ZURN *Specification Drainage Engineering Guide*

Traps, Primers, Backwater Valves

www.zurn.com

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APPLICATION INDEX

Product selection should be made with a specific application and the type of construction in mind. The varied types and sizes of backwater valves, traps, and adapters, together with their options, offer a product selection for all applications.

APPLICATION	RECOMMENDED DRAINAGE PRODUCT
Deep Seal Trap	Z1000, Z1005, Z1012, Z1019, Z1021
Trap Primer	Z1021, Z1022
Trap Primer Connection Adapter	Z1023
Fixed Air Gap	Z1024, Z1025
Pipe Thread to Hub Adapter	Z1030
Inside Caulk Reducing Ring	Z1032
Iron Pipe Flush Bushing	Z1033
Eccentric Iron Pipe Threaded Bushing	Z1034
Floor Drain Stabilizer Plate	Z1035, Z1036
Pipe Thread to 90° No-Hub Adapter	Z1040
Pipe Thread to 90° No-Hub Elbow Adapter	Z1042
Pipe Thread to Elbow Adapter	Z1043
Gate-Type Sanitary Sewer Backwater Valve	Z1088
Storm Sewer Backwater Valve	Z1088, Z1090, Z1091, Z1095
Bottom Outlet Floor Drain Backwater Valve	Z1099

OPTIONS and VARIATIONS

All Zurn backwater valve and trap optional variations are specified as a PREFIX and/or SUFFIX letter or number added to the series designation. Below are the available options.

PREFIXES

Z Standard Assembly or D.C.C.I. Body
ZAB Bronze Body with Polished Bronze Top
ZABN Bronze Body with Polished Nickel Bronze Top
ZARB All Plain Bronze Body
ZB D.C.C.I. Body with Polished Bronze Top
ZN D.C.C.I. Body with Polished Nickel Bronze Top

SUFFIXES

–AR Acid Resisting Epoxy Coated Finish
–BP Bronze Threaded Plug Cover
–BC Bolted Cover
–BV Bronze Flapper Valve
–C Clamping Collar
–CP Chrome-Plated Finish
–DS Dome Strainer
–DU2 2-Outlet Distribution Unit
–DU3 3-Outlet Distribution Unit
–DU4 4-Outlet Distribution Unit
–FC Adjustable Floor Cleanout (See Z1400)
–FL Flushing Connection
–F6 6" Diameter Funnel
–G Galvanized Cast Iron
–LC Less Cleanout and Plug
–P Trap Primer Connection (1/2" or 3/4")
–V Backwater Valve
–WH Wheel Handle
–WL One-Piece Waste Elbow
–3 3/4" Connection
–7 7" Long Adapter
–12 12" Extension
–24 24" Extension

PICTORIAL INDEX

Z1000
Deep Seal Trap

Z1005
Deep Seal Trap
with Adjustable Cover

Z1012
Deep Seal Trap
with Floor Cleanout

Z1019
Funnel Drain
with "P" Trap

Z1021
Water Saver Trap Primer

Z1022
Sani-Gard Automatic Trap Primer

Z1023
Trap Primer Connection Adapter

Z1024
Fixed Air Gap

Z1025
Fixed Air Gap

Z1030
Hub Adapter

Z1032
Inside Caulk Reducer

Z1033
Female Pipe Thread Reducer

Z1034
Female Pipe Eccentric Reducer

Z1035
Floor Drain Installation Stabilizer

Z1036
Floor Drain Installation Stabilizer

Z1040
No-Hub Adapter

Z1042
Elbow Adapter

Z1043
Elbow Adapter

Z1088
Backwater Valve
Gate Type

Z1090
Backwater Valve
Flapper Type

Z1091
Backwater Valve
Flapper Type

Z1095
Backwater Valve
Flapper Type

Z1099
Backwater Valve
Ball Float Type

TYPICAL INSTALLATIONS

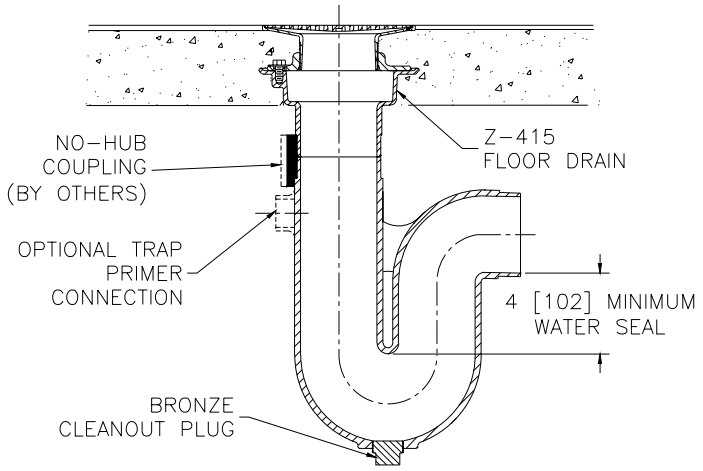
GENERAL PRODUCT INFORMATION AND PRODUCT COMPLIANCE

Z1000 Series products include: Deep Seal Traps, Trap Primers, Trap Primer Connections, Air Gaps, Adapters, and Backwater Valves. These products can be defined as follows:

DEEP SEAL TRAP
Z1000

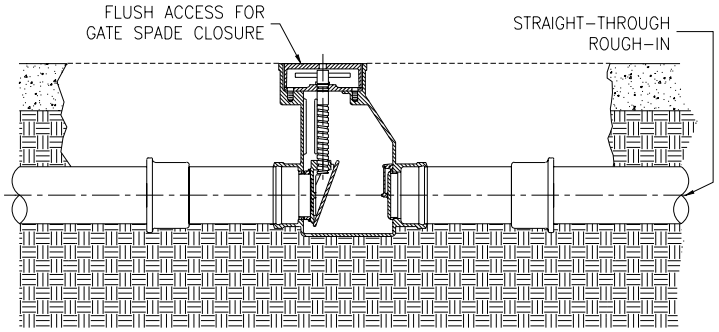
Designed to be used in conjunction with bottom outlet floor drains. Deep seal traps provide positive protection against sewer gas, germs, and odors when properly maintained. It is recommended that automatic trap primers be specified in concert with deep seal traps.

Zurn deep seal trap installed with a Zurn floor drain provides a minimum 4" deep water seal.



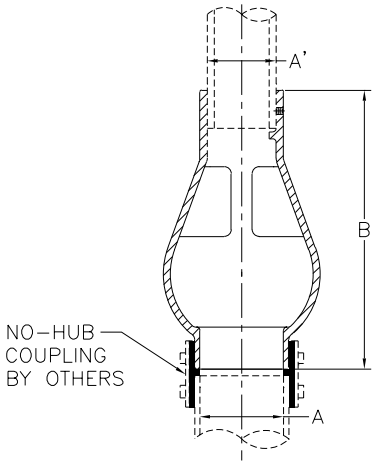
GATE-TYPE BACKWATER VALVE
Z1088

Zurn spade-type backwater valve offers both a restrictive flapper-type and a manually operated gate valve which may be closed to provide positive protection during prolonged periods of flooding. 4" valves utilize a PVC flapper valve that hangs closed. O-ring on seat provides a positive seal. 6" valves utilize a conventional brass flapper seal arrangement that hangs 1/4" open. The Z1088 offers straight through connections (no offset – see Z1090, Z1095), which is extremely important for installations in existing drainage lines, or where minimal pitch is required.



AIR GAPS
Z1025

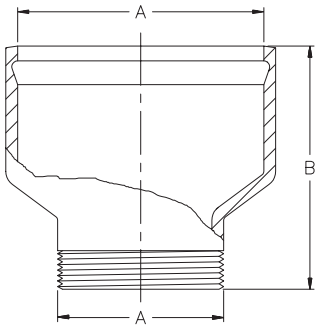
Zurn air gaps provide a vertical break in plumbing systems which are open to the atmosphere. Zurn air gaps are designed to provide positive protection against backflow and conform to open area requirements of ANSI A112.1.2. Consult local codes for specific installation information. It is recommended that air gaps be specified for use in areas where splashing water from the air gap will not be objectionable or cause damage.



TYPICAL INSTALLATIONS

ADAPTERS
Z1030, Z1032, Z1033, Z1040

Zurn offers a wide range of adapters, reducers, and connectors used to satisfy job conditions and piping systems.

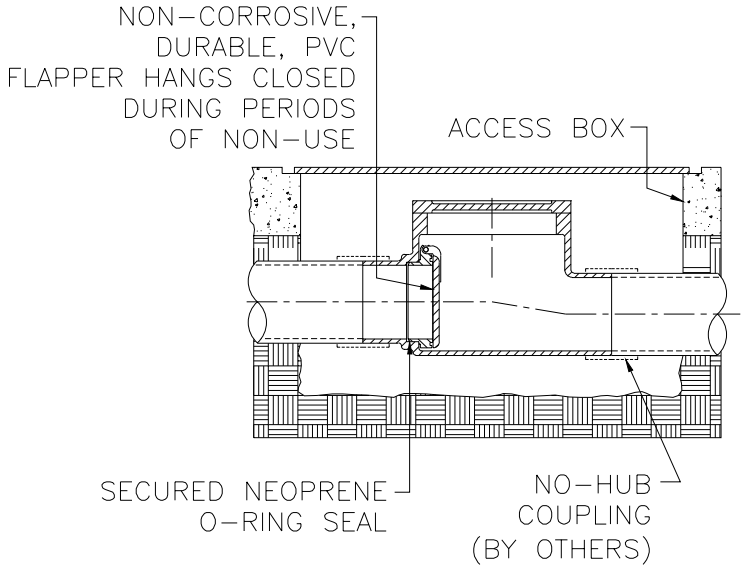


Z1030 Illustrated

FLAPPER-TYPE BACKWATER VALVE
Z1090

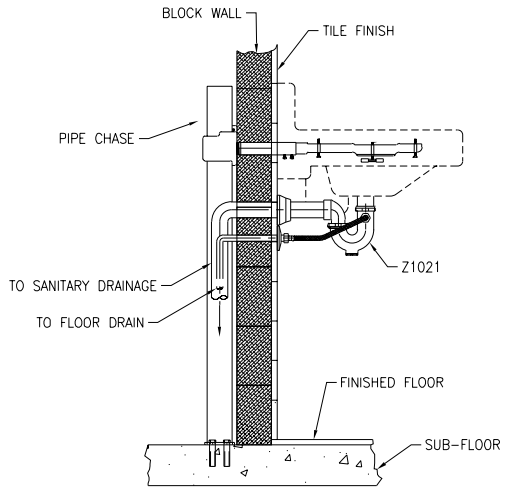
Designed for applications where excessive rainfall, stoppages, tidewater, and inadequate drainage conditions cause backflow and flooding. Backwater valves are designed to restrict backflow surges and provide a degree of protection from health hazards associated with backflow and flooding. Zurn backwater valves should be checked periodically for proper operation and will only restrict backflow when free of debris and in good working condition. Fouling by sludge and debris may obstruct the backwater device. Zurn backwater valves are designed for gravity flow applications and comply with ANSI Specification A112.14.1.

3" and 4" flapper-type backwater valves utilize a PVC flapper valve that hangs closed. O-ring on seat provides a positive seal. All other sizes of flapper-type backwater valves utilize a conventional brass flapper seal arrangement that hangs 1/4" open. Z1090 has a gasketed bolted cover for easy access and uses an offset body design to ensure pitch to drain line.



WATER SAVER TRAP PRIMER
Z1021

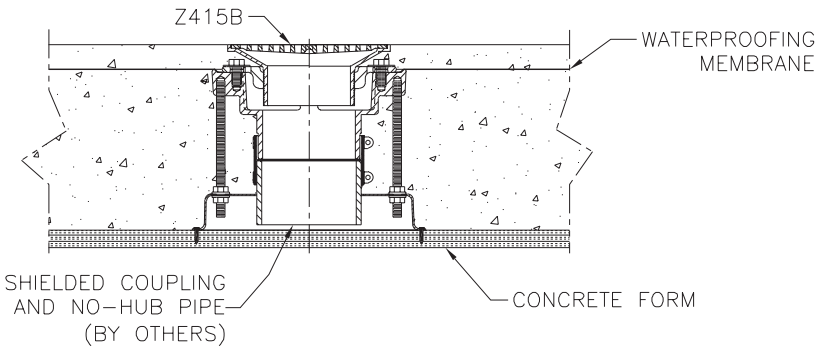
Designed to be used in conjunction with 1-1/4" sink outlet, the Z1021 diverts drain water through a flexible hose to an infrequently used floor drain and primes the trap seal of the drain.



TYPICAL INSTALLATIONS

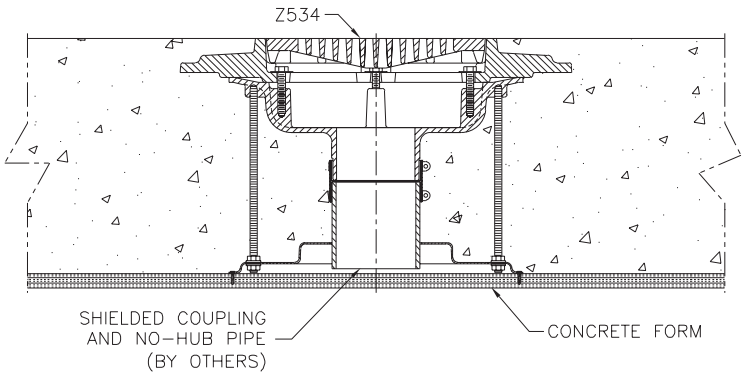
FLOOR DRAIN INSTALLATION STABILIZER Z1035

Drain installation stabilizer (designed for 8-3/8" diameter drain body) shown installed with a Z415B floor drain in concrete, using a waterproofing membrane and no-hub outlet connection. Also available with Neo-Loc outlet connection.



FLOOR DRAIN INSTALLATION STABILIZER Z1036

Drain installation stabilizer (designed for 12" and 15" diameter drain bodies) shown installed with a Z534 parking deck drain with support flange in concrete, using No-Hub outlet connection. Also available with Neo-Loc outlet connection.



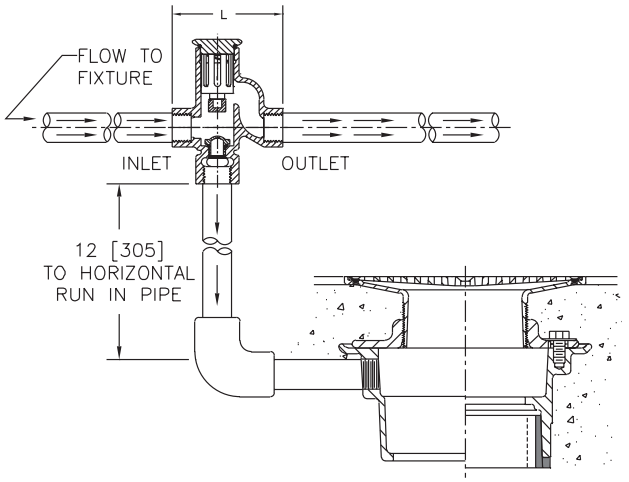
SANI-GARD Z1022

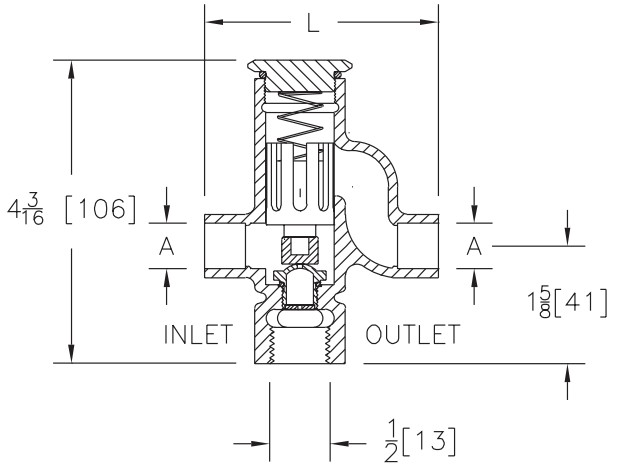
Z1022 Sani-Gard Trap Primer

The Zurn Trap Primer is a necessity in areas where drains are infrequently used and provides positive protection to maintain trap seals. The Zurn Z1022 automatic trap primer, properly installed in the supply line to a fixture, will automatically supply water to the deep seal P-trap of a drain each time the fixture is used. When the fixture is used, water is delivered to the trap of the floor drain which is serviced by the trap primer. The piston inside the trap primer raises when water flows through the supply line, thus allowing water to flow into the trap.

Engineering Specification: Zurn Z1022 Sani-Gard Automatic Trap Primer, all bronze body with integral vacuum breaker, non-liming internal operating assembly with gasketed bronze cover.

A - Pipe Size/Connection	L [mm]	Approx. Wt. Lbs. [kg]
1/2" [13] Solder Female	3-1/4" [83]	1 [.5]
1/2" [13] IP Female	3-1/4" [83]	1 [.5]
1/2" [13] Solder Female Union	5-11/16" [144]	1.5 [.75]
1/2" [13] IP Female Union	5-3/8" [137]	1.5 [.75]





Note: Trap primer should be installed a minimum of 6" above grid of floor drain or flood level rim of equipment served.

Installation

Water supply lines should be flushed clear of chips and debris when possible, before installing the Zurn automatic trap primer.

Install a frequently used horizontal cold water line above the trap to be protected. The trap primer valve should be installed vertically at least 12 inches above the grid of a floor drain, or the flood rim of the equipment which the trap is to serve.

Note: Remove the piston during the soldering process. Replace the piston once the soldering is completed.

After the unit is installed, check through the vacuum breaker ports to see that water flows to the drain trap when the cold water line is flowing, and that the valve shuts off when the water line is closed.

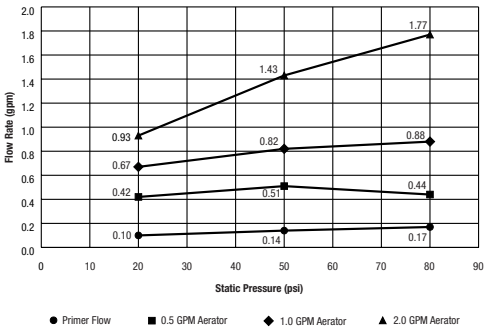
Note: In order to operate the trap primer at static pressures between 20 and 80 psi, a pressure drop of 2 to 3 psi is required.

Maintenance

The Zurn 1022 trap primer requires little maintenance. A periodic visual inspection through the air gap vacuum ports of the Z1022 or drain trap will ensure proper operation.

Situations may arise where the trap primer, drain line, or drain body must be installed in an application that has construction limitations. These limitations, such as installation in a pre-existing floor that cannot be easily altered, can make connecting the trap primer to the drain body very difficult. Requirements, like drain line height or proper sloping of the drain line to the drain body, cannot always be met.

Flow Rate Through a 0.5 to 2.0 GPM Faucet Aerator



Troubleshooting

No water to drain	1. Check flow rate at the fixture. Minimum flow rate must be 0.5 GPM or higher. 2. Inspect piston seat for dirt or debris that may clog the orifice opening. 3. Drain line is plugged downstream of the trap primer. 4. Trap primer is installed backward.
Continuous water to the drain	1. Inspect piston seat for dirt or debris that may prevent the piston from fully seating. 2. Inspect gasket seal of piston for any damage. 3. Remove the piston seat and inspect the O-ring for damage.
Water spraying out of vacuum breaker ports	1. Drain line is reduced down, restricting the flow from the trap primer. Drain line size must be at least 1/2" pipe. 2. Inspect the piston seat for clogging. Debris lodged inside the piston seat may divert the flow of water to stream outward, spraying through the air gaps. 3. Drain line is plugged or is piped to create a trap seal, causing water to back up in the line. 4. Check to ensure that the piston seat is free of any burrs that may redirect the flow of water to the drain line.

SANI-GARD Z1022 with DISTRIBUTION UNIT Up To 4 Trap Primers in 1

Z1022-DU Sani-Gard Trap Primer Distribution Unit

The Zurn floor drain trap primer distribution unit provides a positive means of correctly dispersing supply line water to infrequently used drains. When properly installed with the Z1022 Trap Primer, the distribution unit allows for effective priming of multiple trap seals, while eliminating the need for multiple trap primers.

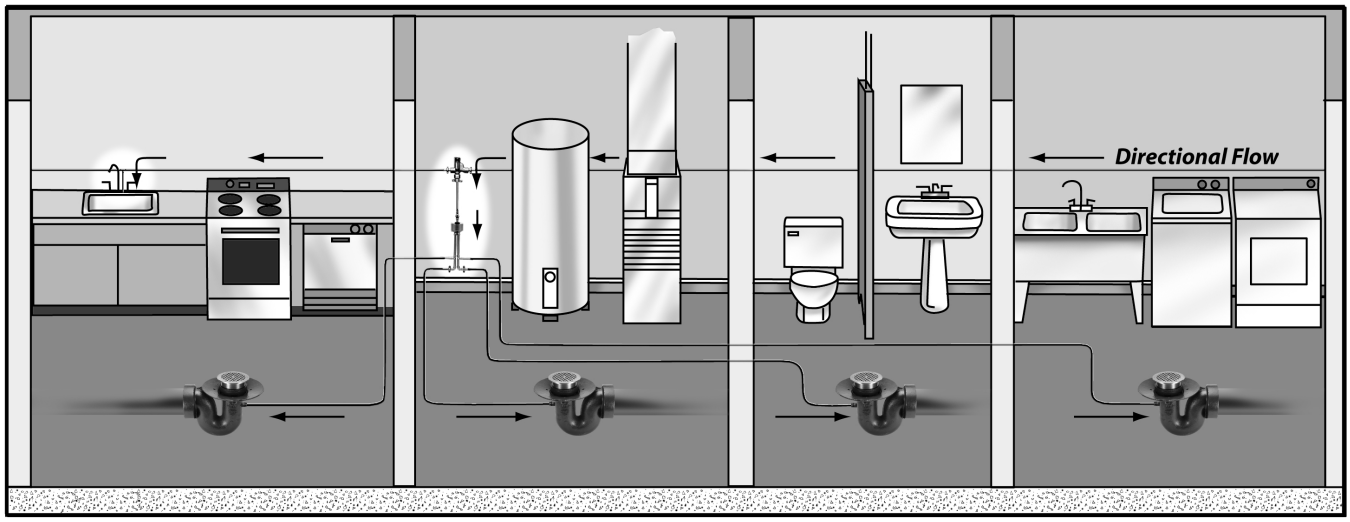
Zurn Distribution Units are provided with all brass body construction and polished coating, available with 2, 3, or 4 outlets. The unit's transparent removable inlet cap has an elastomeric grommet seal for a watertight connection, allowing quick and easy inspection of proper operation. Internal metering tubes and overflow ports permit even distribution of water to each outlet.

Each unit comes equipped with a slotted inlet adapter tube that accepts a 1/2" female NPT connection (by others). The inlet tube should be fully inserted in through the grommet until it comes in contact with the bottom surface of the unit body. Outlets are provided with 3/8" female pipe thread connections. Water lines running from the distribution unit to the drain trap should be 3/8" (minimum) copper pipe.

Zurn Distribution Units should be installed in an upright, level position at a rough-in height of 6" from the bottom of the trap primer to the top of the distribution unit cap to ensure the amount of water is evenly discharged through the outlets.

Engineering Specification: Distribution Unit furnished with all brass body, inlet adapter, internal slotted water metering tubes, overflow ports, removable, gasketed transparent cover, complete with 3/8" [10] NPT outlet connections (2, 3, or 4).

Food Preparation Areas **Basements** **Restrooms** **Service Areas**

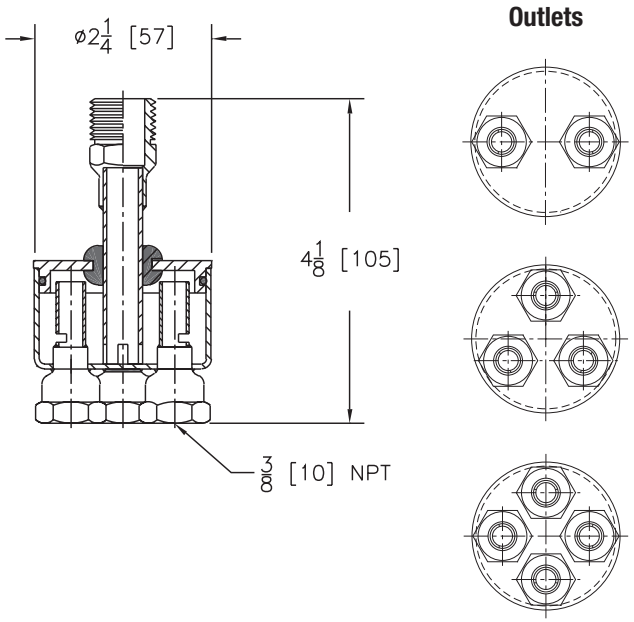


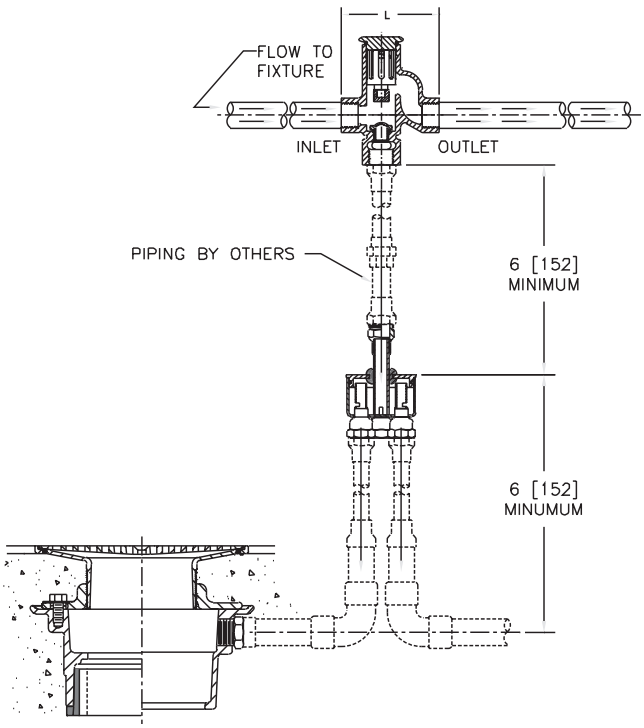
SANI-GARD Z1022 with DISTRIBUTION UNIT Up To 4 Trap Primers in 1

Water Distributed To Each Outlet

Distribution Unit	(20 psi Static)	(50 psi Static)	(80 psi Static)
-DU2	6	10	12
-DU3	4	6	8
-DU4	3	5	5

Results based on 2 gpm fixture. Units in ounces/minute.





Z1035 and Z1036 FLOOR DRAIN INSTALLATION STABILIZER For Flying Form Construction

The Zurn Drain Installation Stabilizer is a unique support plate designed to secure a drain in place and provide adjustment, rigidity, and strength during the drain installation process.

The main objectives for the Drain Installation Stabilizer are as follows:

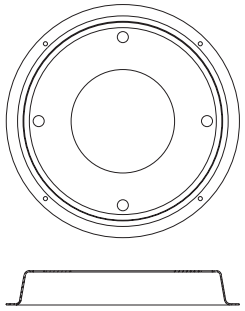
a) To provide a means of pre-assembling the drain to a known rough-in height. If the floor thickness is already known, the drain and Installation Stabilizer can be conveniently pre-assembled away from the job site, and quickly placed and leveled in the correct location at the job site, saving labor costs.

b) To locate and secure the drain in place and keep it in position prior to concrete pour. The Installation Stabilizer will help resist the drain from tipping, tilting, or being knocked over during construction and concrete pour.

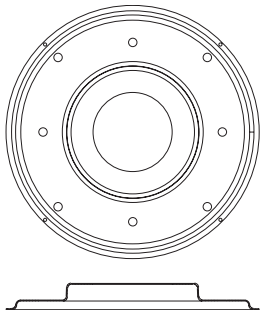
c) To allow height and level adjustments of the drain to meet the finished floor.

d) To support any reasonable excess weight that may be placed on the drain before the concrete is poured.

e) To create an open pocket on the underside of the plate, allowing for attachment of the waste line piping after a concrete pour.



Z1035 (For 8-3/8" diameter drain body.)



Z1036 (For 12" and 15" diameter drain body.)

How To Use the Drain Installation Stabilizer

The Installation Stabilizer is constructed of galvanized steel plate and is designed to be used with 8-3/8" diameter, 12" diameter, and 15" diameter drain bodies (2", 3", and 4" No-Hub and Neo-Loc outlets).

Four lengths of all-thread rod are attached to the drain body by inserting and tightening into the tapped holes located on the underside of the drain body. The stabilizer plate is then connected to the all-thread rod by use of flanged nuts, above and below the plate. Adjusting the placement of the nuts changes the rough-in height of the drain. Once the proper height is obtained, the nuts are tightened against the plate. Any excess rod is trimmed off and a stub of pipe is then connected to the drain body and allowed to extend through the center hole of the plate. The assembly is then nailed down to the concrete form.

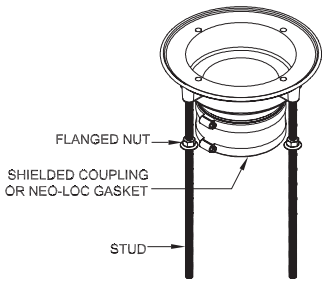
When concrete is poured around the drain, the plate creates a pocket on the underside of the slab. When the concrete is set and the forms are stripped away, the visible result is a stub of pipe protruding through the underside of the slab. The remaining drain line can then be connected to this stub of pipe.

FLOOR DRAIN INSTALLATION STABILIZER Assembly Instructions

Step 1 Connect a shielded coupling to the drain body (No-Hub connection), or insert gasket into drain body (Neo-Loc connection).

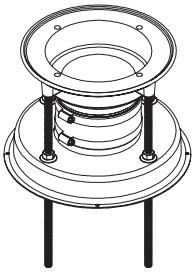
Step 2 Remove the threaded studs from hardware bag (Part Number 66955-312-9) and screw into the tapped bosses on the underside of the drain body until tight.

Step 3 Screw one flanged nut onto each stud with the flange facing downward.



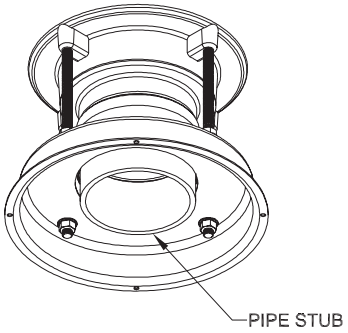
Step 4 Insert the studs through the four holes of the plate with the plate cavity facing downward. Set the drain body at the required rough-in height and screw the flanged nuts down until they are flush against the top of the plate.

Step 5 Screw the second flanged nut onto each stud with the flange facing upward. Tighten both nuts on each stud until the plate is secured to the studs.



Step 6 Trim the studs down so they are flush with the bottom of the plate. Set the assembly onto a level surface and check to ensure that the drain body is level with the plate. The flanged nuts can be loosened and tightened to allow for any necessary adjustments. Once leveled, trim any studs that extend beyond the cavity of the plate.

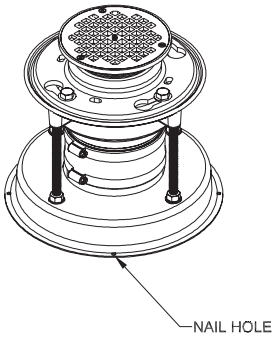
Step 7 Insert a stub of drainage pipe into the shielded coupling (No-Hub connection) or gasket (Neo-Loc connection) and secure. It is important that there be at least 1-1/4" of pipe protruding through the cavity of the plate in order to make a connection to the remaining drainage line.



Step 8 Once the assembly is complete and set at the proper rough-in height, place the assembly in the proper location prior to concrete pour. The assembly can be nailed down to the concrete forms by using the nail holes provided on the rim of the plate.

Step 9 Concrete pour.

Step 10 After the concrete is set and the forms are stripped away, the result will be a voided area on the underside of the floor with a stub of pipe protruding through it. Trim off any nails that are extending beyond the concrete floor. The remaining drainage line can now be connected to the drain assembly.



Note: Some localities' building codes do not allow a shielded coupling or rubber gasket to be buried in concrete. For applications such as this, a section of 6" PVC pipe can be used to act as a barrier to keep concrete from coming in contact with the rubber materials.

FLOOR DRAIN INSTALLATION STABILIZER Assembly Instructions, continued

Each Floor Drain Installation Stabilizer is provided with a hardware bag (Part Number 66955-312-9) that consists of the following products:

Part	Part Number	Qty.
3/8-16 Flanged Locknut	56795-002	8
3/8-16 x 12 Stud	14861-046	4

The Zurn Floor Drain Installation Stabilizer is designed to be used with the following Zurn floor drains:

8-3/8" Diameter Floor Drain

Model Number	Rough-In Height No-Hub In./[mm]		Rough-In Height Neo-Loc In./[mm]	
	Min.	Max.	Min.	Max.
Z315, Z556	6-1/2 [165]	13-1/2 [343]	5-5/8 [143]	13-1/2 [343]
Z415 Type B, BL, C, D, E, G, H, I, J, K, M, N, O, S, SC, SH, SL, T				
ZS415 Type B and S				

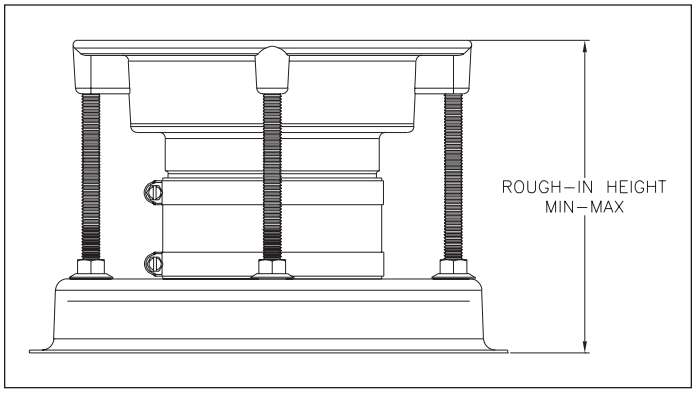
12" Diameter Floor Drain

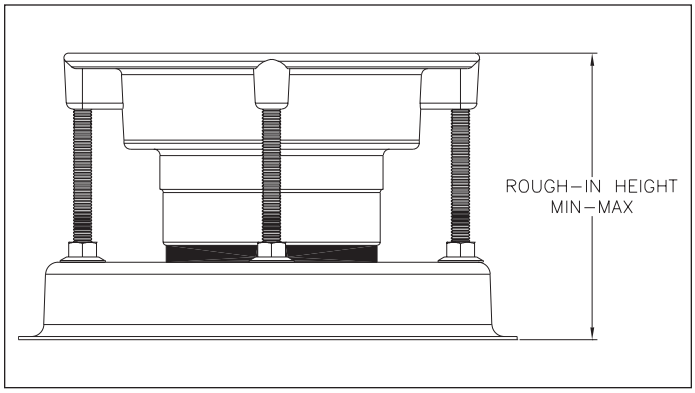
Model Number	Rough-In Height No-Hub In./[mm]		Rough-In Height Neo-Loc In./[mm]	
	Min.	Max.	Min.	Max.
Z508, Z550, Z554, Z609, Z679	7-3/8 [187]	13-1/2 [343]	5-1/2 [140]	13-1/2 [343]
Z533	7-7/8 [200]	13-1/2 [343]	6-1/2 [165]	13-1/2 [343]

15" Diameter Floor Drain

Model Number	Rough-In Height No-Hub In./[mm]		Rough-In Height Neo-Loc In./[mm]	
	Min.	Max.	Min.	Max.
Z505, Z532, Z536, Z537, Z540, Z541, Z545, Z610, Z625, Z626, Z627	7-7/8 [200]	13-1/2 [343]	6-1/2 [165]	13-1/2 [343]

Note: Rough-in heights shown are with use of 12" [305 mm] long studs.





Z1088 GATE-TYPE BACKWATER VALVE Installation, Operation, and Maintenance Instructions

Technical Information

The Zurn Z1088 is a spade-type backwater valve. Its Dura-Coated cast iron body offers a restrictive, automatic flapper-type backwater valve and a manually operated gate valve. The flapper-type backwater valve restricts the backflow of wastewater caused by temporary overloading. The manually operated valve can be closed to provide protection during flooding. It is located in the outlet and is manually operated at floor level via a handle and non-rising stem.

The unit incorporates a straight-through inlet and outlet design with no offset. This feature was designed for installation in existing sewer lines or where minimal pitch is required. Moreover, it can be installed in new or existing sewer lines without affecting invert elevations.

The 4-inch [102mm] models utilize a PVC flapper-type valve that hangs in a closed position. The 6-inch [152 mm] models utilize a conventional brass flapper seal arrangement that hangs 1/4-inch [6 mm] open. The unit also features a standard O-ring adjacent to the inlet and an O-ring seat insert adjacent to the outlet. Accessories include a galvanized cast iron body, 12-inch [305 mm] and 24-inch [610 mm] extensions, and a wheel handle. A bronze flapper valve is available for the 4-inch [102 mm] model.

Installation Instructions

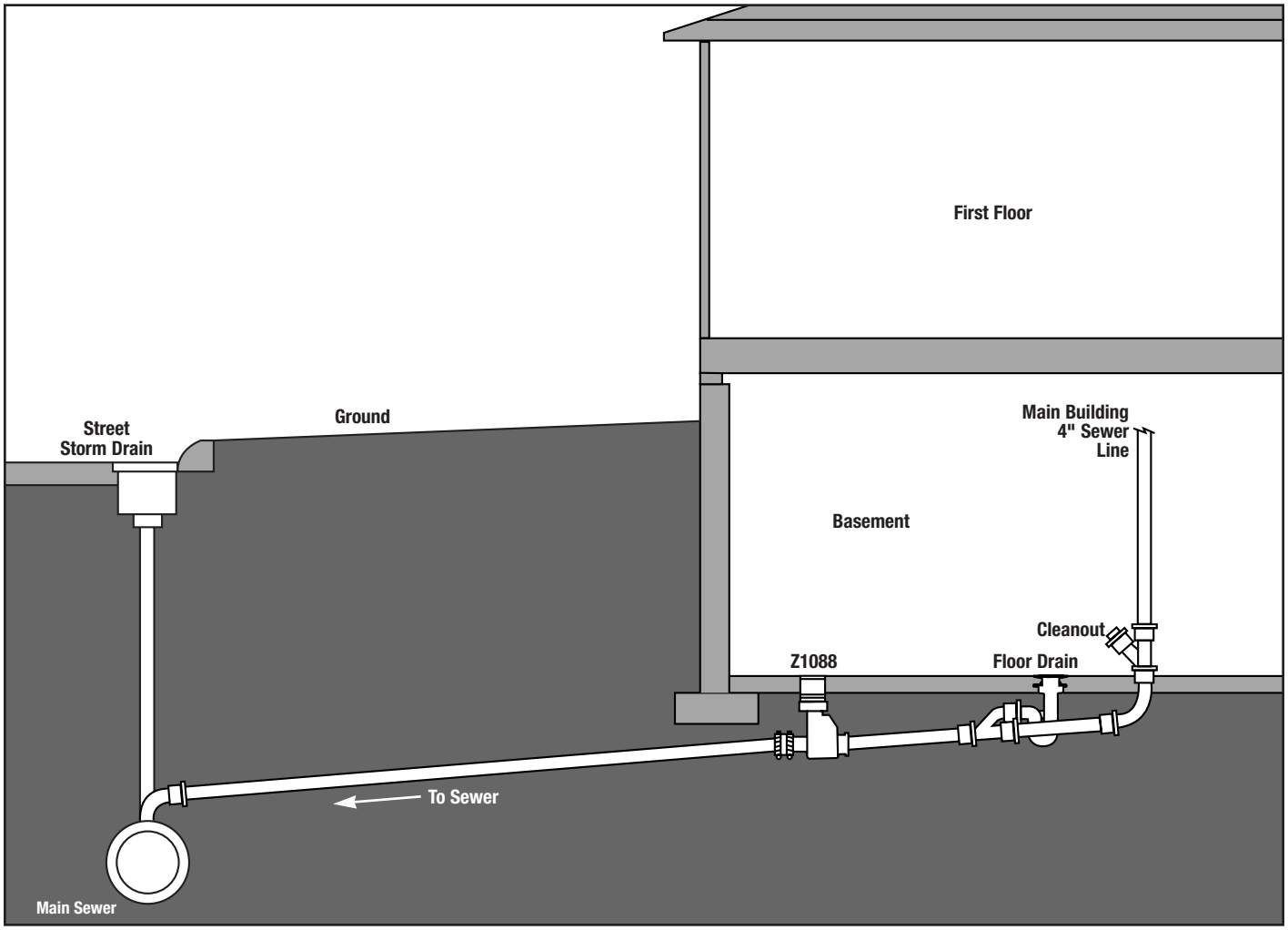
Notice: Although the Zurn Z1088 Backwater Valve may be installed outside the facility, the recommended installation is in the basement floor of the facility. When the unit is installed on the sewer line, it should be placed as close to the wall as possible. Also, remember to turn off the water supply prior to installation on an existing facility.

Example of Installation

1) Begin installation by excavating an appropriately sized pit around the sewer line. If the unit is being installed in an existing facility, cut and remove the concrete and earth above the sewer line.
2) Cut the pipe a little larger than the overall distance of the unit's pipe connections and install according to local plumbing codes and proper plumbing practices.
3) Test system for leaks.
4) Backfill around the valve.
5) Re-cement the floor.

Accessories

1) 12" and 24" extensions (or as required to meet grade).
2) Fiberglass access boxes.
3) Wheel handle and cover.



Z1088 GATE-TYPE BACKWATER VALVE Installation, Operation, and Maintenance Instructions

Operation Instructions

The Z1088's gate valve should be closed during storms and/or flooding to prevent sewer from backing up into the facility. **Toilets and faucets must not, under any circumstances, be used while the gate valve is closed; to do so would flood the facility's internal sewer lines and back up on floor.**

To close/open the gate valve, follow the steps listed below.

Step 1 Remove the cover by placing a screwdriver into the center hole (as shown in Top View With Cover) and prying it out.

Step 2 Turn the brass handle (shown in Top View Less Cover) clockwise until it stops. The gate valve now blocks the outlet, thus preventing the sewer from backing up.

Step 3 Once the storm or flooding is over, turn the brass handle counterclockwise until it stops. The gate valve no longer blocks the outlet and toilets and faucets may now be used.

Step 4 Replace the cover.

Maintenance Instructions

The backwater valve should be checked periodically by a qualified plumber and cleaned of debris and waste when appropriate. To disassemble the valve, follow the steps below.

Step 1 Remove the cover as in Step 1 above.

Step 2 Remove the four (4) bolts from the handle plate (shown in Top View Less Cover).

Step 3 Pull up on the handle to remove the plate and handle/valve assembly.

Step 4 Clean out the accumulated debris and waste at the bottom of the valve housing.

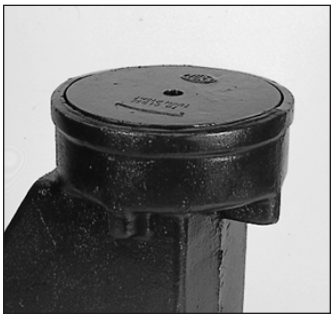
Step 5 Grease the face of the gate, the screw stem, and the O-ring in the face of valve seat. This will ensure a smoothly operating valve assembly.

Step 6 Reinsert the plate and handle/valve assembly into the valve body.

Step 7 Reinstall the four (4) bolts and tighten.

Step 8 Replace the cover.

Open Position



Top View With Cover

Top View Less Cover

Closed Position

Z1088 To Z1088-24 GATE-TYPE BACKWATER VALVE Extension Assembly Instructions

Z1088 (Refer to Figure 1)

A. Remove cover.

B. Remove four (4) bolts securing top plate.

C. Grasp handle and pull out the complete spade valve assembly.

D. Remove the cotter pin holding the “tee handle” to the screw shaft and remove “tee handle.”

E. Remove snap rings from screw shaft. One snap ring is on top of the top plate and the other is underneath the top plate.

F. Pull the top plate off of the screw shaft.

Z1088-24 (Refer to Figure 2)

G. Install connector to screw shaft and put in pin to secure connector to screw shaft.

H. Install shaft extension into connector and put pin in to secure extension to connector.

I. Install connector to shaft extension and put in pin to secure connector to shaft extension.

J. Install handle end shaft extension into connector and put in pin to secure extension into connector.

K. Push top plate onto handle end shaft extension and replace snap rings onto the shaft.

L. Install “tee handle” through the handle end shaft extension and replace cotter pin.

M. Install extension into valve casting and caulk.

N. Install extension into first extension and caulk.

O. Insert the extended spade valve assembly into the extended valve casting. Orient the spade valve so it will go into track and push top plate down. Replace four (4) bolts securing top plate.

P. Replace cover.

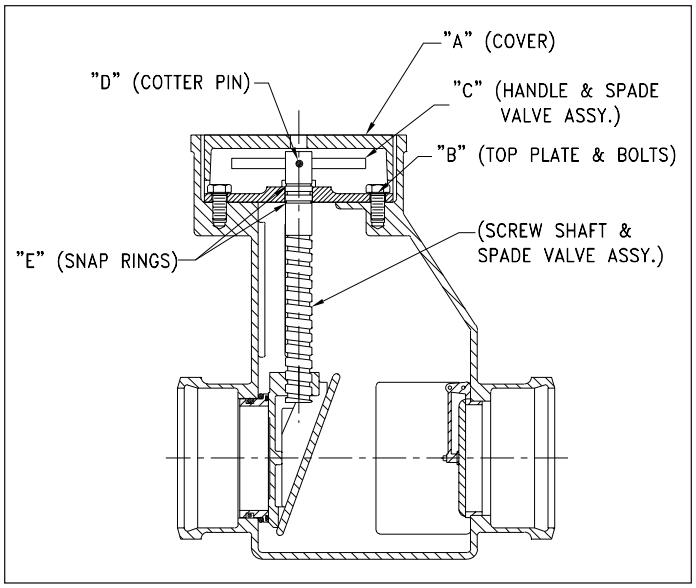


Figure 1 Z1088

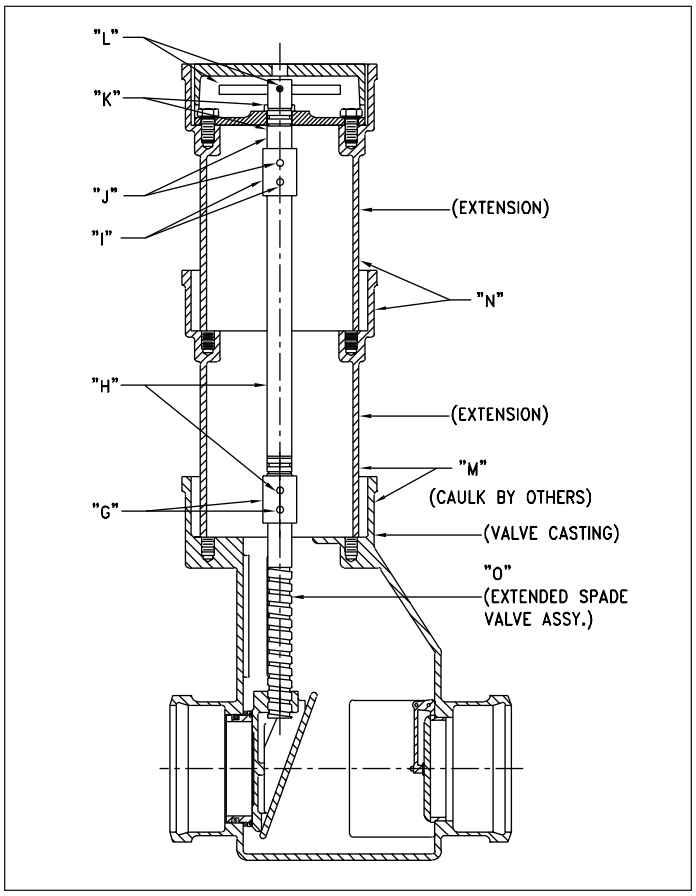


Figure 2 Z1088-24

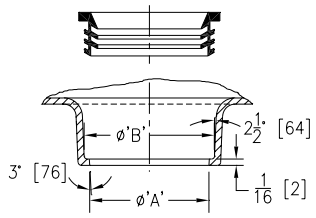
ZURN OUTLET PIPE CONNECTIONS

INSIDE CAULK (IC)

Often specified where drain body is positioned on pipe, bottom of outlet is sealed with oakum, and connection is then completed with melted lead.

INSIDE GASKET (IG)

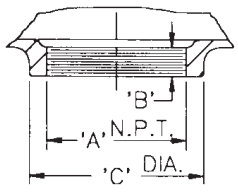
The IG connections utilize an inside caulk drain body and a Zurn "Sealtrol" gasket. **This connection is only recommended for basement or ground floor applications.**



I.C. W/SEALTROL GASKET (IG)
INSIDE CAULK (IC)

IRON PIPE (IP)

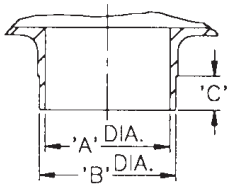
Zurn Iron Pipe Threaded connection is an old industry standard. The female (NPT) threaded outlet is often specified on industrial and institutional applications.



I.P. (THREADED/N.P.T.)

NO-HUB (NH)

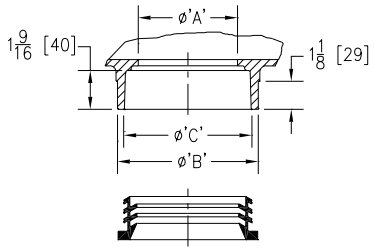
The most widely used connection. A No-Hub connection is achieved by butting No-Hub soil pipe or plastic pipe to the bottom of drain and securing it with a NH joint clamp. (Clamp furnished by others.)



NO–HUB (NH)

NEO-LOC (NL)

Zurn Neo-Loc is a unique labor saving compression gasketed connection designed to simply push on the stub end of the pipe. The Neo-Loc drain body and gasket can be utilized with plastic, steel, No-Hub, and service weight soil pipe. A unique pipe stop cast in each Zurn Neo-Loc drain body ensures a proper fit.



"NEO–LOC" (NL)

Special Note: Zurn "Neo-Loc" and "Sealtrol" gaskets are designed for use exclusively with Zurn drainage products. They are not sold separately and all warranties either expressed or implied would be forfeited if used in other than a Zurn drainage product.

OUTLETS	Dimensions in Inches [mm]		
	'A'	'B'	'C'
2" [51] No-Hub Outlet	2 [51]	2-3/8 [60]	1-1/8 [29]
3" [76] No-Hub Outlet	3 [76]	3-3/8 [86]	1-1/8 [29]
4" [102] No-Hub Outlet	4 [102]	4-3/8 [111]	1-1/8 [29]
5" [127] No-Hub Outlet	4-15/16 [126]	5-5/16 [135]	1-1/2 [38]
6" [152] No-Hub Outlet	5-15/16 [151]	6-5/16 [160]	1-1/2 [38]
8" [203] No-Hub Outlet	7-15/16 [202]	8-3/8 [213]	2 [51]
10" [254] No-Hub Outlet	10 [254]	10-9/16 [268]	2 [51]
12" [305] No-Hub Outlet	12 [305]	12-9/16 [319]	2 [51]
2" [51] Neo-Loc Outlet	2 [51]	3-3/8 [86]	3 [76]
3" [76] Neo-Loc Outlet	3 [76]	4-3/8 [111]	4 [102]
4" [102] Neo-Loc Outlet	4 [102]	5-1/2 [140]	5-1/8 [130]
2" [51] I.C. Outlet	2-5/8 [67]	3-1/16 [78]	–
3" [76] I.C. Outlet	3-3/4 [95]	4-3/16 [106]	–
4" [102] I.C. Outlet	4-3/4 [121]	5-3/16 [132]	–
5" [127] I.C. Outlet	5-3/4 [146]	6-3/16 [157]	–
6" [152] I.C. Outlet	6-3/4 [172]	7-3/16 [183]	–
8" [203] I.C. Outlet	8-7/8 [226]	9-1/2 [241]	–
2" [51] N.P.T. Outlet	2 [51]	9/16 [14]	3-1/4 [83]
3" [76] N.P.T. Outlet	3 [76]	3/4 [19]	4-1/2 [114]
4" [102] N.P.T. Outlet	4 [102]	15/16 [24]	5-5/8 [143]
5" [127] N.P.T. Outlet	5 [127]	15/16 [24]	6-11/16 [170]
6" [152] N.P.T. Outlet	6 [152]	15/16 [24]	7-3/4 [197]
8" [203] N.P.T. Outlet	8 [203]	1-1/8 [29]	9-3/8 [238]

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.