

How to Install a Bulkhead Fitting

Materials needed:

- Bulkhead fitting
 - Body
 - Gasket
 - Nut
- Drill
- Hole saw w/mandrel
- Permanent marker
- Deburr tool or pocket knife
- Channel locks

Locate and Mark your Installation Point

Bulkhead fittings always work best when installed on a flat surface.

- Vertical tanks usually have a flat surface designed for installing bulkhead fittings.
- 5 gallon buckets
 - Due to the small radius of a 5g bucket, bulkheads larger than 1” can be a challenge to achieve a reliable seal. If you must install a 1½” or larger bulkhead, gently heating the bucket with a hair dryer at the installation point, after drilling the hole, can help make the bucket more pliable and allow it to form a flat spot after the fitting is installed and it cools. **DO NOT OVER-HEAT.** You may have to sacrifice a bucket to get the hang of it.

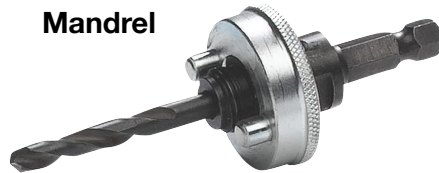
Using a standard hole saw, choose the right hole size for the bulkhead you’re installing.

Bulkhead Size	Hole Size
½”	1 1/8”
¾”	1 3/8”
1”	1 3/4”
1½”	2 1/2”
2”	3”

How to Install a Bulkhead Fitting

Drilling the Hole

- Take into consideration any clearance issues on the inside of your container.
- Using the nut from the bulkhead fitting as a guide, mark the center of the hole where you'll drill the hole.



Mandrel



Hole Saw

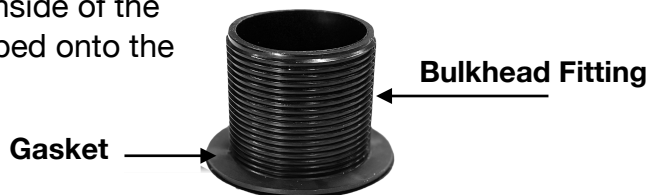
- Use your drill with the hole saw attached to create the opening.
- The hole saw will leave the edge rough. Use a small knife or deburring tool to clean up the opening. It's important there isn't anything leftover from the hole saw that can compromise the seal. **DO NOT SKIP THIS STEP.**
- Remove any plastic shavings inside your container.

Drilling Tip: If your container is fragile (acrylic aquarium or sump), use the Mandrel first to drill the pilot hole **BEFORE** mounting the hole saw on the mandrel. This will prevent the pilot drill bit from pulling the hole saw against the container you're drilling.

NEVER ATTEMPT TO DRILL GLASS WITH A REGULAR HOLE SAW

Installing the Bulkhead Fitting

- All mating surfaces should be clean and free of any debris that will compromise the seal
- Install the bulkhead fitting from the inside of the container. The gasket **MUST** be slipped onto the bulkhead fitting **FIRST**.



NEVER INSTALL THE GASKET NEXT TO THE NUT
If this unclear in any way, please call us for support.

- Hand-tighten the nut onto the bulkhead on the outside of the tank.
- Using your channel lock pliers, tighten the nut $\frac{1}{4}$, but no more than $\frac{1}{2}$ a turn. In most cases a $\frac{1}{4}$ turn is just right. Over-tightening the bulkhead can compress and malform the gasket causing a leak. **DO NOT OVER-TIGHTEN**

If you have any questions about installation, give us a call at 830-626-2401