ZURN® *Specification Drainage Engineering Guide*

Grease, Hair, Solids, and Lint Interceptors

www.zurn.com

TABLE OF CONTENTS

GENERAL INFORMATION

Zurn Industries, Inc. is a leading manufacturer in the commercial and institutional construction market operating since 1900. Beginning with the original Zurn Z1170 sani-coated interceptor of sixty years ago, Zurn has always provided the most functionally efficient units available. Today, Zurn manufactures numerous types of interceptors to meet plumbing needs – grease interceptors, solids interceptors, lint interceptors, sand interceptors, and oil interceptors. Zurn interceptors are designed for use in plumbing wastewater systems to prevent harmful or undesirable substances from entering the wastewater control system. To obtain more detailed information on Zurn interceptors, phone 814-455-0921, fax 814-871-6141, or contact your local Zurn sales representative.

PICTORIAL INDEX

Z1160
Grease Interceptor

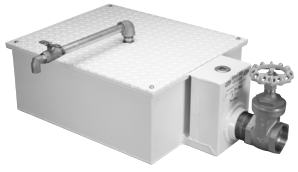
Z1165
100 PPM Grease Interceptor

Z1170
Grease Interceptor

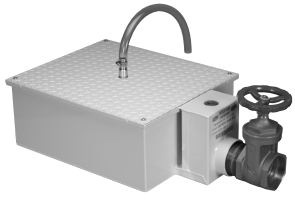
ZS1170
Grease Interceptor

Z1171
Low Profile Grease Interceptor

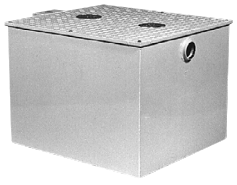
Z1171-RD
Low Profile Grease Interceptor



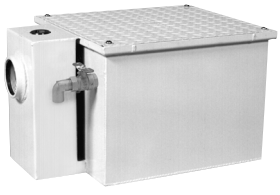
Z1171-TD
Low Profile Grease Interceptor



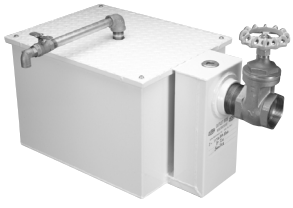
Z1172
Large Capacity Grease Interceptor



Z1173
Ejecto-Matic Greaseptor

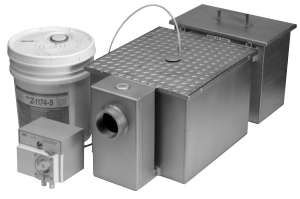


Z1173-RD
Ejecto-Matic Greaseptor



Z1173-TD
Ejecto-Matic Greaseptor

Z1174
Grease Eating Bacteria Dosing Unit



Z1192
Grease Recovery Appliance

APPLICATION INDEX

Product selection should be made with a specific application and the type of construction in mind. The varied types and sizes of Zurn interceptors, along with their options, offer a selection for all applications.

APPLICATION	RECOMMENDED INTERCEPTOR
Cooking and Processing Kettles*; Pot, Pan, and Scullery Sinks	Z1160, Z1165, Z1170, ZS1170, Z1171, Z1172, Z1173, Z1173-RD, Z1173-TD, Z1174, Z1192
Soup Kettles*	Z1160, Z1165, Z1170, ZS1170, Z1171, Z1173, Z1173-RD, Z1173-TD, Z1174, Z1192
Dishwashing Machines*	Z1160, Z1165, Z1170, ZS1170, Z1172, Z1173, Z1173-TD, Z1174, Z1192
Grease Draw-off Units	Z1171-RD, Z1171-TD, Z1173, Z1173-RD, Z1173-TD, Z1192
Miscellaneous Equipment Holding*, Grease Laden Water	Z1160, Z1165, Z1170, ZS1170, Z1171, Z1172, Z1173, Z1173-RD, Z1173-TD, Z1174, Z1192
Electronic Grease Removal Appliance	Z1192

*A Zurn Solids Interceptor is recommended to be used in conjunction with all grease interceptors. See product information for details.

PURPOSE

For over 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.

Zurn engineers were part of the original team that developed the current Plumbing and Drainage Institute Standard PDI-G101, which was first issued in 1949. PDI-G101 is now cited in numerous codes, as well as in Military Specification MIL-T-18361. Most Zurn grease interceptors comply with PDI-G101 and carry the PDI label.

WHY ARE GREASE INTERCEPTORS NEEDED?

1. To prevent waste pipes in buildings from becoming clogged.
2. To prevent sewer lines from clogging and improve operation of water treatment plants.
3. To prevent environmental problems caused by grease mixed with other debris at landfills and in waterways.
4. To promote the recycling of recovered clean grease.

Grease entering the wastewater collection system presents major problems from the moment of entry and continuing to the final stage in wastewater treatment. It is an expensive burden in sewer pipes due to blockage and reduced capacity, causing the need for frequent cleaning. In severe cases, entire lengths of sewer pipe must be replaced due to solidification of the grease and other debris. Grease also causes substantial problems in wastewater treatment facilities because of its detrimental effect on the bacterial process of wastewater treatment. Not only is there a grease removal problem, but large quantities of grease can destroy the digestive process, adversely affecting the operation of the wastewater treatment plant.

Another important reason for grease interception and recovery is for recycling. Grease, if recovered in a somewhat pure form (free of debris and water), can be turned into a valuable resource. Recovered grease can be used in the manufacturing of fertilizers, soaps, animal feed, cosmetics, and components of explosives such as nitroglycerine.

OPERATION OF GREASE INTERCEPTORS

Four factors are critical to the proper operation of a grease interceptor: Design, Sizing, Proper Installation, and Maintenance.

DESIGN

What makes Zurn interceptors most efficient are superior design characteristics (Diagram A).

Standard Zurn units are provided with a high inlet which allows all flow to empty into the interceptor. This keeps inlet lines from becoming clogged with grease buildup, which occurs with low inlet units and with large concrete separators buried outside. Because the static water level is maintained at the bottom of the outlet, any piping into the interceptor below this elevation will remain filled with water.

The Zurn solid vertical baffle plate immediately diffuses flow and channels the incoming fluids directly to the bottom of the separation chamber. A flow directing plate on the outlet side of the vertical baffle enhances flow in an upward direction and traps solids that may inadvertently enter the interceptor. This provides the maximum amount of time possible for separation to occur. Grease being approximately 90% of the weight of water, separates and floats to the top of the water under these conditions. The calming effect on the flow and the extended time sequence in the chamber allows for more efficient separation (Diagram A).

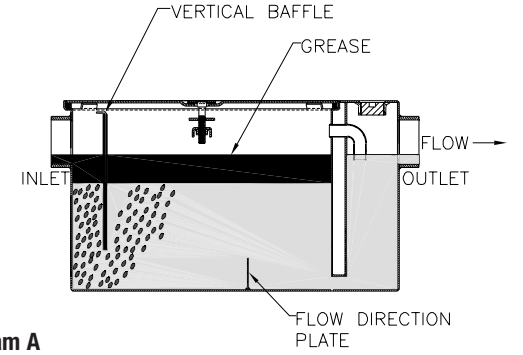


Diagram A

Zurn interceptors have an unobstructed separation chamber permitting the entire baffle to be lifted upward and removed. This provides for fast, easy cleaning which minimizes the amount of time the lid is off and the contents are exposed to the environment.

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.

Zurn interceptors are manufactured standard with a removable cleanout plug on the outlet side of the separation chamber, past the integral trap seal. This allows for quick, easy access to the outlet drainage pipe, should an obstruction or blockage occur downstream of the interceptor.

All Zurn Interceptors are 100% steel construction, coated with a white acid resisting epoxy (A.R.C.). Zurn Series Interceptors with flow rates from 4 to 50 GPM are certified by the Plumbing and Drainage Institute (PDI). Zurn Grease Interceptors with flow rates from 20 to 50 GPM are listed by the International Association of Plumbing and Mechanical Officials (IAPMO).

SIZING

The Plumbing and Drainage Institute (PDI) as well as some national and local codes have recognized different ways of sizing grease interceptors. It is advisable to check with local authorities for sizing requirements in your particular locality.

The following pages outline the most widely used sizing methods along with some common variables which, if present, could adversely affect the operation of your grease interceptor. If any of the following variables are present, added care should be taken to select the proper size interceptor with appropriate options to compensate for each irregularity.

VARIABLES AFFECTING GREASE INTERCEPTOR PERFORMANCE

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.

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.

Specific Gravity (Weight) of the Filtrates

Grease has a lower specific gravity than water and will rise to the surface quickly. Grease-ladened 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.

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.

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.

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.

SIZING – PDI METHOD

Table A1.2 – Sizing and Rating

PDI Size Symbol		4	7	10	15	20	25	35	50
Flow Rate	GPM	4	7	10	15	20	25	35	50
	L/s	0.25	0.44	0.63	0.95	0.95	1.26	1.58	3.16
Grease Capacity	Lbs.	8	14	20	30	40	50	70	100
	Kg	3.6	6.4	9.1	13.6	18.2	22.7	31.8	45.4

A1.3 Sizing Procedure

Table A1.3 is provided to show the standard formula in steps for sizing grease interceptors to suit requirements of specific fixtures. An example of this sizing formula is included to illustrate the steps.

Table A1.3 – Procedure For Sizing Grease Interceptor

STEPS	FORMULA	EXAMPLE
1	Determine cubic content of fixture by multiplying length x width x depth.	A sink 48" long by 24" wide by 12" deep. Cubic content 48 x 24 x 12 = 13,824 cubic inches.
2	Determine capacity in gallons. 1 Gal. = 231 cubic inches.	Contents in gallons: 13,824/231 = 59.8 gallons
3	Determine actual drainage load. The fixture is normally filled to about 75% of capacity with water. The items being washed displace about 25% of the fixture content, thus actual drainage load = 75% of fixture capacity.	Actual drainage load 0.75 x 59.8 = 44.9 gallons
4	Determine flow rate and drainage period. In general, good practices dictate a one minute drainage period; however, where conditions permit, a two minute drainage period is acceptable. Drainage period is the actual time required to completely drain the fixture. Flow rate = Actual Drainage Load/Drainage Period	Calculate flow rate for one minute period: 44.9/1 = 44.9 GPM Flow Rate Calculate flow rate for two minute period: 44.9/2 = 22.5 GPM Flow Rate
5	Select interceptor. From Table A1.2, select interceptor which corresponds to the flow rate calculated. *Note:* Select next larger size when flow rate falls between two sizes listed.	For one minute period: 44.9 GPM requires PDI size "50" For two minute period: 22.5 GPM requires PDI size "25"

A1.4 Selection

Table A1.4 is included as a selection chart for standard PDI Certified grease interceptors applicable to various size fixtures commonly used in domestic, commercial, and institutional installations. The selections listed are based on the sizing formula covered in Table A1.3.

A1.5 Dishwashers

A separate grease interceptor is recommended for each commercial dishwasher. The size of the interceptor is determined by the GPM discharge rate of the dishwasher as specified by the manufacturer. Select proper interceptor of equivalent or next higher rate from Table A1.2.

SIZING – PDI METHOD

A1.6
Multiple Fixtures

Where multiple fixtures are serviced by a single interceptor, calculate the total capacity of all fixtures, establish the maximum number of fixtures that may be drained simultaneously, and apply factor to the total capacity to determine maximum simultaneous capacity. Then proceed with sizing and selection of interceptor using sizing formula Table A1.3.

Table A1.4 – Selection Chart (Metric Equivalents Omitted for Simplicity)

Fixture Compartment Size (Inches)	Number of Compartments	Drainage Load (Gallons)	Recommended PDI Size Grease Interceptor	
			One-minute Drainage Period	Two-minute Drainage Period
18 x 12 x 6	1	4.2	7	4
16 x 14 x 8	1	5.8	7	4
20 x 18 x 8	1	9.4	10	7
18 x 16 x 8	2	15.0	15	10
20 x 18 x 8	2	18.7	20	10
30 x 20 x 8	1	15.5	20	10
24 x 20 x 12	1	18.7	20	10
22 x 20 x 8	2	23.0	25	15
22 x 20 x 12	2	34.0	35	20
24 x 24 x 12	2	44.9	50	25

A1.7
Alternate Sizing Method Based on Drainage Fixture-Units

Most plumbing codes list drainage Fixture-Unit values for plumbing fixtures and for fixtures not listed. These values are given for drain outlet or trap size. Fixture-unit values are converted to discharge rates on the basis of one fixture-unit equaling 7.5 GPM. See Table A1.7 for recommended PDI size grease interceptor based on drainage fixture-unit sizing method.

Table A1.7

Fixture Outlet or Trap Size (Inches)	Drainage Fixture-Unit Value	GPM Equivalent	PDI Size Grease Interceptor
1-1/4	1	7.5	10
1-1/2	2	15.0	15
2	3	22.0	25
2-1/2	4	30.0	35
3	5	37.5	50
4	6	45.0	50

INSTALLATION

Installation is no less critical than design for efficient operation of a grease interceptor. No matter how superior the design, if improperly installed, the unit's efficiency will be drastically reduced.

The interceptor should be installed as close as possible to the fixture(s) being served, as high temperature enhances grease separation. This also protects the internal piping system from grease buildup. 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. Anticipate sufficient clearance for removal of the interceptor cover and baffle for cleaning. Also, take into consideration the possibility of pipelines becoming clogged with congealed grease that may collect before reaching the grease interceptor.

Grease interceptors are not designed to perform with solid debris entering the unit. Solid material should not be permitted to enter the grease interceptor. In an application where solids are present, a solids interceptor is recommend to be used in conjunction with the grease interceptor. Grease tends to attract solid particles, growing in size and promoting decay, leading to unpleasant odor and unsanitary conditions. Under these conditions, pipes can readily become clogged and even the grease interceptor itself may fill up with debris.

All sink and garbage grinder waste must pass through a solids interceptor because rapid accumulation of solid matter will greatly reduce the grease interceptor efficiency, preventing operation in compliance with its rated capacity. 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 (Diagram B).

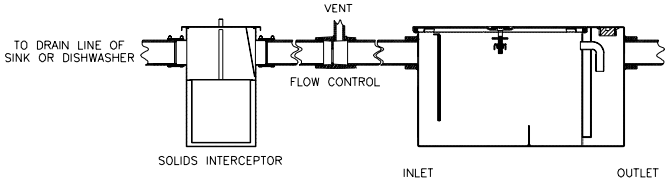


Diagram B

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.

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. Grease interceptors are designed to work properly within certain flow conditions. A flow control device placed as close to the source of liquid as possible is an important component of the assembly. 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. 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 backvented, air intake may intersect the vent stack. All installation recommendations are subject to approval of code authority.

The air intake of the flow control must be plumbed in to either the vent stack or above the flood rim of the sink. Without a properly vented flow control device, effluent flows may exceed the rated capacity of the interceptor, causing incoming fluids to be passed through the unit before proper separation can be achieved (Diagram C). The result would be grease buildup downstream, defeating the purpose of the interceptor.

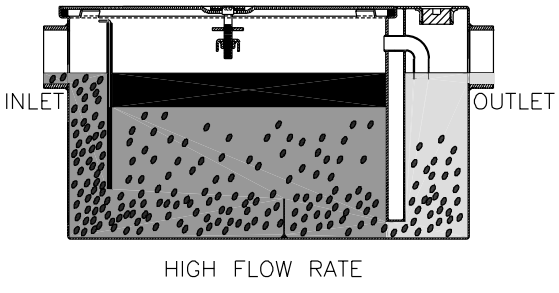


Diagram C

Equilibrium in the separation chamber of the interceptor is maintained by air pressure. The Zurn interceptor design incorporates two features to maintain equilibrium: 1) Vented flow control device, and 2) Air relief by-pass.

INSTALLATION

FLOW CONTROL, Continued

The flow control device must be properly vented to permit air to properly mix with the fluid entering the interceptor. Air facilitates separation and, more importantly, is necessary to maintain the proper pressure and thus the proper operating level within the separation chamber. For example, without a properly vented flow control device, little or no air would be drawn into the interceptor during use, causing the operating level to rise, pushing the grease cake toward the cover (Diagram D). If the grease layer reaches the air relief by-pass, grease could be pushed on into the outlet.

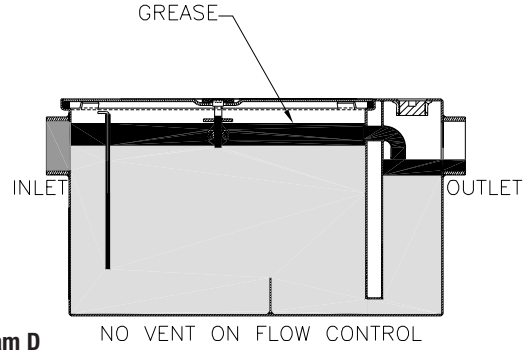


Diagram D NO VENT ON FLOW CONTROL

If air enters an interceptor that does not utilize an air relief by-pass, the buildup in air pressure has nowhere to go and begins pushing the grease and water layers downward toward the bottom of the interceptor (Diagram E). If pressure continues to build, grease would eventually be forced under the baffle plate and out of the unit.

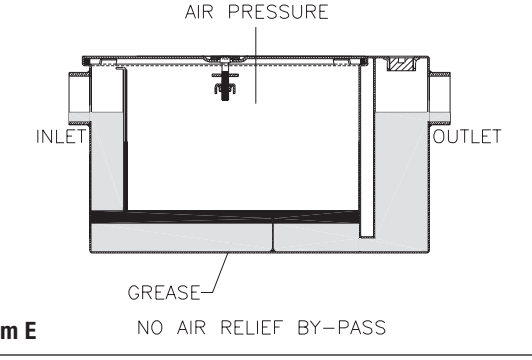


Diagram E NO AIR RELIEF BY–PASS

The presence of a vented flow control device and air relief by-pass is a key element in the efficient operation of a grease interceptor. If one or both of these items are not present, flow rate through the interceptor and operational performance can be severely compromised.

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 device is designed with an integral orifice to give a predetermined optimum flow rate and air intake to the interceptor. 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	4-1/2
500	4-7/8

INSTALLATION

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.

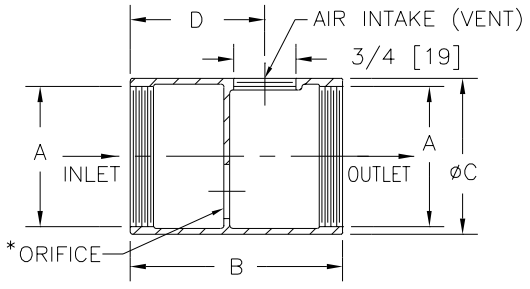
Z1108 DIMENSIONAL DATA

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

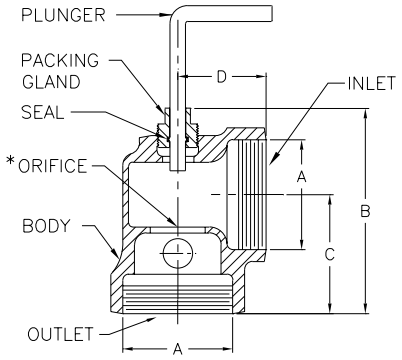
A	B	C	D
1-1/2	5-3/4	3-3/8	1-7/8
2	5-3/4	3-3/8	1-7/8
3	6-3/8	3-3/4	2-3/4

Z1108



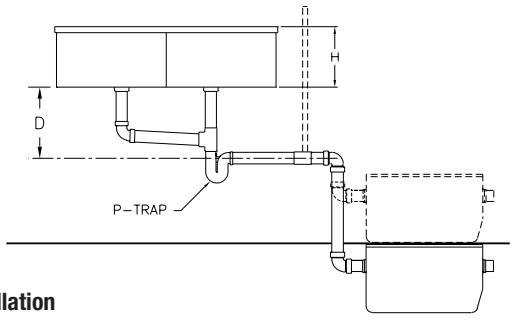
*Orifice size varies according to size of interceptor.

Z1108-L

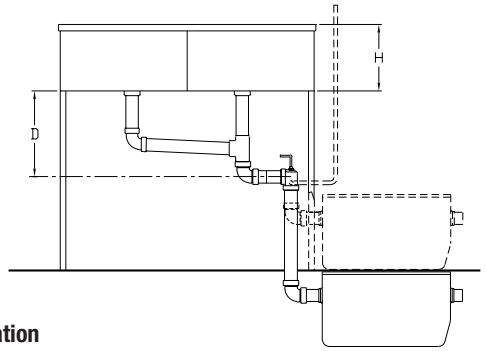


SETTINGS FOR ZURN FLOW CONTROL FITTING

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

'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.

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.

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 ladened 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.

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 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.

All Zurn grease interceptor models, less the Z1160 series, are provided with a bronze cleanout plug on the outlet chamber of the unit. This cleanout allows access to the outlet piping, should a blockage occur during operation. The following chart gives reference to the interceptor series, size, and plug size (NPT threads) should the cleanout plug need replaced:

Note: The Z1160 series interceptors are provided with a plastic snap-in cleanout plug, accessible by removing the cover.

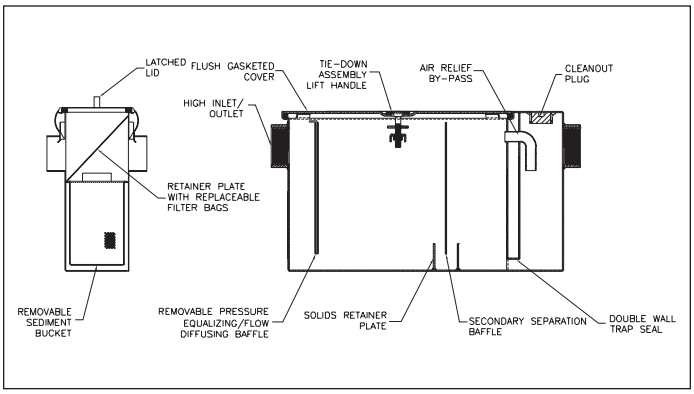
	Interceptor Size								
Series	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**900**
Z1165	–	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	–
Z1170	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	–
ZS1170	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	–
Z1171	–	–	–	–	1-1/2	–	1-1/2	1-1/2	–
Z1171-RD	–	–	–	–	1-1/2	–	1-1/2	1-1/2	–
Z1171-TD	–	–	–	–	1-1/2	–	1-1/2	1-1/2	–
Z1173	–	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2
Z1173-RD	–	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2
Z1173-TD	–	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2
Z1174	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	–
Z1192	–	–	–	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	–

Series	**900**	**1000**	**1100**	**1200**	**1300**	**1400**	**1500**	**1600**	**1700**	**1800**	**1900**
Z1172	1-1/2	1-1/2	3	3	3	3	3	3	3	3	3

PRODUCT INFORMATION

Z1165 100 PPM GREASE INTERCEPTOR

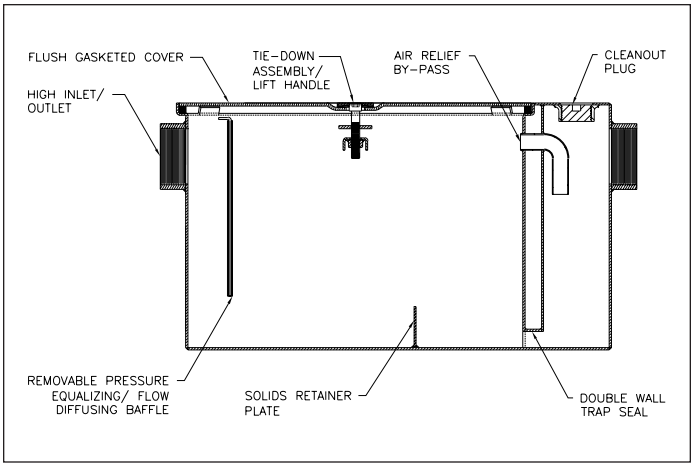
As effluent requirements become more stringent and code regulations become more and more enforced, Zurn realizes the need for a grease interceptor that can perform well beyond the average capabilities of a traditional style interceptor. The Z1165 100 PPM Grease Interceptor was designed to operate in the same time-proven manner as typical passive grease interceptors, while incorporating valuable patent pending features. Grease interceptor effluent efficiency meets 100 Parts Per Million when tested to EPA 1664 test method. Results based on the influent requirements in accordance with the maximum rated capacity given by Plumbing and Drainage Institute Standard PDI-G101.



Patent Pending

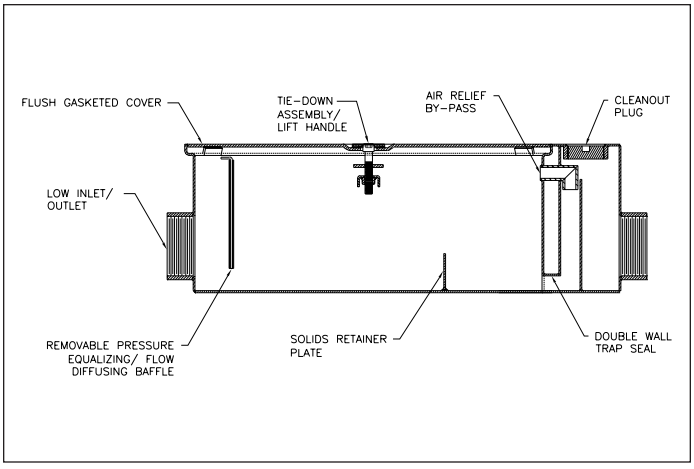
Z1170 GREASE INTERCEPTOR

The Zurn Z1170 Grease Interceptor is the most widely used of all Zurn interceptor models. Its versatility allows the unit to be installed in several different fashions, accommodating the majority of standard kitchen installations. Standard to the unit is an acid resistant epoxy coating to help protect from corrosion and help maintain a sanitary kitchen environment. The interceptor's diamond tread, anti-skid cover helps minimize slipping accidents when high-traffic kitchen floors become wet. There are numerous options available with this unit to help suit the needs of virtually any application.



Z1171 LOW PROFILE GREASE INTERCEPTOR

It is often common for area restrictions to dictate where plumbing fixtures may be located within a commercial kitchen. Due to limited space, it may not be practical to utilize a traditional style grease interceptor to service the fixtures. For applications such as this, Zurn has designed and constructed the Z1171 Low Profile Grease Interceptor. Grease separation is properly achieved, while the unit's low-profile design allows for on-the-floor placement underneath a sink, saving space for other important kitchen equipment. Standard to this unit is a low inlet and outlet height to accommodate for ease of drainage pipe installation. Care should be taken when locating this unit to allow sufficient space for cover and baffle removal during the maintenance process.



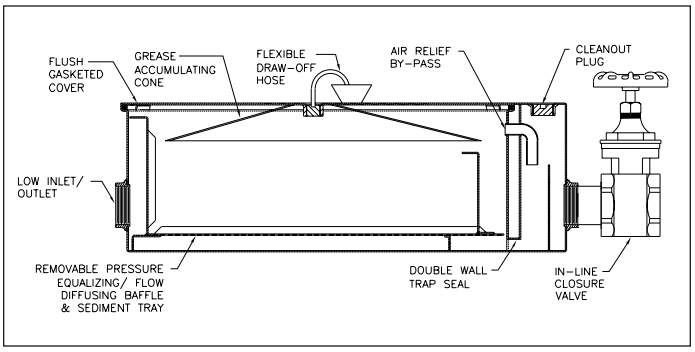
PRODUCT INFORMATION

Z1171-TD and Z1173-TD Grease Interceptor With Top Draw-off

To assist in the maintenance and cleaning process of grease interceptors, Zurn has developed a unit incorporating a top draw-off port for grease removal. The cover's unique accumulating cone captures the liquid grease and funnels it toward the draw-off port, allowing for limited removal of the interceptor cover.

To remove grease from the unit, the following steps should be taken for quick, easy maintenance:

1. Run a steady flow of hot water through the unit to ensure that the grease is completely liquefied.
2. With the hot water supply shut off, turn the in-line closure valve to a fully-closed position.
3. Remove the bronze plug from the cover and insert the hose fitting and draw-off tube, tightening the hose fitting securely. Place the end of the flexible hose into a container suitable for disposing the grease into.
4. Turn the hot water supply back on and allow the water pressure to steadily force the liquid grease through the draw-off hose. **Caution:** The liquid grease may be hot when exiting the draw-off tube; take care to keep the water flow as laminar as possible to prevent grease from spilling.

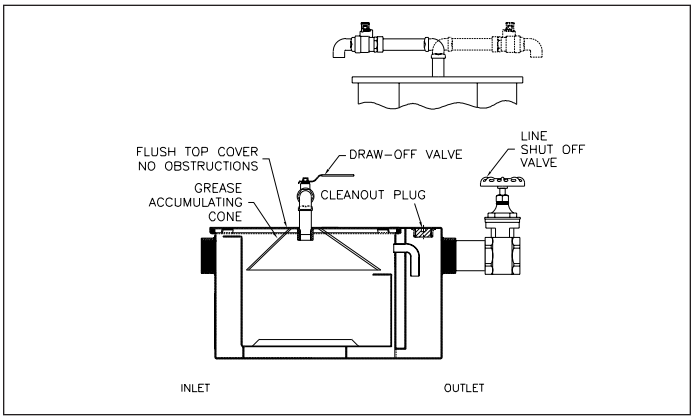


5. Once grease is no longer visible at the discharge end, turn the water supply off.
6. Remove the draw-off tube from the cover and replace with the bronze plug, securing the plug tightly.
7. Fully open the in-line closure valve.
8. A quick visual inspection of the separation chamber may be needed to ensure that there are no solid materials inside of the interceptor. If solids are present, remove and discard accordingly.

Z1171-TD – All sizes
Z1173-TD – Sizes 200-800

Z1171-RD and Z1173-RD Grease Interceptor With Top Draw-Off

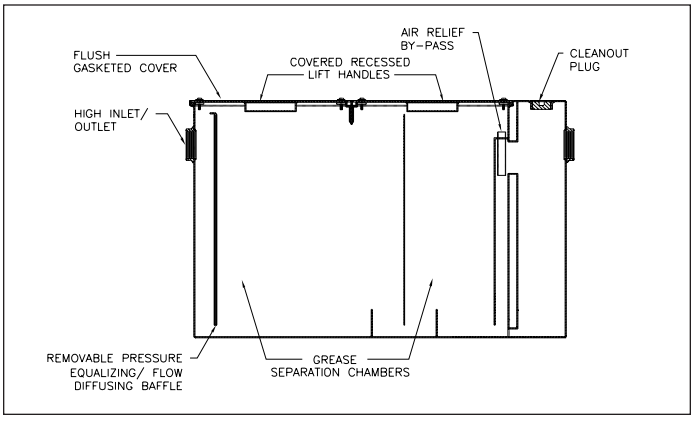
These series interceptors are designed very similar to the -TD series. They are furnished with a rigid-piped ejection valve assembly which can be installed in the cover to facilitate grease removal.



Z1171-RD – All sizes
Z1173-RD – Sizes 200-800

Z1172 Large Capacity Grease Interceptor

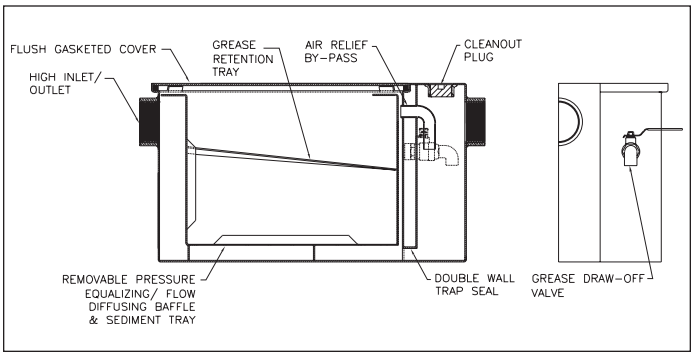
The Zurn Z1172 Large Capacity Grease Interceptor is designed to handle much larger amounts of flow than the smaller kitchen units. Because of its size, this type of interceptor is not traditionally placed in the kitchen environment. These units are normally located in a basement or outside of the building, in an above-ground or in-ground installation. The unit's design, incorporating a dual-compartment separation chamber, allows for a large volume of grease to be collected, protecting the sewer lines from potential grease build-up.



PRODUCT INFORMATION

Z1173 Ejecto-Matic Greaseptor

To simplify the cleaning process and prevent grease from clogging drainage lines, Zurn has developed the Z1173 Ejecto-Matic Greaseptor. 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 Greaseptor. 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.

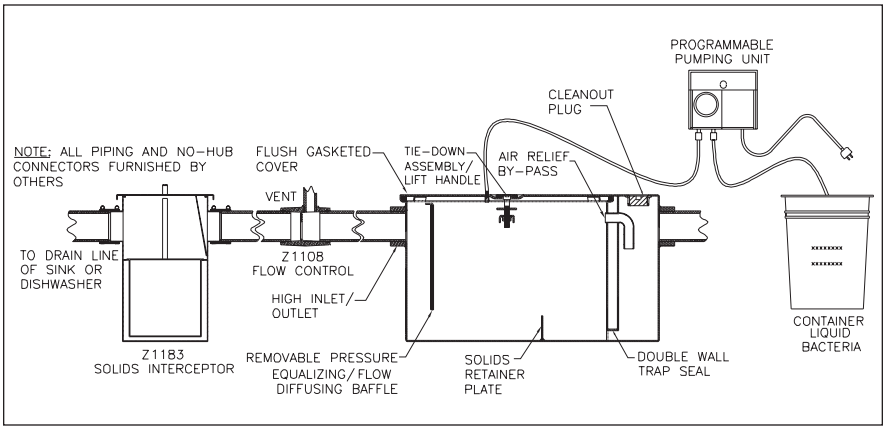


1. The manual draw-off valve reduces the frequency that the cover of the interceptor must be removed during the cleaning process.
2. Grease is removed from the interceptor by means of the Ejecto-Matic valve located on the outlet end of the interceptor.
3. To remove grease from the interceptor, hot water 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

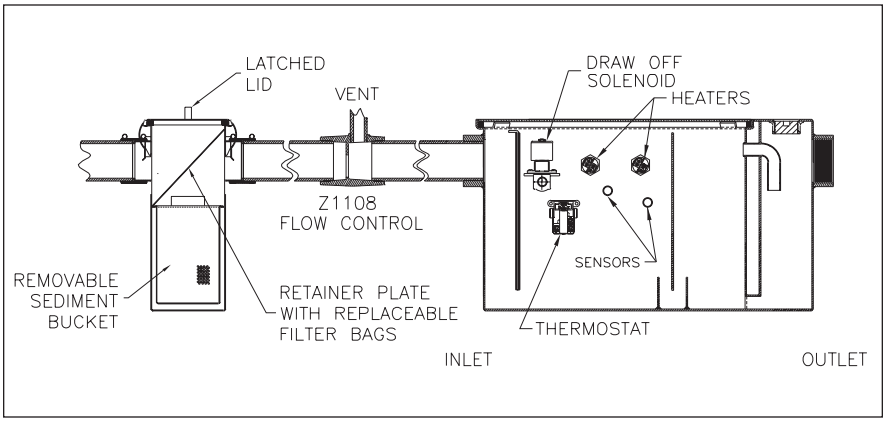
To keep the grease interceptor operating in optimum condition, it is recommended that the Z1174 automatic bacteria dosing unit be used on a regular basis. The dosing unit delivers to the interceptor an engineered microbial blend that degrades grease, fats, proteins, and carbohydrates. The added bacteria 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.



PRODUCT INFORMATION

Z1192 Grease Recovery Appliance

Zurn has designed and developed the Z1192 Series, a low maintenance electronic appliance which recovers grease from commercial piping systems. The Z1192 is provided with a solids interceptor, incorporating removable filter bags for less time-consuming removal of solids. Automatic features, such as grease sensing and grease draw-off, allow the unit to operate continuously, with less cleaning required by the user than other typical grease interceptors. Liquid grease is drawn out of the main separating chamber into a containment bag, which can be easily removed and replaced with another for quick, clean disposal. When properly installed, the Z1192 Grease Recovery Appliance greatly reduces maintenance, while yielding a high efficient effluent rating.



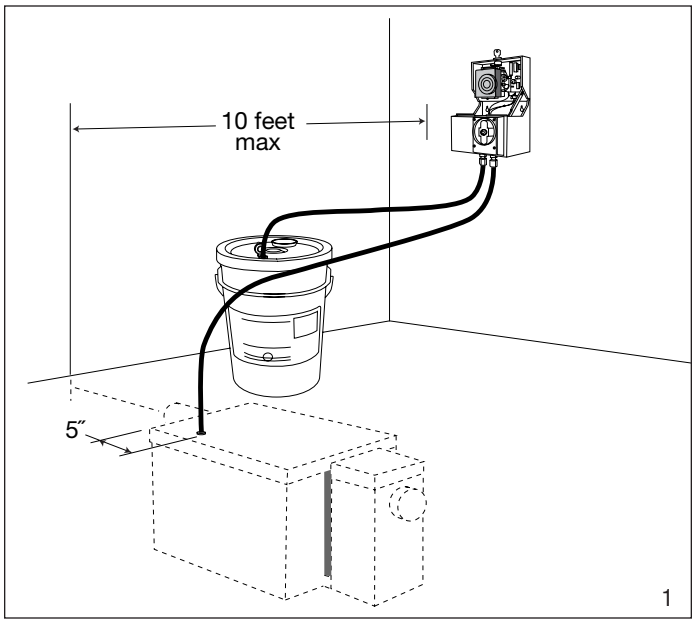
Patent Pending

Z1174 BACTERIA DOSING UNIT – INSTALLATION INSTRUCTIONS

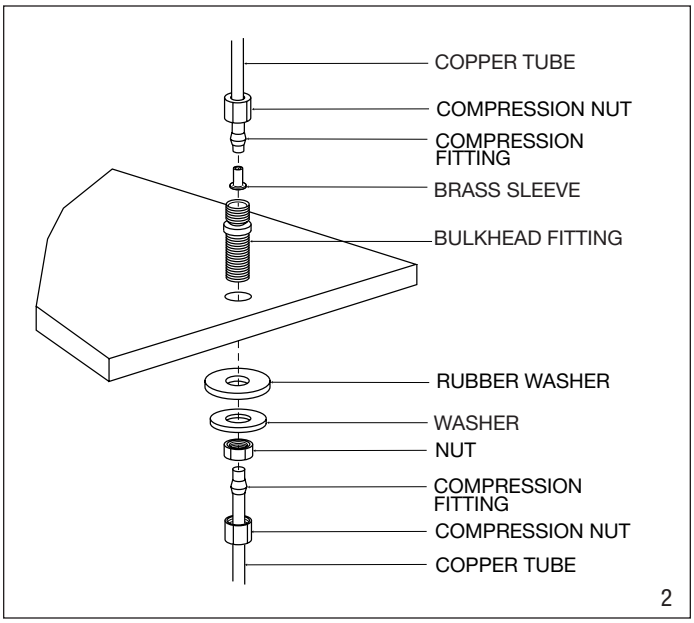
Before Installing:

It is highly recommended that the grease interceptor be emptied and cleaned completely. This will give the quickest elimination of odors. If the interceptor cannot be emptied and cleaned, all the grease should be removed.

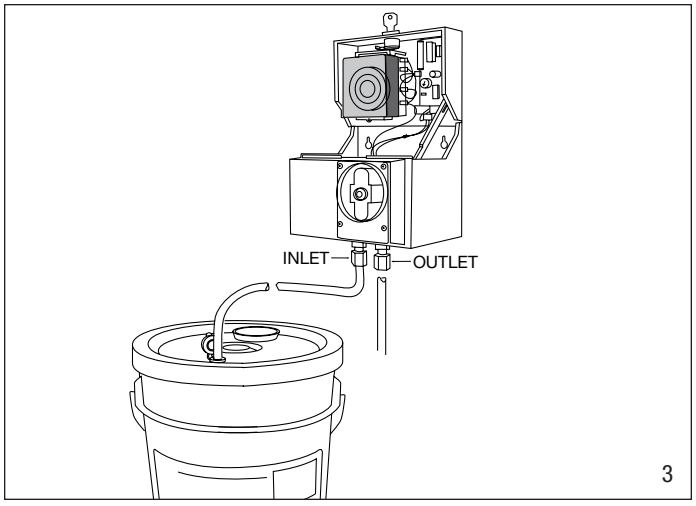
PUMP INSTALLATION



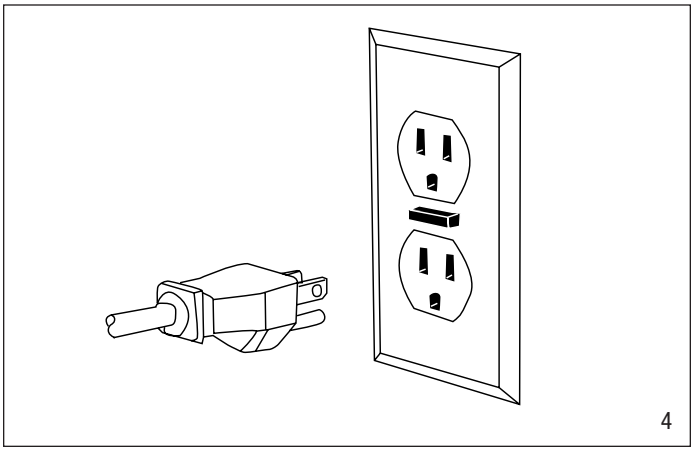
1 Select a dry location to mount the pump. Attach the unit to the wall as close as possible to the Z1174 bacteria container and the interceptor. Supply tubing should not exceed 10 feet to or from the pump. ****Retrofit Kit (-RK) Installation:*** Drill a 7/16" hole in the interceptor cover five inches from the inlet side of the interceptor. It is very important to center the hole between scorations on the surface of the interceptor cover.



2 Install the bulkhead fitting through the 7/16" hole on the interceptor cover using the gasket, washer, and nut provided. Tighten the nut to ensure compression of the rubber washer. The copper tube may be longer than necessary – it should extend to approximately 3"-4" from the bottom of the interceptor. Cut if necessary. The brass sleeve is inserted to the end of the plastic supply tube, which is connected to the outside end of the bulkhead fitting. **Note:** This connection must be air and water tight or performance of interceptor will be negatively affected.



3 Attach draw hose to inlet side of pump. Attach the supply hose to the outlet side of the pump. Make sure the compression fittings have the stainless steel ring and the ferrule installed correctly. Insert hoses into fittings completely and hand tighten. The supply tube should be inserted into the Z1174 bacteria bucket through the small access cap until it touches the bottom.

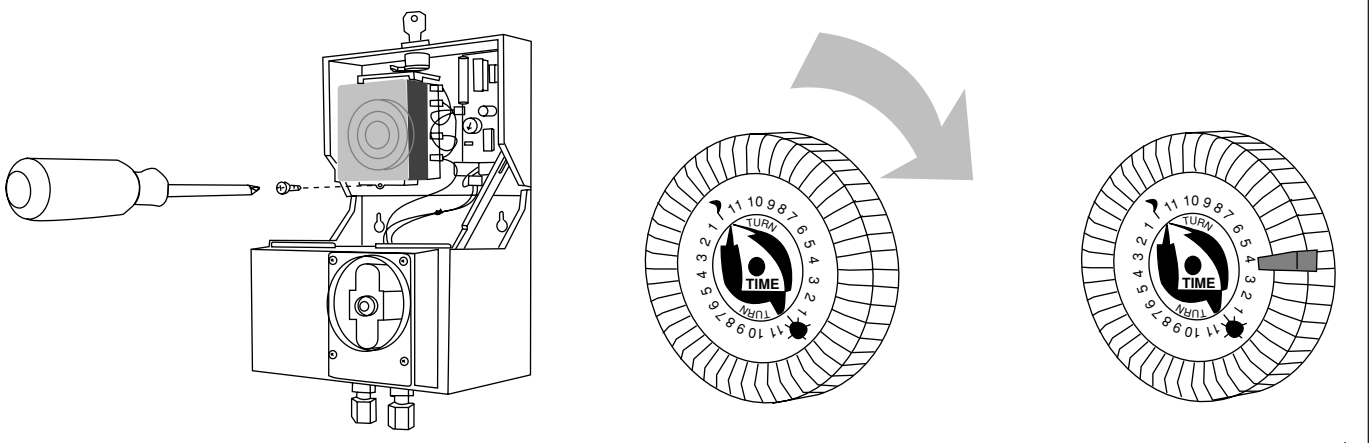


4 Plug pump into wall outlet. A GFCI receptacle is recommended. If the cord is not long enough, use a grounded extension cord at least 18 AWG. As with any electrical work, check your local codes first.

Z1174 BACTERIA DOSING UNIT – INSTALLATION INSTRUCTIONS

SETTING THE TIMER

The timing function of the pump unit is controlled by two methods. Power is sent to the electronics by the appliance-type timer in half-hour increments. The electronics then control the pump motor "ON" time by adjusting the dial on the electronics.

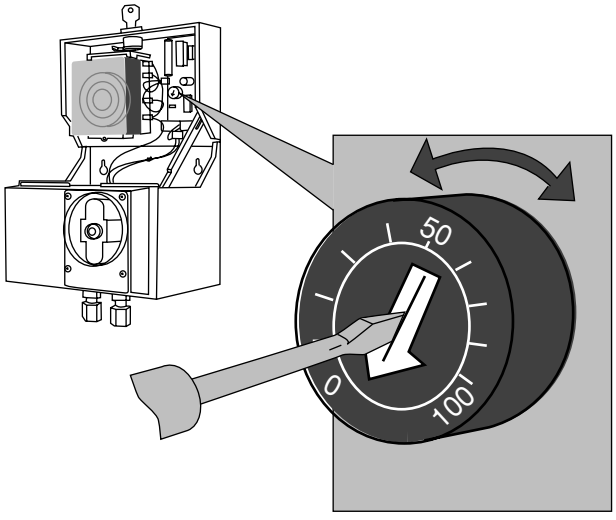


1

1 To set the current time, rotate the dial clockwise to the correct time. To select an "ON" time, lift the orange tab next to the time that you want the pump to turn on. An "UP" tab indicates that the pump turns on. A "DOWN" tab indicates that the pump will turn off. The Z1174 bacteria should be introduced into the interceptor after the kitchen is closed for the evening when little or no water is flowing through the interceptor. A one-half hour "ON" time should be adequate.

Interceptor Capacity	Daily Dose BIO-FILM (Ounces)	Pump Run Time (Approx.)	Dial Setting (Approx.)
To 25 gallons	12 oz.	2.5 min.	25
25 to 50 gallons	12 - 20 oz.	2.5 - 3.25 min.	25-30
50 gallons	20 - 30 oz.	3.25 - 6.5 min.	30-60

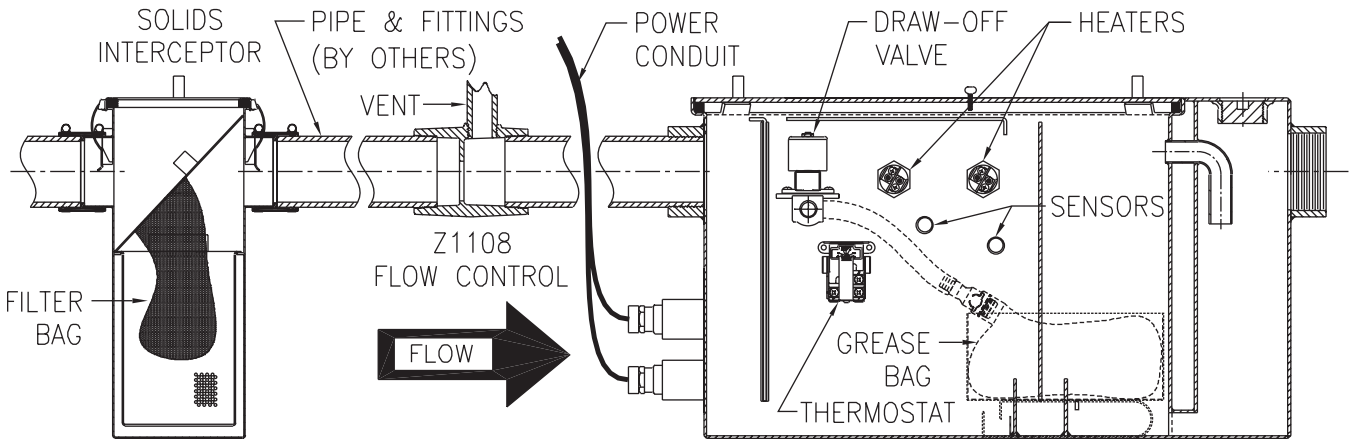
2 To determine the run time of the pump, use the chart above to determine the amount of Z1174 to be dispensed based on your interceptor capacity. If the interceptor has not been cleaned prior to the Z1174, the system may need to be shocked with a larger dose of Z1174 for the first month of operation. After this time, the recommended volume may be used. Specific installations may require more or less Z1174 – this chart is only a guideline. After the first month of use the amount of Z1174 may be reduced.



3

3 To set the desired run time (dial setting): On the circuit board there is a small dial marked "0" to "100." These numbers do not represent time. This can be adjusted by turning the dial with a small screwdriver clockwise to increase time and counterclockwise to decrease time. Check pump run time with a watch to ensure proper dosage.

Z1192 GREASE RECOVERY APPLIANCE (GRA) – INSTALLATION and OPERATION INSTRUCTIONS



Note: Zurn Grease Interceptors with grease recognizing sensors are efficient appliances designed to separate grease from water.

SAFETY WARNINGS

- **Do not** apply power before you read and complete Start-Up List.
- **Do not** open electrical enclosure cover or remove electrical guard plate when electricity is on.
- **Do not** expose electrical components to water or grease.
- **Do not** apply power until the separation chamber of the unit is filled with water.
- **Caution – Do not** apply power until all provisions of Personal Safety Procedure #29CFR 1910.335 and Lockout and Tag Procedure #29CFR 1910.147 are in compliance.

INSTALLATION

The Zurn Z1192 must be installed **complete with solids interceptor and proper flow control unit. Electrical installation must accommodate 220 VAC and complete with 40A GFCI breaker.** Installation must be in compliance with local codes and all other regulations that may apply.

The Z1192 grease recovery appliance is **for indoors and above-floor installation only.**

VARIABLES THAT MIGHT AFFECT OPERATION

Users of the Zurn Z1192 appliance must be familiar with the variables which may adversely affect the efficiency of the interceptor. These are as follows.

1. **Flow and Velocity of Incoming Water** A higher velocity of water will contribute to a more turbulent mixture. This will slow the separation process and thereby reduce efficiency.
2. **Ratio of Grease to Water** The higher the ratio of grease to water, the lower the efficiency. This also increases the rate of draw-off and maintenance.
3. **Specific Gravity (Weight) of the Grease** Cooking greases and oils with a lower specific gravity will rise to the surface much quicker, while grease with a higher specific gravity will have a tendency to linger toward the bottom, taking a longer time to surface.
4. **Possible Presence of Detergents in the System** Grease-cutting detergents will break the grease into minute particles that can pass through the interceptor.
5. **Presence of Food Particles Mixed With the Fluid** Particles allowed to pass into the grease interceptor will allow adhesion of the grease to these particles. This reduces efficiency dramatically. Filter bags in the solids interceptor must be changed regularly to prevent the passing of solids and restriction of fluid flow from blockage.
6. **Not Maintaining the GRA Properly** Failing to replace solids filter bags or grease containment bags when required may cause the electronic logic and draw-off mechanism of the unit to malfunction. Alarms and warning displays triggered by the Grease Recovery Appliance's electronic logic must be adhered to for proper operation. Alarms may be temporarily silenced for the convenience of the user.

Attention: Operation of the unit with improperly replaced solids filter bags, or without the necessary solids filter bags is unacceptable and will damage the Grease Recovery Appliance. Should this occur, all contents must be pumped out and cleaning of the entire unit will be required.

Job condition variables may warrant the use of a larger size interceptor than normal sizing indicates. This will help to ensure efficient operation as variables change throughout the operation cycle. Local code requirements prevail and may warrant alternate sizes.

Prior to doing any troubleshooting on a unit which appears to be malfunctioning, make certain that none of the variables which affect the operation of the unit are present.

Z1192 GREASE RECOVERY APPLIANCE (GRA) – INSTALLATION and OPERATION INSTRUCTIONS

WIRING INSTRUCTIONS

1. After the digital display box and electrical components box are mounted in the desired location, open the cover to the electrical components box.
2. Locate the ground and the two terminal power block wires each inside.
3. Wiring from the block and ground are to be connected to the dedicated 220V GFCI service.
4. Plugs from the conduit wires out of the electrical components box are to be connected to the outlets on the front of the unit.
5. All wires should be run in conduit, and in compliance with local codes and regulations.

Attention: As with all commercial electrical equipment, a trained electrician should complete the electrical installation of the Grease Recovery Appliance.

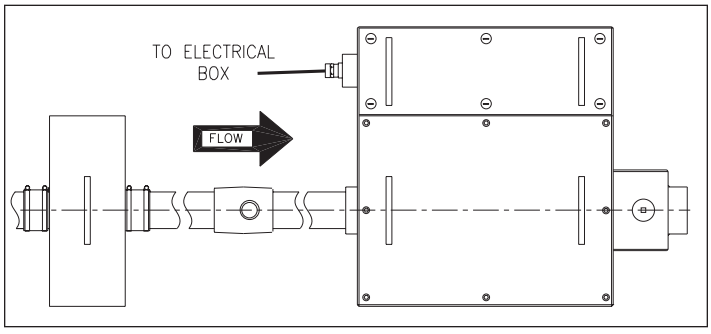
START UP LIST

1. Be sure that power is OFF (circuit breaker in off position).
2. Make sure that all connections and fittings are tight and secure.
3. Check solids interceptor to verify that filter bags are in place and solids interceptor cover is secured.
4. Verify that the flow control fitting was properly installed and vented to atmosphere.
5. The digital display box should be readily visible.
6. Remove the main grease interceptor cover and the side enclosure cover.
7. Check that the baffles are installed and secured; check that the grease containment bag is in place.
8. The electrical components box should be connected to dedicated 220V 40A 60Hz GFCI service, and conduit wires from the electrical components box to unit should be plugged in. **DO NOT turn power on.**
9. Go to source that flows into the interceptor and turn on lukewarm water. Watch for leaks from both the interceptor and the side enclosure around the sensors.
10. Turn water off once the unit has been filled completely to the inlet/outlet height.
11. Verify that the sensors are now totally immersed in water along with the bottom half of the heating elements. Failure to add water before powering on the unit will result in an improper start up and could damage the Grease Recovery Appliance.
12. Replace both covers on the interceptor. If all steps were completed to this point, turn the Power On.
13. If all functions are normal, the digital display should activate and show the Z1192 model number.
14. If a problem is found, an alarm will sound. Power Off, check connections and redo the start up procedure. Verification of the internal electrical connections may require removal of the guard plate in the side compartment of the unit and should be done by a trained electrician.
15. If there is no alarm and the Z1192 model number is displayed then the unit is now operational.

Z1192 GREASE RECOVERY APPLIANCE (GRA) – DAILY OPERATION and MAINTENANCE

DAILY OPERATION AND MAINTENANCE

1. The solids interceptor filter bags must be replaced on a regular basis. Volume of debris entering unit will determine the replacement schedule. Emptying and cleaning of the solids basket and container should be done periodically.
2. The main grease separating chamber of the unit should be opened, checked, cleaned of debris and the sensors wiped off on a monthly basis. If the unit is not properly maintained flow may be reduced causing backup or malfunction.
3. When a grease containment bag requires replacement, once this is completed by the user the reset button must be held. This resets the logic back to normal operation.
4. **Caution:** If substances other than oil have entered the unit, noxious odor may be present.
5. If an alarm with Caution or Warning message is displayed, it may be caused by abnormal or improper usage of the unit. Running hot water through the unit could resolve the issue, otherwise cleaning the entire unit may be required. See Cleaning Procedures.
6. Power to the unit should be turned Off, accumulated grease and oils must be removed, and clogged components must be cleaned. If these steps are not taken, performance of the interceptor will be compromised and unit may not function properly. Unit will still operate as a passive trap.



Z1192 Top View

7. **Caution:** There are regulations in all areas regarding the proper disposal of grease and oils. It is Illegal to dispose of these in any other manner.
8. Once all the greases and oils has been removed and the unit has been cleaned, turn on water to the interceptor and raise the static water level inside the unit up over the level of the sensors as done in its initial installation.
9. Once the interceptor has been filled with clean water, replace the covers and turn the Power On.
10. If all these steps were followed properly, the display should return to normal and the alarm turned off.

If you have any other problems or issues requiring attention, contact your local Zurn Representative or contact Zurn Industries at 814-455-0921.

Z1192 GREASE RECOVERY APPLIANCE (GRA) – INSTRUCTIONS FOR CHANGING GREASE BAG

INSTRUCTIONS FOR CHANGING GREASE BAG

An alarm will sound once the replaceable Grease Bag in the unit has reached the appropriate capacity. This alarm notifies the user that the Grease Bag must be changed. Pressing the alarm silence will suspend the alarm for twenty minutes if the bag cannot be changed immediately; however, changing the bag will still be required.

1. Remove the screws holding the smaller Side Compartment Cover.
2. The location of the Grease Bag will be near the outlet side of the unit, opposite of the electronics Guard Plate.
3. The Guard Plate covers various electrical components and should not be removed.
4. The coupling connection for the bag should be visible and readily accessible.
5. Firmly press the release button on the Universal Coupling.
6. Pull the Disposable Coupling on the Grease Bag out of the Universal Coupling.
7. Carefully remove Grease Bag from Grease Bag Reservoir by pulling bag straight up and out of the side compartment. Grasp Grease Bag firmly with two hands when removing, while being careful not to snag on possible obstructions.
8. Dispose of grease in accordance with your local codes. Zurn is not responsible for improper disposal of grease.
9. Place new Grease Bag with Disposable Coupling already attached, into Grease Bag Reservoir. Grease Bag should be placed flat with coupling faced upward. To order replacement grease bags contact your local Zurn representative.
10. Insert Disposable Coupling into Universal Coupling, making sure the two couplings are properly engaged. When the couplings are properly engaged you should hear a click and the button on the Universal Coupling will be in its uppermost position.
11. Lightly pull on the two separate couplings to verify that they do not come apart. If couplings come apart, reinsert couplings and check engagement again.
12. The coupling connection should be positioned above Grease Bag Reservoir.
13. Make sure the entire bag is in Grease Bag Reservoir and the corners of the Grease Bag are not folded underneath itself, so that the bag can be filled fully without obstruction.
14. Once these items are completed, place the Side Compartment Cover back onto the unit and fasten the screws accordingly.
15. Hold the Reset Button for approximately 5 seconds until the display resets and is back in normal operational mode.

Z1192 GREASE RECOVERY APPLIANCE (GRA) – INSTRUCTIONS FOR CHANGING FILTER BAG

INSTRUCTIONS FOR CHANGING FILTER BAG

1. Bags should be replaced as needed for a given facility.
2. Verify that all sinks and appliances which drain into the solid interceptor are empty and not in use.
3. Remove cover by unbuckling the four cover retaining clips.
4. Lift up on the handle of the Filter Retainer Plate to remove.
5. Using handle inside bag, lift Filter Bag out of Filter Retainer Plate.
6. Dispose of used Filter Bag.
7. Repeat removal and disposal of all Filter Bags.
8. Place a new Filter Bag into each hole in Filter Retainer Plate.
9. Correctly place Filter Retainer Plate back into Solids Interceptor Body.
10. The Filter Retainer Plate should be oriented so that the Filter Bags are located along the lower half of the plate, as removed.
11. The Retainer Plate will be angled in a manor that allows fluid to flow into the inlet side of the filter bags.
12. Position cover on solid interceptor and fasten with retaining clips.

Z1192 GREASE RECOVERY APPLIANCE (GRA) – CLEANING PROCEDURES

CLEANING PROCEDURES

The Z1192 GRA should be cleaned no less than once every six months.

1. Turn off Z1192 GRA at the source, making sure there is no power going to the unit.
2. Wait for unit to cool.
3. Make sure all sinks, dishwashers, etc., that drain into the GRA are off and empty.
4. Remove all screws holding main cover onto the GRA. Do not remove cover to the side compartment.
5. Lift main cover off of unit by using lift handles on main cover.
6. Take out baffle by lifting straight up on baffle lip and clean it of any grease or residue build up.
7. Drain unit completely of all grease and remaining fluid.
8. Clean all surfaces on inside of interceptor, making sure that all grease, food particles, dirt, etc., is removed.
9. Carefully remove any built-up residues from sensors by gently wiping them with a soft, clean rag.
10. Place baffle back into its proper position by sliding it into the channel with the lip facing the inlet of the GRA.
11. Place main cover back on unit in its proper position and tighten screws so that the unit is sealed.
12. Remove screws holding side compartment cover.
13. Remove side compartment cover by lifting up on the lift handles. Removing the electronics guard plate should only be necessary if the draw-off valve or discharge hose require unclogging.
14. If guard plate is removed, be cautious not to contact any electronic components other than the draw-off valve. **Verify all power to the GRA is off.**
15. Remove grease bag (see Changing Grease Bag Instructions).
16. Carefully clean any grease that is on grease bag reservoir.
17. Remove universal coupling from hose by unscrewing hose clamp.
18. Clean universal coupling with hot water to remove any built-up grease inside the coupling. Otherwise order replacement universal coupling and install the new one.
19. Remove the discharge hose by unscrewing second hose clamp.
20. Clean inside of hose with hot water, if necessary use a small diameter rod to push out any solidified grease.
21. Flushing out the draw-off valve with hot water may be necessary if there is any build up from grease.
22. Manually turn valve into the open position by pushing down and turning large round button on top of solenoid valve, until arrows on button show valve is open.
23. Clean out any obstructions, then turn valve back to the closed position again.
24. Begin putting parts back together.
25. Connect the discharge hose back onto elbow by pushing hose onto elbow until it bottoms out on nozzle.
26. Slide hose clamp over hose and elbow, then tighten.
27. Slide other hose clamp over hose and place universal coupling back into the discharge hose.
28. With hose clamp over hose and coupling, tighten the clamp.
29. Replace the electronics guard plate into its proper position if it was removed.
30. Place grease bag into grease bag reservoir as described in Changing Grease Bag Instructions.
31. Connect grease bag to universal coupling as described in Changing Grease Bag Instructions.
32. Place side compartment cover in its proper location on GRA and tighten screws.

Remember to completely fill the GRA with water before turning the power back on.

OPTIONS and VARIATIONS

All grease interceptor options and variations are specified as a PREFIX and/or SUFFIX letter or number added to the series designation. Listed below are the available options and a brief description of each.

PREFIXES

Z Acid Resistant Coated Fabricated Steel
ZS All Type 304 Fabricated Stainless Steel

SUFFIXES

–AL Aluminum Cover
This option can be used to allow for easier removal of the cover, since the weight of aluminum is approximately 65% lighter than the weight of steel. Because of its ability to form a very thin protective layer of oxide, aluminum is also very corrosion-resistant. Note: The heavy-duty cover option (-HD) cannot be specified when the aluminum cover is used.

–BB Timer Battery Backup (For Z1174)

–C30 Cable Length of 30 Feet For Digital Display (For Z1192)

–C45 Cable Length of 45 Feet For Digital Display (For Z1192)

–CS Custom Screens (For Z1174)
Specify material and perforation required.

–DI Dual High/Low Inlet
This option is provided to help accommodate inlet piping installation to the interceptor. A bronze plug is provided to seal the inlet that is not in use. Note: Because the invert of the low inlet is located below the invert of the outlet connection, standing water will be retained in the inlet piping when the unit is not in use. It is recommended at the end of the interceptor's daily use to run hot water through the unit. This will help purge out any grease that is contained inside of the inlet piping and prevent it from congealing to the walls of the pipe.

–E Extension
Acid resistant coated interior and exterior fabricated steel extension section. The extension option is specified when the grease interceptor is in a recessed installation and proper piping elevations must be met. Zurn extensions can be furnished in two different ways:

1.) **Retro-fit extension:** This type of extension is a separate piece, bolted onto the top of the unit and gasketed. This allows for modification to the height of the unit after the unit has already been furnished. Note: The heavy-duty cover option (-HD) cannot be specified when a retrofit extension is used.

2.) **Integral extension:** This type of extension is built directly into the unit as one piece.

Note: When specifying the extension option (-E), it is required that the overall height dimension ('C' Dimension) of the interceptor body be specified to ensure that the unit is furnished properly.

–HD Heavy Duty Cover
Reinforced cover rated at 10,000 lbs. maximum safe live load. When this option is specified, it is necessary to extend the overall height of the grease interceptor body to accommodate for necessary supports. The additional extension height does not have to be specified when ordering the product; it is automatically built into the unit as an integral part. The following chart illustrates the required extended height:

Model	Size	Extension Height Added To Unit
Z1160	All	3"
Z1165	All	3"
Z1170	All	3"
Z1172	900	4"
Z1172	1000	6"
Z1172	1100-1900	3"

–K Anchor Flange
Located 1-3/4" down from the top of the unit and 2" wide. The anchor flange is used for structural support when installing the unit. See note under (-KC) option for extension requirements.

–KC Anchor Flange with Clamp Collar
Located 1-3/4" down from the top of the unit and 2" wide. The anchor flange with clamp collar is designed for installations that require the use of a waterproofing membrane.

When the (-K) and (-KC) options are specified, it is necessary to extend the overall height of the grease interceptor body by 3" to accommodate attachment of the flange. The additional extension height does not have to be specified when ordering the product; it is automatically built into the unit as an integral part.

–L Angle-Type Flow Control Device
Provided with an integral plunger to unblock any waste material that may clog the passageway through the orifice. To operate simply move the plunger up and down, pushing it through the orifice, while running hot water through the flow control device.

–LS Less Solids Interceptor

–P Pump Only, 110 VAC (For Z1174)

–PW Plug Wrench
Tool designed to remove the cleanout plug on the grease and oil interceptor bodies. Tool is also used to remove the cover of the Z1175 and Z1176 hair interceptors.

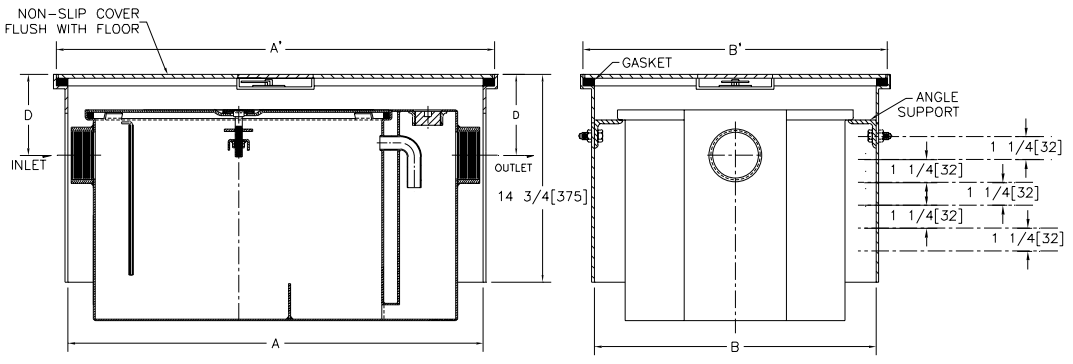
OPTIONS and VARIATIONS

SUFFIXES, continued

–R Recessing Receiver

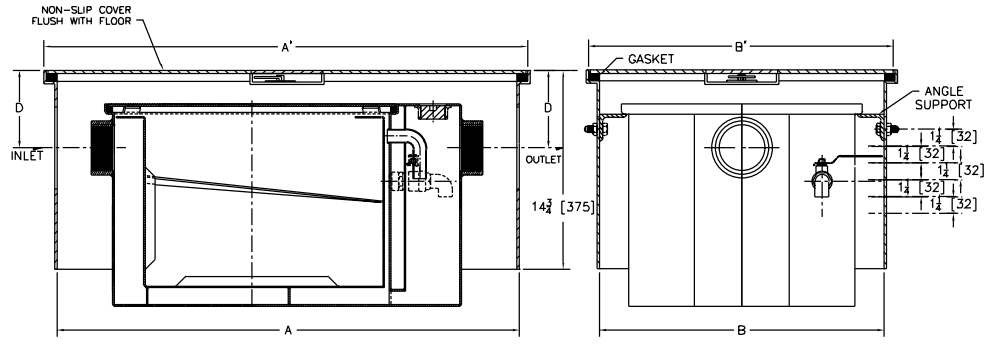
Acid resistant coated interior and exterior fabricated steel recessing receiver is used for applications where the interceptor is to be installed above or below grade after the concrete floor has been poured. Once the receiver body and drain lines are in place, the interceptor can be installed at a later date, without damage to the concrete and finished floor.

Z1170-R Illustrated



Size	A	A'	B	B'	D
100	19-3/4	21-3/4	12-3/4	14-3/4	4-3/4
200	21-3/4	23-3/4	15-3/8	17-3/8	5-1/8
300	25	27	17-1/2	19-1/2	5-1/2
400	25-3/4	27-3/4	20	22	6
500	29-1/2	31-1/2	20-3/4	22-3/4	5-1/4
600	34	36	23-1/4	25-1/4	6-1/2
700	35	37	26	28	6-1/2
800	37-1/4	39-1/4	28	30	7-1/2

Z1173-R Illustrated



Size	A	A'	B	B'	D
200	26-1/4	28-1/4	15-3/8	17-3/8	5-1/8
300	29-1/2	31-1/2	17-1/2	19-1/2	5-1/2
400	31-5/8	33-5/8	20	22	6
500	34-1/4	36-1/4	20-3/4	22-3/4	5-1/4
600	39-1/2	41-1/2	23-1/4	25-1/4	6-1/2
700	40	42	26	28	6-1/2
800	42-3/4	44-3/4	28	30	7-1/2
900	45-1/8	47-1/8	32	34	6-1/4

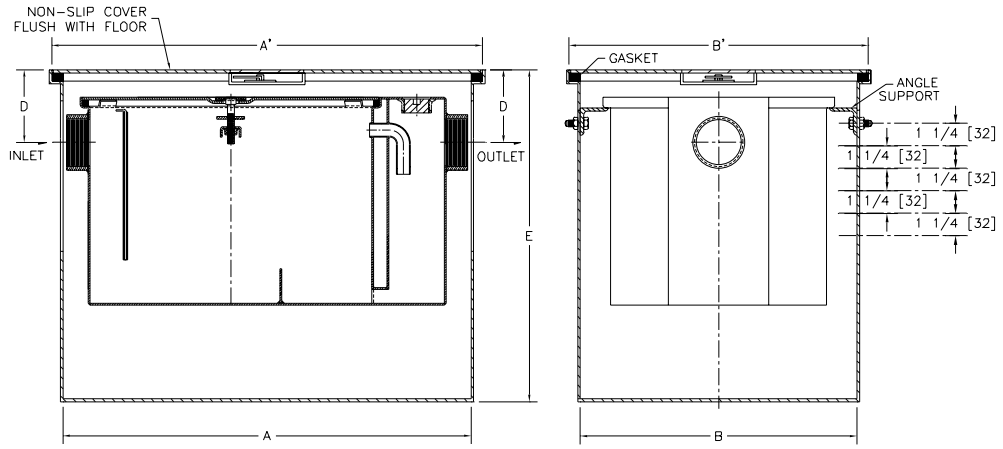
OPTIONS and VARIATIONS

SUFFIXES, continued

–RE Recessing Receiver - Enclosed Type

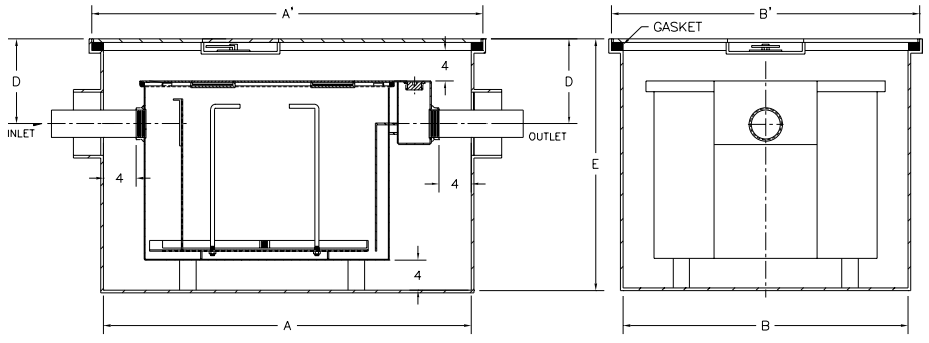
This type of recessing receiver is specified for above or below grade installations where a drip pan is required. The enclosed bottom of the receiver will contain any spillage of waste material and water from the interceptor during the cleaning and maintenance process.

Z1170-RE Illustrated



Size	A	A'	B	B'	D	E
100	19-3/4	21-3/4	12-3/4	14-3/4	4-3/4	19
200	21-3/4	23-3/4	15-3/8	17-3/8	5-1/8	20-1/4
300	25	27	17-1/2	19-1/2	5-1/2	20-3/4
400	25-3/4	27-3/4	20	22	6	22-3/8
500	29-1/2	31-1/2	20-3/4	22-3/4	5-1/4	24
600	34	36	23-1/4	25-1/4	6-1/2	25-3/4
700	35	37	26	28	6-1/2	27-3/4
800	37-1/4	39-1/4	28	30	7-1/2	30-1/2

Z1172-RE Illustrated

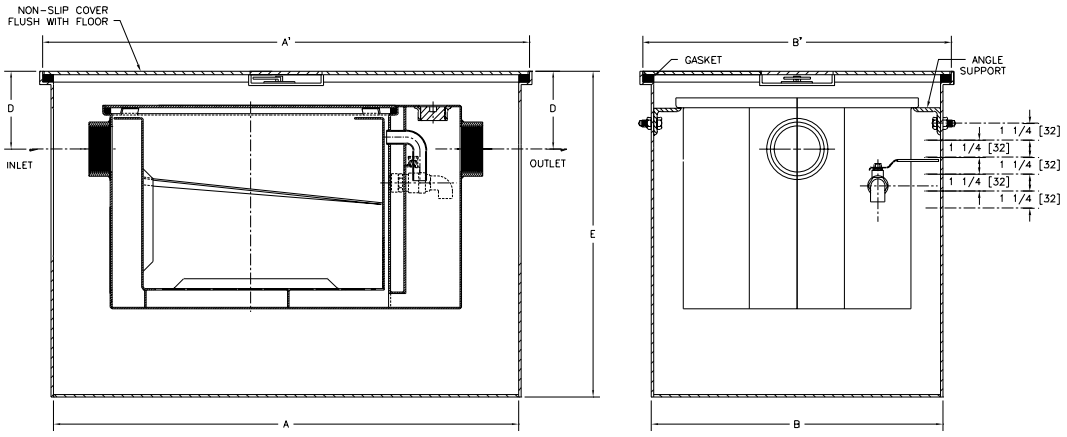


Size	A	A'	B	B'	D	E
900	44-1/4	46-1/4	33-1/8	35-1/8	9	31-1/4
1000	51	53	38-1/8	40-1/8	8-3/4	35-1/2
1100	57-1/2	59-1/2	44-1/2	46-1/2	10-3/8	38-5/8
1200	64-1/4	66-1/4	46-1/8	48-1/8	10-1/4	39-1/4

OPTIONS and VARIATIONS

SUFFIXES, continued

Z1173-RE Illustrated



Size	A	A'	B	B'	D	E
200	26-1/4	28-1/4	15-3/8	17-3/8	5-1/8	20-1/4
300	29-1/2	31-1/2	17-1/2	19-1/2	5-1/2	20-3/4
400	31-5/8	33-5/8	20	22	6	22-3/8
500	34-1/4	36-1/4	20-3/4	22-3/4	5-1/4	24
600	39-1/2	41-1/2	23-1/4	25-1/4	6-1/2	25-3/4
700	40	42	26	28	6-1/2	27-3/4
800	42-3/4	44-3/4	28	30	7-1/2	30-1/2
900	45-1/8	47-1/8	32	34	6-1/4	32

–RH Grease Containing Enclosure on Right Side When Facing Inlet (For Z1192)

–RK Retrofit Kit, Pump, and Bacteria (For Z1174)
Five gallon [19 L] only.

–SI Solids Interceptor Only
Specify required size.

OPTIONS and VARIATIONS

SUFFIXES, continued

–T Cover Recessed for Tile
This option is used in applications where the interceptor or recessing receiver is installed in a finished floor area. A polished stainless steel frame is provided with the interceptor cover recessed for the required tile. (Specify the required recess depth: 1/8", 3/4", or 1-1/4".)

Note: When the (-T) option is specified, it is necessary to extend the overall height of the grease interceptor body by 3" to accommodate for the recessed frame. The additional extension height **does not** have to be specified when ordering the product; it is automatically built into the unit as an integral part.

–XB Extra Solids Interceptor Sediment Basket

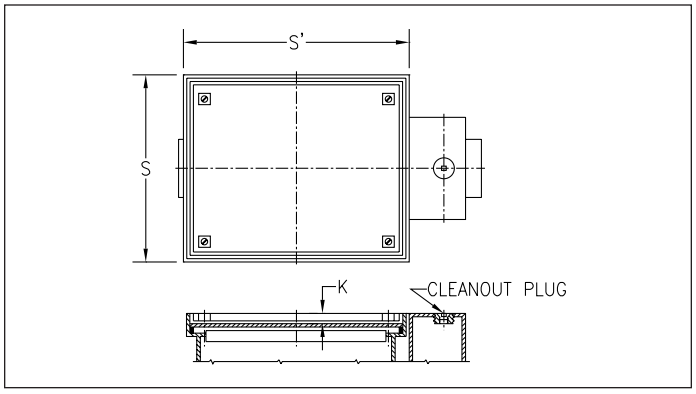
–XF Extra Supply of 30 Solids Filter Bags

–XG Extra Supply of 30 Grease Containment Bags (For Z1192)

–1 One-Gallon [4 L] Grease Eating Bacteria Only (For Z1174)

–5 Five-Gallon [19 L] Grease Eating Bacteria Only (For Z1174)

Z1170-E-T Illustrated



	Vinyl Tile			Ceramic Tile		
Size	K	S	S'	K	S	S'
300	1/8	14	16-7/8	3/4	14-5/8	17-1/2
400	1/8	16-3/4	18-7/8	3/4	17-3/8	19-1/2
500	1/8	17-1/4	21-3/4	3/4	17-7/8	22-3/8
600	1/8	19-7/8	23-3/4	3/4	20-1/2	24-3/8
700	1/8	22-1/2	25-5/8	3/4	23-1/8	26-1/4
800	1/8	24-1/2	27-1/2	3/4	25-1/8	28-1/8

	Terrazzo Tile			Quarry Tile		
Size	K	S	S'	K	S	S'
300	1-1/4	14-5/8	17-1/2	1-1/4	14-5/8	17-1/2
400	1-1/4	17-3/8	19-1/2	1-1/4	17-3/8	19-1/2
500	1-1/4	17-7/8	22-3/8	1-1/4	17-7/8	22-3/8
600	1-1/4	20-1/2	24-3/8	1-1/4	20-1/2	24-3/8
700	1-1/4	23-1/8	26-1/4	1-1/4	23-1/8	26-1/4
800	1-1/4	25-1/8	28-1/8	1-1/4	25-1/8	28-1/8

CHEMICAL RESISTANCE CHART Typical Powder Coatings

Key: E – No attack
F – Some attack, but unseeable in some instances
N – Rapidly attacked
H – Hot, 180°F (82.2°C) or boiling point of solvent
G – Appreciably no attack
P – Attacked, not recommended for use
C – Cold, 70°F (21.1°C)
* – And nitrate and sulfate

Chemical	Epoxy C	Epoxy H
Acids:		
Acetic, 10%	F	N
Acetic, Glacial	N	N
Benzene Sulfonic, 10%	E	E
Benzoic	E	E
Boric	E	E
Butyric, 100%	P	N
Chloracetic, 10%	E	E
Chromic, 5%	F	N
Citric, 10%	E	N
Fatty Acids	E	E
Fluosilicic	N	N
Formic, 90%	E	F
Hydrobromic, 20%	G	G
Hydrochloric, 20%	E	G
Hydrocyanic	E	E
Hydrofluoric, 20%	G	G
Hypochlorous, 5%	F	N
Lactic, 5%	F	N

Chemical	Epoxy C	Epoxy H
Acids (Continued):		
Maleic, 25%	E	E
Nitric, 5%	E	G
Nitric, 30%	G	P
Oleic	E	E
Oxalic	E	E
Phosphoric	G	F
Picric	G	F
Stearic	E	E
Sulfuric, 50%	G	F
Sulfuric, 80%	F	N
Tannic	E	E
Alkalies:		
Ammonium Hydroxide	E	G
Calcium Hydroxide	E	E
Potassium Hydroxide	E	E
Sodium Hydroxide	E	E

Chemical	Epoxy C	Epoxy H
Acid Salts:		
Aluminum Sulfate	E	E
Ammonium Chloride*	E	E
Copper Chloride*	E	E
Iron Chloride*	E	E
Nickel Chloride*	E	E
Zinc Chloride*	E	E
Alkaline Salts:		
Barium Sulfide	E	E
Sodium Bicarbonate	E	E
Sodium Sulfide	E	E
Trisodium Phosphate	E	E
Neutral Salts:		
Calcium Chloride*	E	E
Magnesium Chloride*	E	E
Potassium Chloride*	E	E
Sodium Chloride*	E	E

Chemical	Epoxy C	Epoxy H
Solvents:		
Alcohols	E	E
Aliphatic Hydrocarbons	E	E
Aromatic Hydrocarbons	E	E
Chlorinated Hydrocarbons	F	F
Ketones	F	F
Ethers	F	F
Esters	F	F
Gasoline	E	E
Carbon Tetrachloride	E	E
Organics:		
Aniline	G	P
Benzenc	E	E
Formaldehyde, 37%	E	G
Phenol, 5%	G	F
Mineral Oils	E	E
Vegetable Oils	E	E
Chlorobenzene	G	P

Z1180 and Z1184 CHEMICAL RESISTANCE CHART For Composite Material in Light Acid Concentration Environment Only

Key: E – Excellent Corrosion Resistance G – Good F – Fair P – Poor

Medium	Rating
General Outdoor	E
Marine Outdoor	E
General Industrial	E
Water – Pure	E
Water – Sea	E
Acids:	
Acetic	E
Boric	E
Chromic	E
Citric	E
Fatty	E
Formic	E
Hydrochloric	G
Hydrofluoric	F-P
Nitric	F
Phosphoric	G
Picric	G
Sulfuric	G
Bases:	
Ammonium Hydroxide	E
Potassium or Sodium Hydroxide	F-G
Salts:	
Aluminum Sulfate	E
Ammonium	
Chloride	E
Nitrate	E
Phosphate	E
Sulfate	E
Borax	E

Medium	Rating
Salts (Continued):	
Copper Sulfate	E
Ferric	
Chloride	E
Sulfate	E
Magnesium	
Chloride	E
Sulfate	E
Mercuric Chloride	E
Nickel	
Chloride	E
Sulfate	E
Potassium	
Chloride	E
Sulfate	E
Sodium	
Bicarbonate	E
Bisulfate	E
Chloride	E
Hypochlorite	E
Nitrate	E
Phosphate	E
Silicate	E
Sulfate	E
Thiosulfate	E
Zinc	
Chloride	E
Sulfate	E
Calcium Chloride	E
Sodium Carbonate	E

Medium	Rating
Gases (Wet):	
Ammonia	E
Carbon Dioxide	E
Chlorine	E
Hydrogen Sulfide	E
Nitrogen Dioxide	G-E
Sulfur Dioxide	E
Carbon Disulfide	E
Solvents:	
Acetone	E
Benzene	E
Carbon Tetrachloride	E
Ethyl Acetate	E
Ethyl Alcohol	E
Ethyl Ether	E
Ethylene Dichloride	E
Ethylene Glycol	E
Freon	E
Methyl Alcohol	E
Methyl Ethyl Ketone	E
Methylene Chloride	E
Perchloroethylene	E
Trichloroethylene	E
Toluene	E
Xylene	E

Medium	Rating
Oils, Fuels, and Other:	
ASTM No. 1 Oil	E
ASTM No. 3 Oil	E
Detergents	E
Gasoline	E
Grease	E
Jet Fuel	E
Hydraulic Fluid (Ester)	E
Kerosene	E
Motor Oil	E

CHEMICAL RESISTANCE CHART Typical Corrosion Resistance of Stainless Steel to Various Media

CODE: a – Unaffected. b – Slightly attacked. c – Attacked. m – Complete details concerning the conditions of service must be evaluated.

MEDIUM	TYPE CF8 304	NUMBERS CF8M 316
Organic Substances:		
Acetone	a	a
Benzol	a	a
Carbon tetrachloride	c	c
Ethyl alcohol	a	a
Ethyl chloride	a	a
Ethyl ether	a	a
Food pastes	a	a
Fruit juices	a	a
Ink	m	m
Mustard	b	a
Paregoric cmpd	a	a
Quinine bisulfate	b	a
Quinine sulfate	a	a
Vinegar at 70°F	m	m
Acids:		
Acetic	m	m
Benzoic	a	a
Boric	a	a
Carbolic	a	a
Chromic (50%)	c	c
Citric	a	a
Formic	c	m
Hydrobromic	c	c
Hydrocyanic	a	a
Hydrochloric	c	c
Hydrofluoric	c	c
Lactic	a	a
Nitric (conc.)	a	a
Nitric (conc. plus 2% HCl)	a	–
Nitrous (conc.)	a	a
Oxalic	m	m
Phosphoric	a	a
Phosphoric (10%)	a	a
Picric (conc.)	a	a
Pyrogallic (conc.)	a	a
Pyroligneus (conc.)	a	a
Stearic (conc.)	a	a
Succinic (molten)	c	–
Sulfuric (conc.)	a	a
Sulfuric (dil.)	m	m
Sulfuric 15% (plus 2% potassium dichromate)	a	a
Sulfurous (conc.)	b	a
Tannic (conc.)	a	a
Tartaric (conc.)	a	a
Trichloracetic acid (10%)	a	a
Uric (conc.)	a	a

MEDIUM	TYPE CF8 304	NUMBERS CF8M 316
Salts:		
Aluminum chloride	c	c
Aluminum fluoride	c	b
Aluminum sulfate	a	a
Ammonium alum	a	a
Ammonium bromide	c	a
Ammonium chloride	b	a
Ammonium hydroxide	a	a
Ammonium nitrate	a	a
Ammonium sulfate	a	a
Barium chloride	a	a
Bleaching powder	c	a
Calcium chloride	c	a
Calcium hydroxide or oxide	a	a
Copper chloride	c	c
Copper cyanide	a	a
Copper nitrate	a	a
Copper sulfate (plus 2% sulfuric acid)	a	a
Copper sulfate	a	a
Creosote	c	a
Creosote (plus 3% salt)	c	c
Hydrogen peroxide	b	a
Magnesium carbonate	a	a
Magnesium chloride	m	m
Magnesium sulfate	a	a
Magnesium hydroxide	a	a
Magnesium nitrate	a	a
Phosphorous trichloride	a	a
Potassium bromide	a	a
Potassium carbonate	a	a
Potassium chloride	m	m
Potassium chlorate	a	a
Potassium cyanide	a	a
Potassium dichromate	a	a
Potassium ferricyanide	a	a
Potassium ferricyanide (boiling)	a	a
Potassium hypochlorite	c	m
Potassium iodide	a	a
Potassium iodide (sat. plus 0.1% sodium carbonate evaporated to dryness)	a	a
Potassium hydrate	a	a
Potassium nitrate	a	a
Potassium oxalate	a	a
Potassium permanganate	a	a
Potassium sulfate	a	a
Silver nitrate	a	a

MEDIUM	TYPE CF8 304	NUMBERS CF8M 316
Salts (Continued):		
Silver cyanide	a	a
Sodium bicarbonate	a	a
Sodium borate	a	a
Sodium bromide	a	a
Sodium chloride (2% aerated)	a	a
Sodium citrate	a	a
Sodium fluoride	b	–
Sodium hydroxide	a	a
Sodium nitrate	a	a
Sodium peroxide (212°F)	a	a
Stannic chloride	c	c
Stannous chloride	b	–
Sulfur (molten) 500°F	a	a
Sulfur chloride	b	–
Titanium tetrachloride	a	a
Zinc chloride	c	b
Zinc sulfate	a	a
Miscellaneous:		
Ammonia	a	a
Baking oven gases	a	a
Bromine	c	c
Carbonated beverages	a	a
Chlorine (wet and dry)	c	c
Glycerin	a	a
Hydrogen sulfide (400°F)	b	a
Iodine	c	a
Lead (molten)	c	c
Lysol	m	m
Mercury	a	a
Sauerkraut brine	c	a
Sea water	m	m
Sulfur dioxide	b	b
Vegetable juices	a	a
X-ray developing solution	b	a
Zinc (molten)	c	c

MATERIALS and FINISHES

Zurn Cast Iron conforms to ASTM Specification for Gray Iron Castings A 48-83, Class 25. It is produced utilizing the latest equipment and newest developed foundry techniques. Zurn cast iron castings are characterized by a high degree of strength, corrosion-resistance, workmanship, and finish.

Zurn Duresist is a ductile iron complying with ASTM Specification A 536-84, Grade 60-45-10. Its physical properties make it ideal for grates and drain components that are subjected to severe and heavy duty service. Its chemical characteristics make possible a degree of corrosion-resistance far superior to that of cast iron. Zurn Duresist exhibits remarkable stress qualities, possessing a yield strength in the same range as that of cast carbon steel, while its ability to absorb the shock loading of traffic areas is unequalled, making its use ideal for all areas where extra heavy duty service is a requirement – whether indoors or outdoors – in chemical and metal processing plants or other industrial applications.

"Zurn Dura Coat" is a specially formulated paint designed to resist cracking and chipping. Dura Coat is a latex based coating developed to be used with cast iron substrate.

Zurn Galvanized Cast Iron is a process of applying heavy zinc coating to a thoroughly cleaned iron casting. This coating contains 95% zinc. Zurn galvanizing can be supplied on all cast iron parts. It increases longevity and is recommended wherever the discoloration caused by oxidation of cast iron is objectionable. Galvanize should be used in coastal and industrial areas where corrosive atmosphere may be encountered. Zurn galvanizing meets and exceeds Federal Specification MIL-P-21035, MIL-P-26915A, MIL-P-26433, and MIL-C-10578 (Type II). It also meets ASTM A239-89 and is listed by Underwriters Laboratories, Inc. (U.L.)

Cadmium Plated Cast Iron is a process of applying a heavy cadmium coating to a thoroughly cleaned iron casting. This coating contains 95% cadmium in a cold applied process. Cadmium plating can be supplied on all cast iron parts. It increases longevity and is recommended wherever the discoloration caused by oxidation of cast iron is objectionable.

Properties of Basic Ductile Versus Cast Iron

Metal	Cast Iron	Ductile Iron
Specification	Class 25	60-45-10
Tensile Strength (PSI)	25/30,000	60/80,000
Yield Strength (PSI)	NIL	45/60,000
Elongation	NIL	10% to 25%
Modules of Elasticity	16 x 10	24 x 10

Zurn Bronze is a semi-red brass conforming to ASTM Specification for Copper Alloy Sand Casting B 584-90, Copper Alloy No. 844. The exposed surface is normally supplied possessing a satin sheen texture which allows it to blend unobtrusively with surrounding finishes. When the application requires, Zurn Bronze can be polished to a high gloss.

Zurn Nickel Bronze is a unique material that is ideally suited to traffic-bearing grates and strainers in finished floor areas. It affords the combined advantage of greater strength, better appearance, and longer service life at the same price as chrome plated brass. Superior ductility and shock resistance are the result of a copper nickel alloy (Copper Alloy 997) having a wearing surface similar in appearance to satin chrome plate; however, because it does not have a plated surface it cannot chip, peel, crack, or wear off. It is highly resistant to corrosion; however, the process of oxidation will naturally occur over time with most metals. Methods have been developed to prevent, preserve, and restore metals affected by oxidation.

Chrome Plated Bronze is ideal for installation in walls, gutters, and other areas where a bright decorative finish is desired, and is not subject to the abrasive action of foot and other traffic. It is not recommended for installations where the abrasion will eventually wear through and cause peeling. It should always be specified for swimming pool fittings due to its high resistance to the halogens (chlorine, etc.), encountered in swimming pool sanitation.

Aluminum supplied is casting grade 319. This is an alloy containing both silicon and copper. It is a solid cast metal in a pleasing light gray color. The light weight, coupled with its exceptional strength and corrosion resistance, makes it ideal for drain components such as sediment buckets and strainers. When used with acid-resisting porcelain enamel coated drains, the possibility of chipping is minimized.

Zurn Stainless Steel castings are normally produced in Type CF8 (304) which is an 18-8 Austenitic Stainless possessing excellent corrosion resistant qualities. For some applications where conditions demand, Type CF8M (316) stainless steel can be supplied. Items formed from stainless steel sheet and other stainless steel products are regularly furnished in Type 304 with 316 as an optional material.

A.R.C. Acid Resisting Epoxy Coating is a baked-on powder coating, which produces a smooth, hard, high gloss finish. This epoxy based coating offers high impact resistance and excellent life expectancy in all drainage applications. Zurn A.R.C. coating conforms to the requirements of F.D.A. (Food and Drug Administration) Regulation 21-CFR5 117.1360.

A.R.E. Acid Resisting Porcelain Enamel is a substantially vitreous or glassy inorganic coating bonded to metal by fusion at a high temperature above 800°F. This coating offers excellent acid, abrasion, and wear resistance. The coating is extremely hard and is the ultimate for sanitation in drainage applications. Zurn A.R.E. coating conforms to the requirements of F.D.A. (Food and Drug Administration) Regulation 21-CFR5 117.1360.