6/2025

# BioStim BioPlug® CS & BioPlug® L Installation Instructions

- **BioPlug CS** is designed for low-flow lift stations and sewer lines with water velocity below 10 ft/sec.
- **BioPlug L** is designed for high-flow lift stations and sewer lines with water velocity above 10 ft/sec.

***Safety:*** *Wear protective gloves & follow normal manhole, sewer line and lift station safety procedures.*
***Storage:*** *Store BioPlugs at ambient temperature; do not allow to freeze.*
***Installation items needed:*** *20-30' nylon rope, knife, "D" ring.*
**See additional items needed below for sewer line installation without ladder rung.*

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## Sewer Line Installation Instructions

**Recommended dosage based on pipe size:** For 8-10" pipe, use 2 BioPlugs per manhole. For 12-16" pipe, use 3 BioPlugs per manhole. For 21-36" pipe, use 4 BioPlugs per manhole.
**Location:** Apply BioPlugs upstream of grease accumulation area at inflow, so water runs over them.

***Installation With Ladder Rung***

1. Tie "D" ring to nylon rope.
2. Remove *BioPlugs* from packaging. Attach the mesh bags containing the two *BioPlugs* to "D" ring.
3. Lower *BioPlugs* into water flow directly under attachment point. Do not allow the plugs to go into the sewer line; you should see the plugs dragging in the water.
4. Tie rope to ladder rung so that there is no slack in line between attachment point and *BioPlugs*.

***Installation Without Ladder Rung***

**Additional items needed to add an attachment point if manhole <u>does not</u> have a ladder rung:*
*Hammer & hammer drill, ½" masonry bit, 2" concrete eye bolt with anchor or lag screw shield.*

1. Drill hole into side wall of manhole with ½" masonry bit.
2. Use hammer to tap the lag screw anchor/shield into hole.
3. Screw in an eye bolt until tight.
4. Complete steps 1-4 above, "Installation With Ladder Rung."
5. Tie rope to eye screw so that there is no slack in line between attachment point and *BioPlugs*.

**Initial Two Week Follow-up Visit - Sewer Line**

To verify the correct type of *BioPlug* is being used, return two weeks after installation for a follow-up visit. After this initial follow-up, follow the *Monthly Service* steps below.

1. If you are using *BioPlug CS* and it is completely dissolved after two weeks, switch to *BioPlug L* to adjust for high flow.
2. If you are using *BioPlug L* and it is not halfway dissolved after two weeks, switch to *BioPlug CS* to adjust for low flow.

**Monthly Sewer Line Service**

1. Remove manhole cover and pull up rope.

2. Remove mesh bags from “D” ring. *BioPlugs* should be dissolved or have only small pieces left.
3. Add two new *BioPlugs to* “D” ring and lower back into water stream, making sure there is no remaining slack in line.
4. Close manhole cover.

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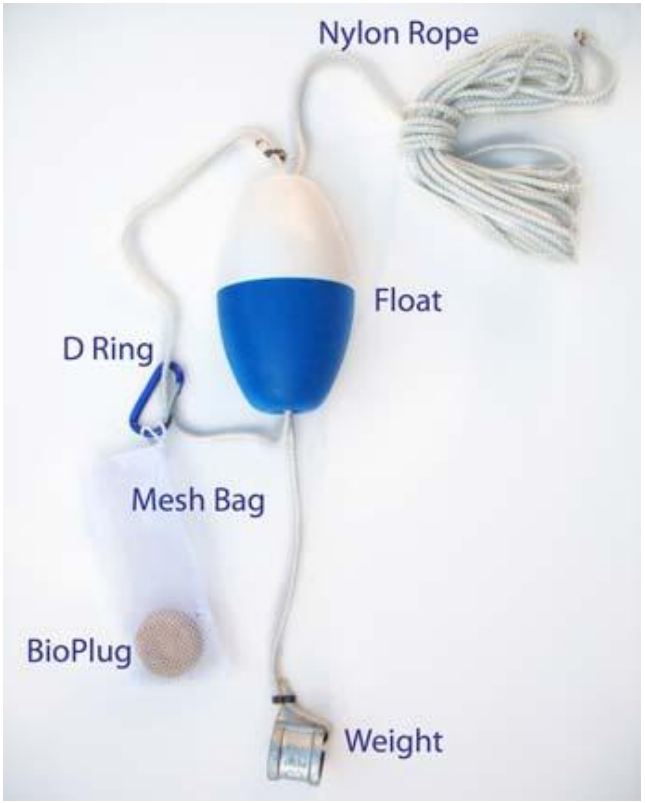
## Lift Station Installation Instructions

**Recommended dosage:** On initial installation, use 2 BioPlugs per inch of grease accumulation. On subsequent monthly service treatments, use 1 BioPlug for every inch of grease accumulation noted at time of installation.

**Install BioFloater**

1. Remove BioPlug(s) from packaging and attach mesh bag(s) containing BioPlug(s) to “D-ring” on BioFloater.
2. Try to place BioFloater close to water inflow for best circulation.
3. Lower bag and float until it reaches bottom of well.
4. Raise weight approximately one foot from bottom of well to allow rope to remain tight so float can raise/lower with water level.
5. Tie rope to secure anchor point for future servicing.




**Initial Two Week Follow-up Visit**

To verify the correct type of *BioPlug* is being used, return two weeks after installation for a follow-up visit. After this initial follow-up, follow the *Monthly Service* steps below.

1. When using *BioPlug CS* and it is completely dissolved after two weeks, switch to *BioPlug L* to adjust for high flow. If the BioPlug CS is not half way dissolved after two weeks, break plug into quarters on future monthly service visits to adjust for low flow.
2. When using *BioPlug L* and it is not halfway dissolved after two weeks, switch to *BioPlug CS* to adjust for low flow.

**Monthly Service**

1. Pull up BioFloater and observe. The first noticeable results should be the reduction of the grease

layer that “blankets” the water in the wet well. Over time, the bacteria will soften the grease rings around the wall and float, then eventually fall off in “onion-like” layers.

a. *If debris is noticed on the rope between the weight and float*: remove debris and raise the applicator approximately the same length as the debris area. This adjustment will reduce the overall amount of debris that accumulates around the applicator rope.
b. *If a grease “ring” or “shelf” is present during placement of BioPlugs*: it is recommended that the operator raise the high level flow so that the bacteria can attack the grease shelf from the top, bottom, and sides.

**Lift Station Diagram**

Key: (A-D is the BioFloater)

A. Nylon Rope
B. Float
C. BioPlug(s) in mesh bag(s)
D. Weight
E. Guide Rail Support Bracket
F. Lift Station Motor
G. Guide Rail