



Linear Drain Guide

The particulars of any drain installation depend on a number of variables: site conditions, waterproofing, and type of install. Whether it is a barrier threshold (curb), or barrier free (curbless/zero threshold) installation, Infinity Drain has provided general guidelines below to assist in determining the correct product choice for your project. Always use a licensed professional when installing our products. Please contact us with questions regarding your specific installation.

Site Conditions:

Whether it is a renovation or new construction, choosing where to locate a linear drain is contingent on the waste line location, which may be predetermined or already installed. Moving a waste line may be possible, depending on site conditions. Infinity Drain's Site Sizeable (S) Series provides flexibility during the installation process by allowing the outlet to be placed anywhere along the channel run. Always consult with a licensed professional.

Locating Linear Drains

A linear drain allows for the use of larger format floor tile and the ability to pitch the floor in one direction. This offers an advantage from the traditional center drain installation, where the floor must slope in four directions in order to properly drain the water.

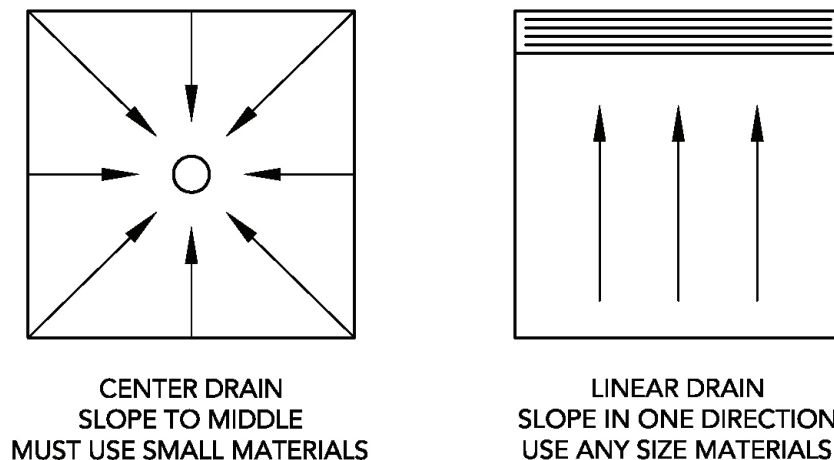


Fig. 1

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TYPE OF INSTALL:

Wall-to-Wall (Fig 2 and 3)

One way to ensure proper drainage is to install the linear drain from wall-to-wall. The challenge of this installation is that it requires an exact dimension. Infinity Drain offers a solution to this issue with the Site Sizeable (S) Series, which allows for "site sizing" the length of the drain by cutting the grate and channel to the exact finished wall-to-wall dimension. Infinity Drain's FX, FF, & FT series can be custom fabricated for the exact desired length and outlet location.

Against a Wall (length of drain) (Fig 4)

Infinity Drain's Fixed Flange (FF, bottom outlet and Side Outlet FT, horizontal or side outlet) Series are designed for flush *against the wall* installations. These series are intended for use with liquid or fabric type waterproofing to tie into the wall board. They are available with a center outlet location and in set lengths of 24", 32", 36", 42", 48", and 60." Custom sizes and outlet locations are available.

The (S) Site Sizeable and Fixed (FX) Series require a traditional clamping drain body for PVC Liner, Chloroloy, Lead Pan, Copper, Fiberglass, and Hot Mop type waterproofing. The diameter of the clamp down drain body creates a challenge for flush *against the wall* installations. If using these series Infinity Drain recommends three options to help properly achieve *against the wall* installations:

1. Install a strip of flooring material between the drain and wall.
2. Build out the back wall with a double layer of wall board.
3. Use the FF or FT series for exact against the wall installation.

Curb or Curbless (Fig 4, 5, and 6)

Deciding between a barrier threshold (curb) or barrier free (curbless) installation is critical when a linear drain is being considered. Please consult a licensed professional when determining which installation is possible. Please see Barrier Free on next page for more information.



Fig 2
S-AS 65 finished wall-to-wall with build out.



Fig 3
S-AG 38 installed NOT wall-to-wall. If the drain does not finish wall-to-wall the remaining area must have flooring material on either side and have pitch back to the drain.



Fig 4
Against the wall installation with the FFAS 65 series.

TYPE OF INSTALL (cont.):

Threshold Installation (Fig 5 and 6)

For threshold installs, we recommend the drain run exactly wall-to-wall to block any water from leaving the shower or wet area. We do not recommend thinner or tile-in type drains for threshold installations due to the lack of channel width needed to sufficiently catch the water.

Infinity Drain Series that are

NOT recommended for threshold installation:

- | | |
|--------------|------------|
| • S-AG 38 | • FFDG 25 |
| • S-DG 38 | • FFAS 25 |
| • S-TIFAS 65 | • FFTIF 65 |
| • S-TIF 65 | • FTED 25 |
| • S-TIFAS 99 | • FTDG 25 |
| • FXTIF 65 | • FTAS 25 |
| • FFED 25 | • FTTIF 65 |

Barrier Free Installation (Fig 5 and 6)

Installing a shower drain without a curb, barrier, or threshold creates a seamless look with easy accessibility to the wet area. To achieve an ideal installation, floor heights should be equal between the shower area (wet area), outside the shower (dry area), and next room. Specific conditions will determine what is involved. The FF and FT offer the lowest overall heights (1 1/16" and 1 3/16"). In addition, we offer a product (ST 65 - pg 76) to allow channel to recess into subfloor an additional 3/4" leaving total height at 5/16". The dry side of the shower should have a slight pitch towards the linear system to ensure proper drainage. The entire wet and dry floor area should be waterproofed. Infinity Drain recommends working with a licensed professional who is familiar with local codes and installation requirements.

Center Pitch Installation (Fig 7)

A center pitch installation places the drain in the middle of the wet area. The floor is pitched in four directions towards the drain. The type of waterproofing used is either the traditional method with a clamp down floor drain, like Infinity Drain's TD Series or a liquid/fabric sheet membrane with a Bonded Flange drain body, like Infinity Drain's TDB Series.



Fig 5

Threshold installation using the S-AS 65 demonstrates an exact wall-to-wall barrier free installation.



Fig 6

Threshold Installation FFED 65 where the entire bathroom is waterproofed. The dry side is slightly pitched towards the linear drain.

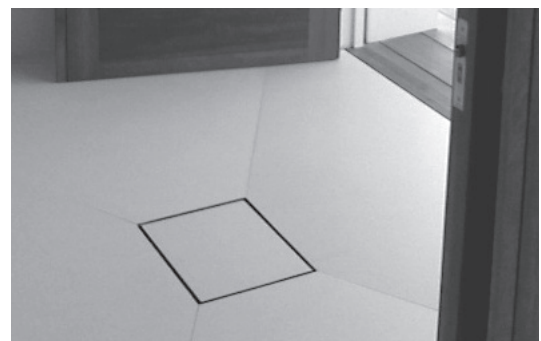
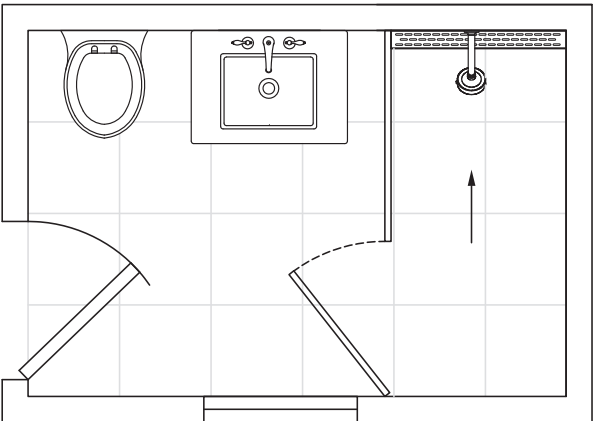
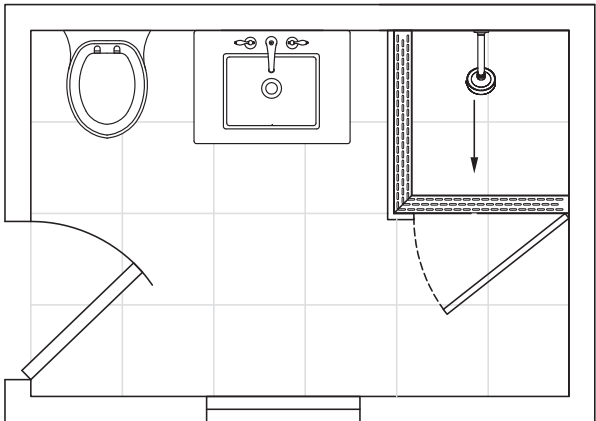
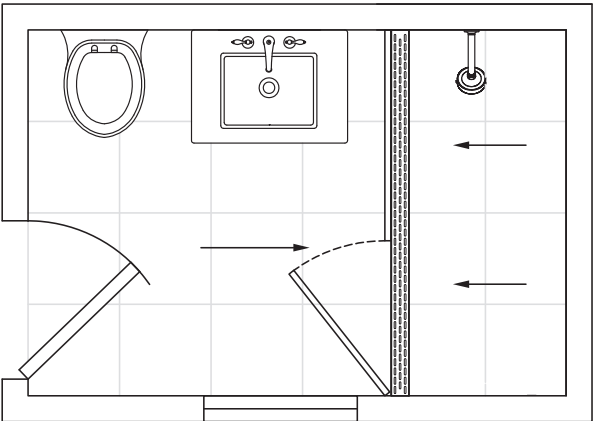
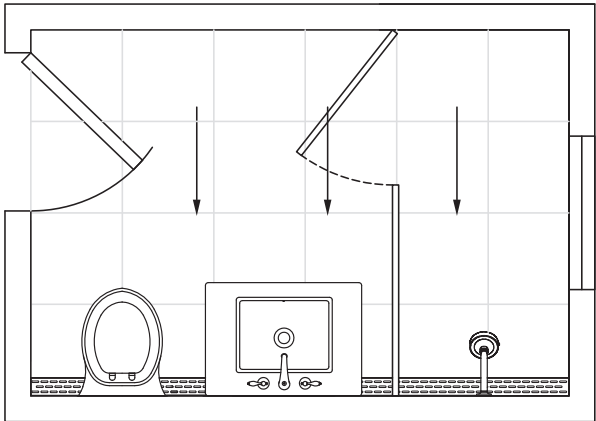
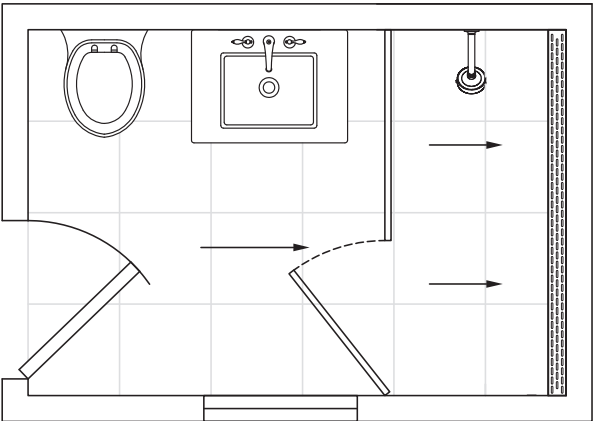
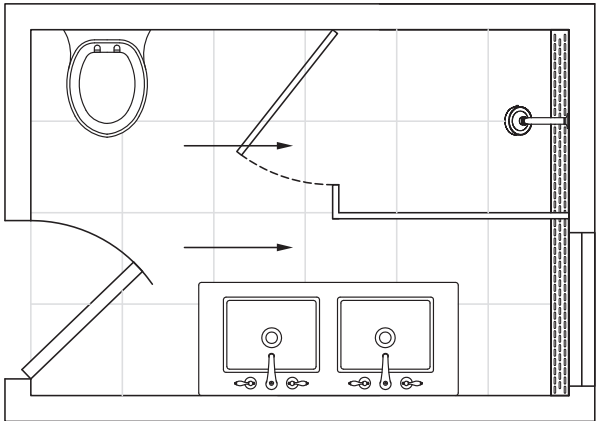


Fig 7

Tile Drain Series: Center Pitch Installation

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Recommended Bathroom Layouts



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Flow Rates:

There are many variables that influence flow rates and how drains perform. Our listed GPM (gallons per minute) on Infinity Drain products are based on having a "head of water" that is traveling a ½" high. Different head heights will change flow rate. Without calculating a specific install, use our flow rate as a **general** guideline. The following variables below should be considered when choosing and locating a linear drain.

Variables to consider:

- What is flow rate of the shower valve? (i.e. how much water is being drained?)
- Are there multiple shower valves?
- What is the water pressure or PSI of the site location?
- How many water features? (i.e. showerheads, hand shower, body sprays, etc.?)
- Will the fixtures operate at the local plumbing code's legal gallons per minute?
- Will the flow restrictors be removed from the fixtures?

The answers to the above questions fall into the equation of determining the proper type of drain, outlets necessary, and location of the drain. These variables can vary drastically from installation to installation, and because of this, it is difficult to have an absolute flow rate. Most US residential installations use a 2" waste line, which has an average capacity of 9 GPM at ½" head of water, assuming proper venting. Adding additional 2" outlets and tying them to a 3" waste line will significantly increase the flow rate to 21 GPM. Infinity Drain's 3" outlet products have an average capacity of 21 GPM.

Infinity Drain products that achieve a higher flow rate without adding a second outlet:

S-DGAS 99	S-TIF AS 99	S- AS 99
FX 125	FF 125	TD 20-3

Outlets:

Infinity Drain products are intended for both indoor and outdoor use. For indoor installations, we recommend an outlet every 30". For example, on a 60" length drain, if the outlet is centered, it is considered to have 30" on either side. In the same example, if the outlet is offset 5" to one side, we would recommend a secondary outlet, especially for a threshold installation. Our 72", 80", and 96" kits come standard with two outlet assemblies. Site Sizeable (S) Series can add additional outlet components to the kit. We can custom fabricate the FX, FF, and FT linear drain series with multiple outlets. Outdoor installations: Outlet frequency is dependent on drain application and geographic location. Please contact us with questions regarding your specific installation.

Waterproofing:

The type of waterproofing can help determine which linear drain series (S, FX, FF, FT) to specify. If using a traditional type of waterproofing, the professional will typically build a shower pan (wet waterproofed area) with PVC, Vinyl, Lead, Hot Mop, Copper or Fiberglass material. Infinity Drain's S, FX, and TD Series are recommended. If using a modern type of waterproofing such as liquid or a fabric install, the professional can more easily waterproof over a greater floor area to build a barrier free or zero threshold installation. Infinity Drain's FF, FT, and TDB Series are recommended for this type of waterproofing.

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Waterproofing

Common methods using a clamp down floor drain:	
	PVC Membrane/Vinyl Liner (Polyvinyl Chloride): A plastic sheet available at most plumbing suppliers and sold in rolls of 4', 5' and 6'. The membrane is layered between mortar beds and the corners are folded to create the shower pan liner. If the shower pan area is larger than the roll dimension, it must be seamed or joined together. Tile cannot bond directly to this type of waterproofing.
	Lead Pan/Copper Pan: A metal sheet that is formed to create the shower pan area. The membrane is layered between mortar beds and the corners are folded to create the shower pan liner. If the shower pan area is larger than the sheet dimension, the lead material must be welded together. This install is more common in metropolitan areas where code may require a metal pan. Tile cannot bond directly waterproofing.
	CPE Membrane (Chlorinated Polyethylene): A rubber sheet available at most plumbing suppliers and sold in rolls 4', 5' and 6'. The membrane is layered between mortar beds and corners are folded to create the shower pan liner. If the shower pan area is larger than the roll dimension, it must be seamed or joined together. Tile cannot bond directly to waterproofing. CPE Membrane is also branded as Chloraloy™ by Noble.
	Hot Mop (Tar): Heated liquid tar is applied or "mopped" on the shower area to create the shower pan and is similar to waterproofing a roof with tar. This installation is most common in California. Similar to fiberglass waterproofing.
Methods using a bonded flange:	
	Liquid: Roll or paint-on liquid membrane that can be applied on floors, walls, and ceilings and bonds directly to the drain flange. The total install time is shorter than traditional waterproofing methods and typically saves 2 to 3 days. Infinity Drain recommends and offers Hydroban™ waterproofing by Laticrete™. Hydroban™ is a self-curing product that is ready for flood testing in 2 to 5 hours. Tile can bond directly to waterproofing.
	Fabric Sheet: Sheet membrane that bonds directly to the drain flange with an adhesive and is sold in most tile suppliers. Corners (in and out) are available to avoid folding. If the shower pan area is larger than the roll dimensions, it must be seamed or joined together. Tile can bond directly to waterproofing.

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Care & Maintenance:

Infinity Drain's stainless steel linear drain top grates are made of 304 or 316 stainless steel depending on components and Series. This material is non-porous, hygienic, rust-free and extremely durable. Bar Keepers Friend® and Soft Scrub® are commonly available products that can be used to protect and clean your Satin Stainless drain cover. For Polished Stainless, Matte White, Matte Black, and Oil Rubbed Bronze we recommend a mild soap and a soft cloth for cleaning. DO NOT use any abrasive cleaners, scrub pads or allow household cleaning agents, such as bleach, sit on your drain cover for a long period of time. Stainless steel does not rust. External factors may have caused "surface" rust which can be removed using Barkeepers Friend® or Soft Scrub® with Bleach. Always follow the directions on the bottle.