

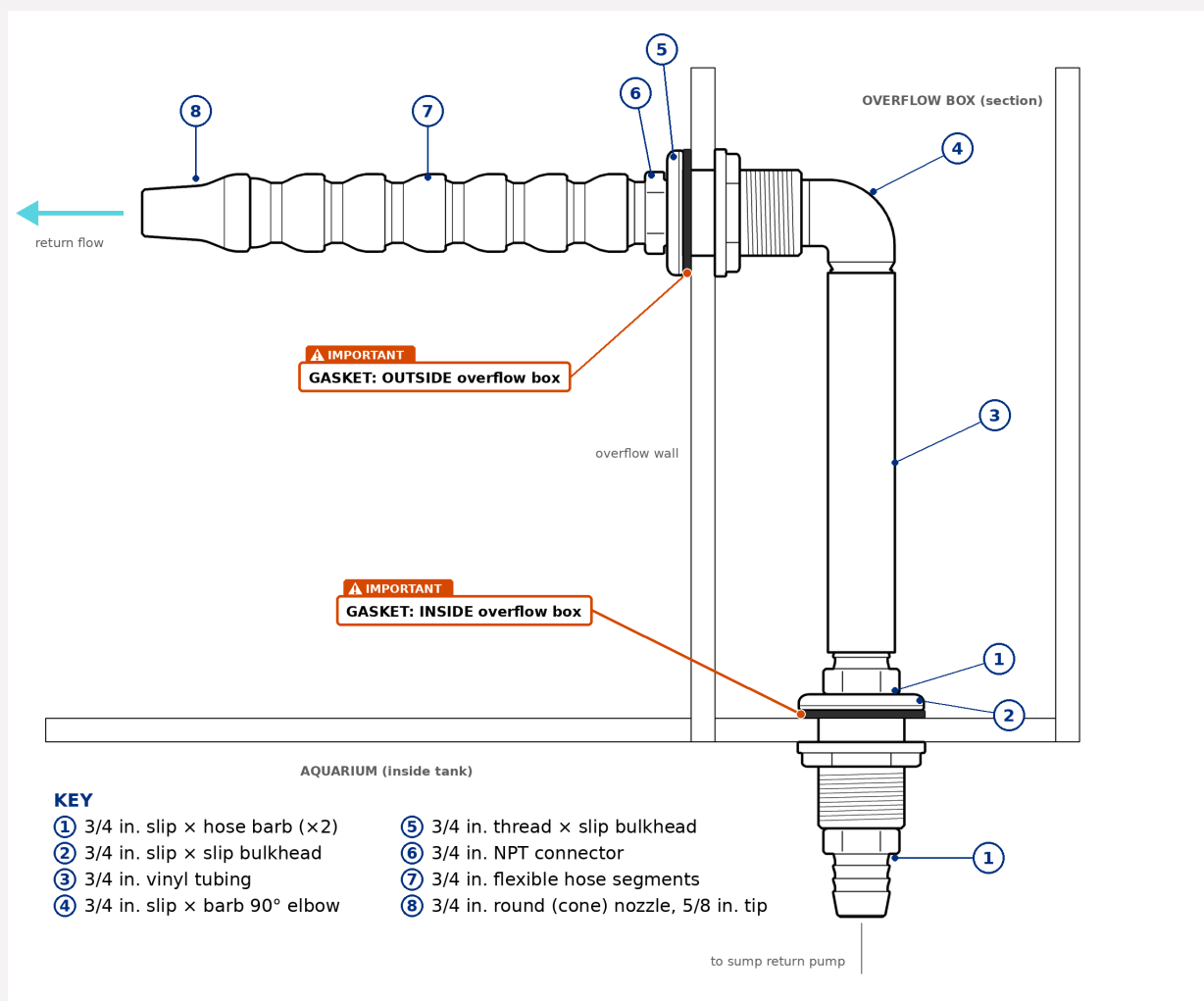


INTEGRATED RETURN SYSTEM ASSEMBLY GUIDE

Returns water from your sump to the aquarium through the overflow box.
For use with TRUVU aquariums that have an overflow box, freshwater or saltwater.
Fits 1-1/2 in. bulkhead holes.

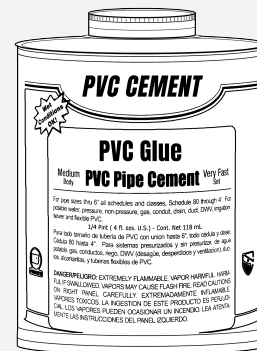
Requires PVC cement (not included)

Figure A — Assembled IRS in overflow



KIT CONTENTS (3/4 in. plumbing)

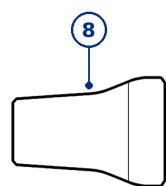
- 2 × 3/4 in. slip × hose barb straight fittings
- 1 × 3/4 in. slip × slip bulkhead
- 1 × length of 3/4 in. vinyl tubing (choose for tank height)
- 1 × 3/4 in. slip × barb 90° elbow
- 1 × 3/4 in. thread × slip bulkhead
- 1 × 3/4 in. NPT connector
- 1 × 3/4 in. flexible hose segments (~6 in.)
- 1 × 3/4 in. round (cone) nozzle, 5/8 in. tip



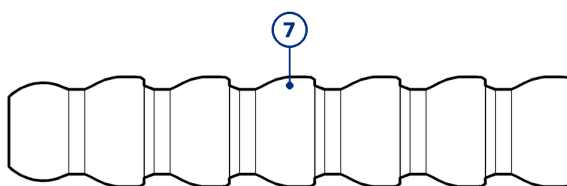
PVC cement required (not included).

Available at your local home improvement store.

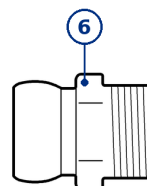
Figure B — Parts layout



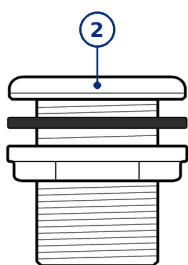
3/4 in. round (cone) nozzle
5/8 in. tip



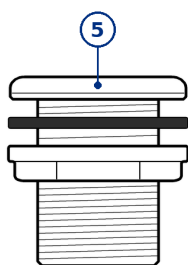
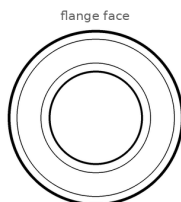
3/4 in. flexible hose segments
~6 in. section



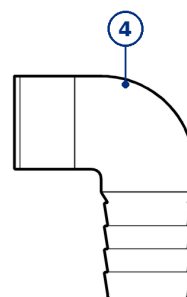
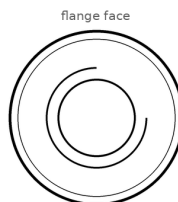
3/4 in. NPT connector
threads into side bulkhead



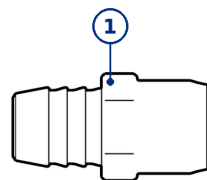
3/4 in. slip × slip bulkhead
smooth slip bore
includes rubber gasket (dark ring)



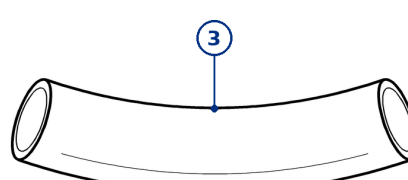
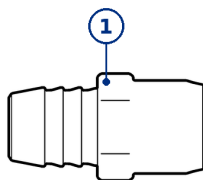
3/4 in. thread × slip bulkhead
threaded (FPT) bore
includes rubber gasket (dark ring)



3/4 in. slip × barb 90° elbow



3/4 in. slip × hose barb (x2)



3/4 in. vinyl tubing
cut to tank height

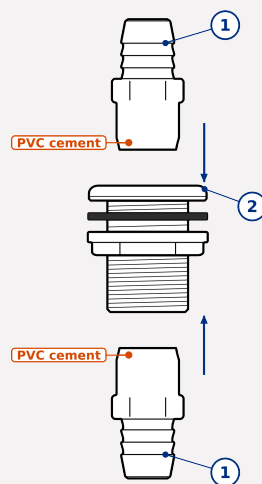
ASSEMBLE THE RETURN — bottom of overflow → nozzle

1. Bottom bulkhead (overflow bottom)

Glue the two 3/4 in. slip × hose barb straight fittings (part 1) into the slip × slip bulkhead (part 2), one in each end, with PVC cement. Then install the bulkhead in the overflow bottom hole with the flange and rubber gasket **INSIDE** the overflow box (gasket between the flange and the bottom); nut underneath. Firmly snug — do not overtighten the bulkhead nut; doing so may crack the bulkhead fitting.

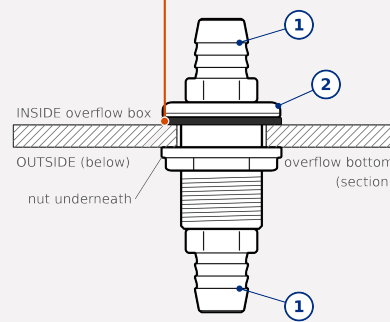
⚠ WARNING: Do not glue the 3/4 in. slip × barb 90° elbow (part 4) yet.

A Glue the barbs into the bulkhead



B Install in the overflow bottom

⚠ IMPORTANT
GASKET: INSIDE overflow box

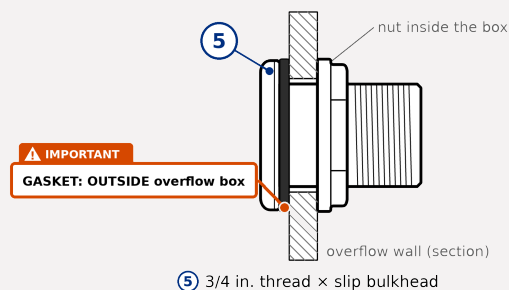


① 3/4 in. slip × hose barb (×2) ② 3/4 in. slip × slip bulkhead

⚠ WARNING: Do not glue the elbow (part 4) yet.

OUTSIDE overflow box

INSIDE overflow box



⚠ IMPORTANT
GASKET: OUTSIDE overflow box

⑤ 3/4 in. thread × slip bulkhead

2. Upper bulkhead (overflow wall)

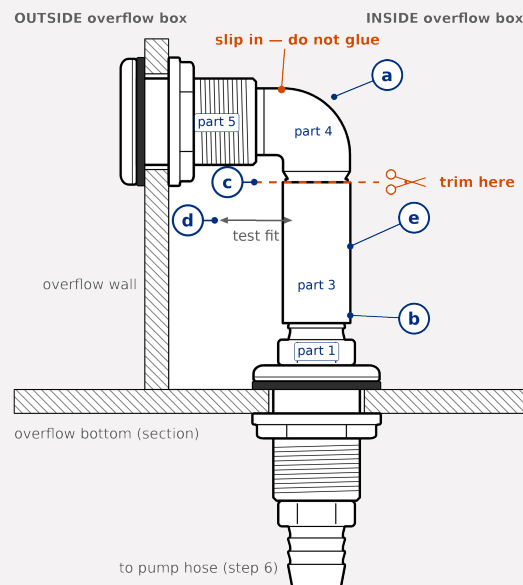
Install the 3/4 in. thread × slip bulkhead (part 5) in the upper overflow hole with the flange and rubber gasket on the **OUTSIDE** of the overflow box (gasket between the flange and the outside face of the overflow wall); nut inside the box. Firmly snug — do not overtighten the bulkhead nut; doing so may crack the bulkhead fitting.

⚠ WARNING: Do not glue the 3/4 in. slip × barb 90° elbow (part 4) yet.

3. Fit the elbow and tubing (test fit)

- Slip the 3/4 in. slip × barb 90° elbow (part 4) into the upper bulkhead (part 5). Do not glue.
- Push the 3/4 in. vinyl tubing (part 3) onto the upper hose barb of the bottom bulkhead (hose barb, part 1).
- Mark the tubing at the top of the elbow's (part 4) hose barb and trim it there with heavy-duty scissors.
- Remove the elbow, slide the tubing onto the elbow's hose barb, then slide the elbow back into the bulkhead to test fit.
- Trim a little more and re-test as needed, until the tubing (part 3) fully covers both the elbow (part 4) barb and the lower hose barb (part 1).

⚠ WARNING: Do not glue the 3/4 in. slip × barb 90° elbow (part 4) yet.



Ⓐ slip elbow in (no glue)

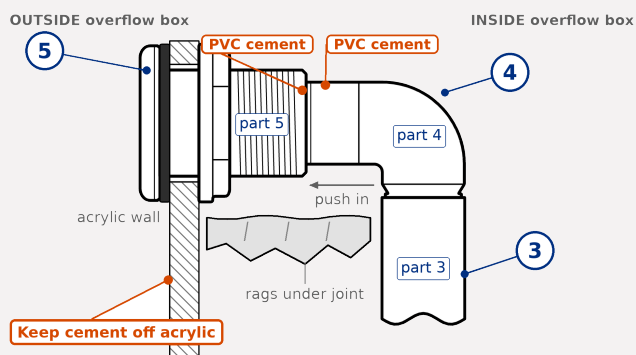
Ⓑ push tubing onto barb

Ⓒ mark & trim tubing

Ⓓ re-fit elbow (test fit)

Ⓔ repeat until both barbs covered

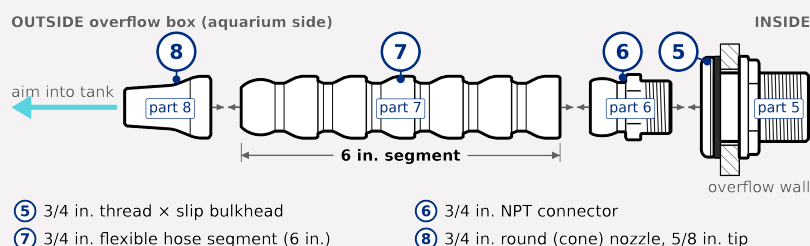
ASSEMBLE THE RETURN (continued)



- ③ 3/4 in. vinyl tubing
- ④ 3/4 in. slip x barb 90° elbow
- ⑤ 3/4 in. thread x slip bulkhead

5. Assemble the nozzle

Assemble the 3/4 in. NPT connector (part 6), a 6 in. flexible hose segment (part 7), and the 3/4 in. round (cone) nozzle with 5/8 in. tip (part 8). Thread the NPT connector into the upper bulkhead. Aim the nozzle into the tank.



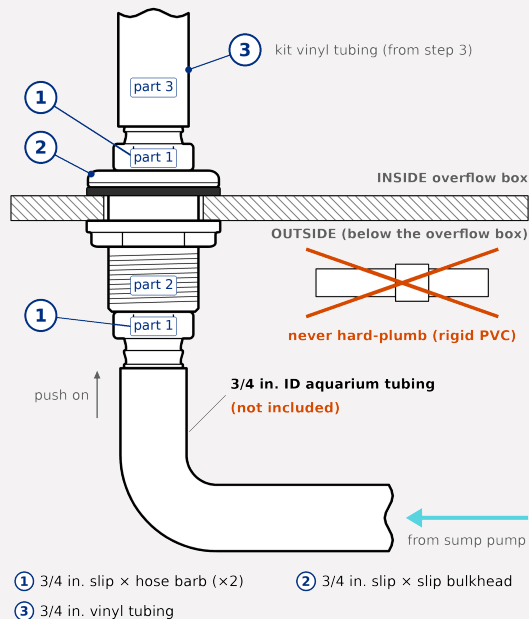
- ⑤ 3/4 in. thread x slip bulkhead
- ⑥ 3/4 in. NPT connector
- ⑦ 3/4 in. flexible hose segment (6 in.)
- ⑧ 3/4 in. round (cone) nozzle, 5/8 in. tip

6. Connect the pump line

Connect the return line from your sump pump to the lower hose barb on the bottom bulkhead. Use 3/4 in. ID aquarium tubing.

⚠ WARNING: Never hard-plumb a return line from the pump to the aquarium.

Pumps give off vibrations that break down the seams between PVC pipe and fittings and can cause leaks later. Using at least a section of aquarium tubing — or the entire return line — absorbs those vibrations and helps prevent future leaks. Support the tubing so it does not stress the bulkhead.



- ① 3/4 in. slip x hose barb (x2)
- ② 3/4 in. slip x slip bulkhead
- ③ 3/4 in. vinyl tubing

**Congratulations —
installation is complete.**

Enjoy your aquarium.



Tomorrow's Aquarium Today

