessary to determine whether or not the interceptor will experience heavy-duty load traffic. The standard grease interceptor is designed for foot and light traffic only. If a greater load rating is required, the interceptor must be constructed accordingly to accept the higher load.

Caution: Z1171 installations using indirect piping to unit could result in standing water in floor sink or flooding if line blockage occurs.

Flow Control

The use of a flow control device (Z1108), furnished with all grease interceptors, is an important factor in the operation of the interceptor. The flow control device should be installed in the waste line upstream of the grease interceptor. It should be placed beyond the last connection from the fixture(s) and as close as possible to the underside of the lowest fixture. When two or more sinks or fixtures are combined and served by one interceptor, a single flow control fitting can be used.

The flow control device must be properly vented to permit air to mix with the fluid entering the interceptor. Air facilitates separation and, more importantly, is necessary to maintain the proper pressure, thus, the proper operating level within the separation chamber.

Air intake for the flow control device may terminate under the sink drain board, as high as possible, to prevent overflow or terminate in a return bend at the same height outside of the building. When a fixture is individually trapped and back vented, air intake may intersect the vent stack. All installation recommendations are subject to approval of code authority.

Venting

Grease interceptors must have a vented waste, sized in accordance with code requirements for venting traps, to retain a water seal and to prevent siphoning.

Multiple Fixture Installation

One interceptor to serve multiple fixtures is recommended only where fixtures are located close together. In such installations, each fixture should be individually trapped and back-vented.

Health and Safety

When installing interceptors use safety glasses, steel toed shoes, and gloves to prevent injuries. Interceptors must be installed per these instructions to function properly. Any installations that do not comply with these instructions could cause the unit to malfunction and not work per its intended purpose.

Caution: Grease Interceptors are tested and rated using a vented flow control with a properly sized orifice. Failure to use the vented flow control with properly sized orifice that is provided with the unit will result in improper function and performance. This could cause grease to bypass the unit.

MAINTENANCE

General Considerations

Design and installation are key factors to the operation of a grease interceptor. However, without disciplined maintenance, most performances are lost. For a manual interceptor to perform as designed, a strict maintenance schedule must be adhered to. If adequate maintenance is not performed, excessive grease buildup will occur until water laden with grease passes directly through the unit. Therefore, no matter how efficient the design or how proper the installation, grease interceptors perform only as well as the maintenance routine allows.

MAINTENANCE, continued

Cleaning

All grease interceptors must be cleaned regularly. The frequency of grease removal is dependent upon the capacity of the interceptor and the quantity of grease in the wastewater. Grease removal intervals may therefore vary from once a week to once in several weeks. When the grease removal interval has been determined for a specific installation, regular cleaning at that interval is necessary to maintain the rated efficiency of the interceptor. After the accumulated grease and waste material has been removed, the interceptor should be thoroughly checked to make certain the inlet, outlet, and air relief ports are clear of obstructions.

Cleaning can easily be performed by following the steps listed below:

1. Loosen and remove the fastener(s) securing the cover to the interceptor body.
2. Remove the cover.
3. Remove the flow diffusing baffle and/or sediment tray assembly from the body.

4. Wipe down the baffle assembly, disposing of grease in a proper waste container.
5. Clean out any liquid grease by skimming it from the top surface. Remove any remaining solid material with a non-metallic spade or shovel.
6. Remove the clean-out plug on the outlet portion of the body. Using a clean water supply, hose down and wipe the inside of the body.
7. Replace the cleaned baffle assembly back into the unit.
8. Ensure that the cover gasket material is intact and in good working condition. Replace gasket material if it is damaged.
9. Securely refasten the cover and the clean-out plug back onto the trap.

Health and Safety

When cleaning grease interceptors of grease be careful to wear protective gear and/ or use a professional cleaning service to remove and dispose of the grease.

GENERAL PRODUCT INFORMATION

Typical Zurn Grease Interceptor

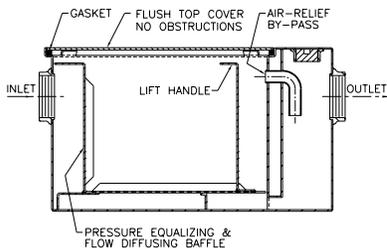
In a Zurn Grease Interceptor, the static water level is at the bottom of the outlet. Any piping into the interceptor below this elevation will remain filled with water.

Odor from accumulated grease in an interceptor may pass back through the piping system and through the drain opening. An

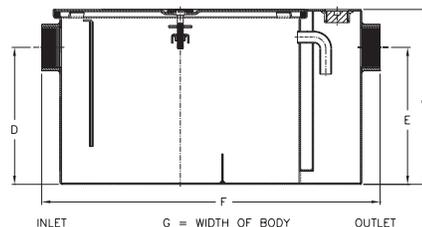
additional trap should be considered between the fixture and interceptor. Consult local codes.

All Zurn Interceptors are 100% steel construction, coated with a white acid resisting epoxy (A.R.C.). Z1170 Series Interceptors are certified by the Plumbing and Drainage Institute (PDI). Zurn Grease Interceptors are listed by the International Association of Plumbing and Mechanical Officials (IAPMO).

Old Style



New Style



Variables Affecting Grease Interceptor Performance

1. Velocity of Incoming Water

A higher velocity of water will contribute to a more turbulent mixture. This will slow the grease separation process, thereby reducing efficiency.

Recommended Solution – Install additional flow control fittings at all sources of flow.

2. Ratio of Grease to the Water

The higher the ratio of grease particles to the water, the lower the efficiency of the interceptor.

Recommended Solution – Increase the size of the interceptor.

3. Specific Gravity (Weight) of the Filtrates

Grease has a lower specific gravity than water and will rise to the surface quickly. Grease-laden food particles having a higher specific gravity than water will linger and accumulate at the bottom, eventually passing out of the interceptor.

Recommended Solution – Install a solids interceptor at the source of solid particles, prior to the grease interceptor.

4. Possible Presence of Detergents in the System

Grease-cutting detergents will break the liquid grease into minute particles that can cause these liquids to pass through the interceptor.

Recommended Solution – Increase the size of the interceptor.

5. Percentage of Maximum Flow Capacity

If the maximum recommended flow is exceeded, the efficiency of the interceptor will decrease considerably.

Recommended Solution – Install additional flow control fittings at all sources of flow.

6. Location of Grease Interceptor

The interceptor should be located as close as possible to the source of grease. Waste pipes leading to the grease interceptor may become clogged if liquid cools prior to entering the grease interceptor.

GENERAL PRODUCT INFORMATION, continued

Need for a Flow Control Device

A grease interceptor, correctly designed to separate light density substances from wastewater, will not by itself govern or regulate the flow of water through the interceptor at all times to sufficiently assure the “flotation” separation of the substances which are to be intercepted at maximum efficiency.

The flow control fitting is designed with an integral orifice to give a predetermined optimum flow rate, thus eliminating turbulence in the interceptor, which could otherwise occur from sudden surges in the drainage line.

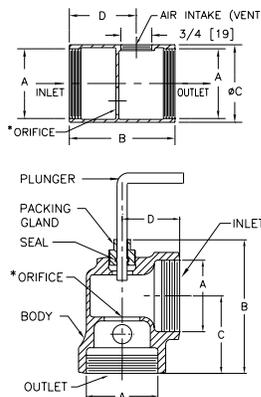
The orifice openings are related to the size and flow rating of the grease interceptor. Standard orifice sizing is for gravity flow conditions where no pressure buildup is considered. If an interceptor is operating at maximum flow levels, a head may develop, in which case overload conditions may still exist.

Trap Flow Rate Size/GPM	Standard Size Orifice/Inches
4	5/8
7	5/8
10	15/16
15	15/16
20	1-1/4
25	1-1/4
35	1-1/2
50	1-3/4
75	2-1/4
100	2-1/4
125	2-5/8
150	2-5/8
200	3-1/4
250	3-1/4
300	4
400	4-1/2
450	4-7/8
500	4-7/8

Z1108/Z1108-L Flow Control Fitting

Every interceptor should have a flow control fitting and flow control fittings should be properly vented. The flow control fitting is installed in line between fixture and interceptor. Its function is to regulate the flow so that it will not exceed the flow rate capacity of the interceptor, thus ensuring fool-proof operation and maximum efficiency.

*Orifice size varies according to size of interceptor.



Z1108 Dimensional Data

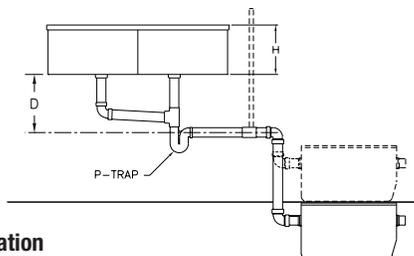
A (IP)	B	C	D
1-1/2	5-7/16	2-7/8	3-13/16
2	5-7/16	2-7/8	3-13/16
3	6-1/8	4	4-1/8
4	6-13/16	5	4-3/4

Z1108-L Dimensional Data

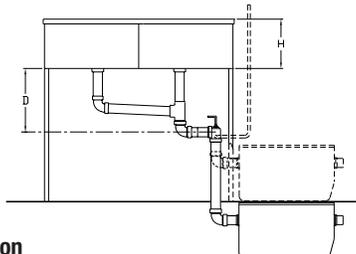
A	B	C	D
1-1/2	5-3/4	3-3/8	1-7/16
2	5-3/4	3-3/8	1-7/16
3	6-3/8	3-3/4	2-3/4
4	9-1/8	5-1/4	5-1/4

Settings for Zurn Flow Control Fitting

Consider a Z1170, #300 Interceptor, rated at 10 GPM, installed with the Z1108 or Z1108-L flow control fitting. When installed with a scullery sink in compliance with PDI standards for grease interceptors, this Interceptor can be recessed in the floor (shown solid) or placed on the floor (shown dotted).



Z1108 Installation



Z1108-L Installation

Maximum distance in inches from bottom of sink to centerline of flow control fitting inlet (D).

Important

Check size of Interceptor to determine setting as indicated below.

'H' SINK DEPTH	INTERCEPTOR SIZE							
	100	200	300	400	500	600	700	800
'D' Dimensions in Inches								
6	7.5							
6.5	7.5		10	10	10			
7	6.75	7.5	10	10	10			
7.5	6.75	7.5	9.25	9.25	9.25			
8	6.0	6.75	9.25	9.25	9.25			
8.5		6.75	8.5	8.5	8.5			
9		6.0	8.5	8.5	8.5			
9.5			7.75	7.75	7.75			
10			7.75	7.75	7.75			
10.5			7.0	7.0	7.0	10.0	10.0	11.0
11			7.0	7.0	7.0	10.0	10.0	11.0
11.5			6.5	6.5	6.5	9.25	9.25	10.5
12						9.25	9.25	10.5
12.5						8.5	8.5	9.5
13						8.5	8.5	9.5
13.5						7.75	7.75	9.0
14						7.75	7.75	9.0
14.5						7.0	7.0	8.0
15						7.0	7.0	8.0
15.5						5.0	5.0	7.5
16								7.5
18								5.75

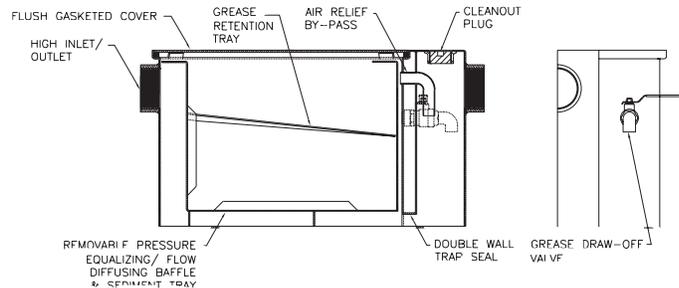
NOTE: All figures represent maximum distances in inches. Figures between horizontal lines are recommended.

GENERAL PRODUCT INFORMATION, continued

Z1173 Ejecto-Matic Typical Installation

To simplify the cleaning process and prevent grease from clogging drainage lines, Zurn has developed the Ejecto-Matic Greaseceptor. This unique unit is provided with a skimming tray which retains the accumulation of grease. Cleaning simply becomes a matter of discharging hot water through the Greaseceptor. The resultant heat liquifies the grease, which is then ejected through the nozzle at the turn of the handle. The ejected grease may be collected in a bucket or other container for easy disposal. Any water that may enter the tray is directed back into the intercepting chamber by means of a water discharge port incorporated into the design of the skimming tray.

1. The manual draw-off valve reduces the frequency that the cover of the interceptor must be removed during the cleaning process.
2. Grease is removed from the interceptor by means of the Ejecto-Matic valve located on the outlet end of the interceptor.
3. To remove grease from the interceptor, hot water is first run through the unit to liquefy the grease. The water flow is then shut off and the draw-off valve is opened, allowing the grease to gravity-flow out of the interceptor. When no grease is present, the valve is then closed.
4. The grease layer that forms on top of the water must build down to reach the level of the Ejecto-Matic valve. If water is coming from the valve, then the interceptor has not yet reached its capacity for cleaning.



5. If grease is present when the valve is opened, this ejected liquid grease can be collected for proper disposal.
6. Frequency of grease draw-off is established experimentally. Some installations may require drawing off grease daily, while others periodically.
7. Solids and food waste should not be allowed to accumulate in the interceptor. This will impair the operation of the unit and cause reduced efficiency. Check the interceptor for solids and clean manually as required.

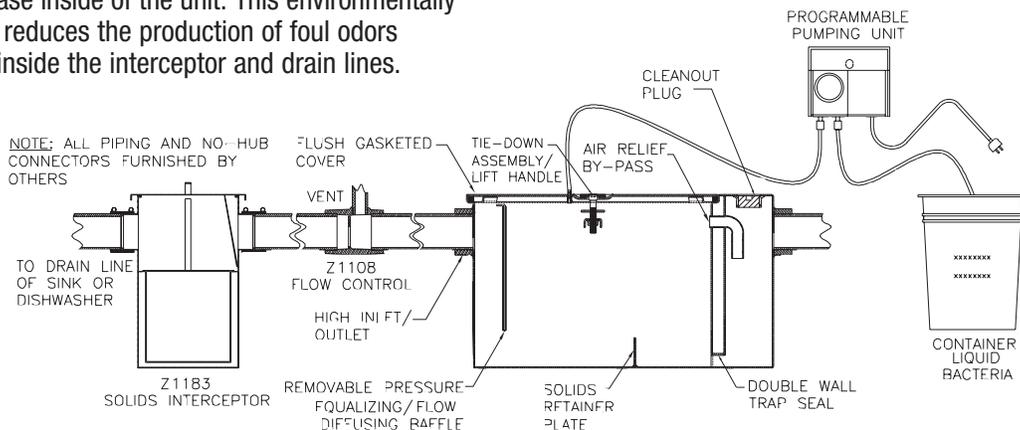


Sizes 200-800

Z1174 Grease Eating Bacteria Dosing Unit

To keep the grease interceptor operating in optimum condition, it is recommended that the Z1174 automatic bacteria dosing unit is used on a regular basis. The dosing unit delivers to the interceptor an engineered microbial blend that degrades grease, fats, proteins, and carbohydrates. The added bacteria does not transfer the grease downstream; however, it degrades and digests the grease inside of the unit. This environmentally friendly formulation reduces the production of foul odors that can emit from inside the interceptor and drain lines.

The Z1174 liquid bacteria contains no harmful caustic elements and won't damage the interceptor or drain piping. It is specifically engineered to degrade only the agents for which it was developed. As a result, this bacteria concentrate gives full protection to interceptors and related waste piping systems.



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Form No. ZMKTG210-06, Rev4/14