



**Fiberstars**  
**Mini Lighted Laminar Flow Fountains**

**SAVE THESE DIRECTIONS!**

These directions are provided to ensure the proper installation and operation of Fiberstars Mini Lighted Laminar Flow Fountain. The maximum lighted distance of the laminar stream should be considered 3ft height and 5ft in distance. If the laminar arc is over the recommended distance, there is a high degree of probability that the lighting will not travel the full distance to the bottom of the laminar flow. Also, if the throw distance is over the recommended distance, the lighting will also fail to go the full distance of the laminar stream.

**IMPORTANT GENERAL SPECIFICATIONS:**

1. **The water supply to the laminar fountains should be filtered with a cartridge filter.** Sand filter and DE filters will likely produce small particles of debris that will clog the filter screens internal to the laminar flow fountains.
2. Water supply is dependent upon 3 important factors:
  - a. Pump size – if dedicated pump is used it must be a minimum of a ½ hp and supply proper flow rate at 16 ft of head.
  - b. Plumbing pipe size
  - c. Number of laminar flow fountains on system

**NOTE: GENERAL RULE OF THUMB IS THAT EACH MINI LAMINAR  
REQUIRES  
A MINIMUM OF 5 GPM.  
SEE FOLLOWING SECTION ON DESIGN CRITERIA**

**THE LAMINAR FLOW DECK BOX IS MADE OF ABS MATERIAL. USE  
ONLY ABS-PVC GLUE WHEN MAKING ANY PLUMBING CONNECTIONS  
TO THIS DECK BOX**

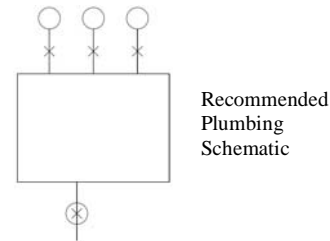
3. Each Fiberstars Mini Lighted Laminar flow fountain contains 50 strands of fiber. **Minimum sized conduit is 1”.** Always use sweep 90’s to allow the fiber to be pulled easily through the conduit.
4. Fiberstars Mini Lighted Laminar Flow Fountains can be place in most any location from concrete decks, raised bond beams or even soft scapes. Be sure that the distance from the interior pool wall to the mini laminar flow fountain is no further than 2 feet. This would allow the lighted laminar flow stream to be 3 feet into the pool interior.

**5. Each fountain requires a 1” PVC water supply that is reduced to 3/4” to connect to the bottom of the deck box. Each fountain also requires a 1” PVC line for the fiber that is reduced to 3/4” to connect to the bottom of the deck box.**

6. Each mini laminar should also have a gate valve installed for flow adjustment. All gate valves should be located as close as possible to the equipment pad area to reduce water turbulence from entering the mini laminar fountain.

7. On main water supply line install a check valve.

8. A plumbing loop should be utilized.



### **INSTALLATION OF THE MINI LAMINAR FLOW DECK BOX**

1. Reconfirm that fountain is no further than 2 feet away from water surface interior.

2. Prepare location by digging hole 2 feet in diameter and depth.

A. For in deck applications – Level the lid to the finished grade level of decking.

B. For planter areas – Laminar lid should be 2 inches ABOVE the landscape area to prevent materials from intruding or washing into the fountain itself.

3. Remove the laminar flow fountain from the deck box assembly by undoing the hose connection on the bottom of the fountain.

4. Plug hose (with included plug), utilizing stainless steel clamp for pressure testing.

5. Place the deck box into the excavated hole with the drain stand pipe pointing in the direction of the desired water flow (towards pool interior). Also this will place water connection at the very rear of the Laminar, opposite of the pool wall.

6. The bottom of the deck box can be supported by utilizing the 1” PVC support connection. The support pipe should be approximately 4” in length. You may also support the deck box to any decking rebar to help maintain the proper level by using the rebar support (4) wings in deck box.

7. Attach the 1” PVC supply line to the inlet fitting.

8. Install 1” PVC pipe for fiberoptic cable run. It is highly suggested that you install all fiber conduits with sweep fittings for easy of installation.



9. Install 1” PVC pipe for drainage. IT IS IMPERATIVE THAT ALL MINI LAMINAR FLOW FOUNTAINS HAVE PROPER DRAINAGE.

10. Fill excavated area with gravel until gravel reaches approximately 1” up on bottom of deck box.

11. Finish your deck material installation making sure that the Mini Lighted Laminar Flow fountains remain level. Utilizing the 3” Adjustable Deck Flange adjust to match your deck height.

**After deck box has been installed and system has been pressure tested, the mini laminar flow fountain itself may be reinstalled.**

**IT IS EXTREMELY IMPORTANT THAT THE WATER SUPPLY TO EACH MINI LAMINAR IS ALLOWED TO BE FLUSHED SO THAT ALL MATERIAL THAT MIGHT BE IN THE LINES ARE BLOWN FREE PRIOR TO BEING REINSTALLED INTO THE LAMINAR FLOW DECK BOX.**

**ADJUSTING WATER FLOW**

The water flow is determined by two factors: GPM water flow and angle of laminar.

Set angle of your laminar flow by using the two adjustment knobs on the inside the deck box on either side of the laminar. Adjust your distance by opening or closing each respective gate valve until the desired distance is achieved. **MAXIMUM HEIGHT IS 3’ OVER POOL WATER LEVEL AND DISTANCE IS 5 FEET.**

**Initial start up should be done gradually, allowing each mini laminar to fill with water slowly and allowing air to escape. Failure to do so may cause damage to unit and plumbing.**

**DO NOT EXCEED 15 GPM PER MINI LAMINAR OR DAMAGE CAN BE DONE INTERNALLY.**

**IMPORTANT NOTES AND REMINDERS**

Always leave 2 feet of fiber on the inside of each laminar flow deck box for servicing.

Max fiber runs are 5 feet off fiber distance. This is caused by plumbing fitting, etc.

20 feet = 15 feet maximum distance  
40 feet = 35 feet maximum distance



Fill conduit connection inside of the deck box with silicone or similar material to prevent water from entering fiber area.

Minimize the number of plumbing fittings in the water run to cut down flow restrictions and water turbulence.

When using multiple laminar flow fountains it is extremely important that the fiberoptic cables are the same length, regardless if they are different distances from the illuminator.

Example: If you have 1 laminar at 20ft and another at 40ft, both should have 40ft of fiber.

Laminar flow fountains are susceptible to wind conditions and the higher the angle of your fountain the more they may be effected. If your area has regular amounts of high winds you may consider moving the laminars closer to the pool edge and decreasing the angle of the fountain.

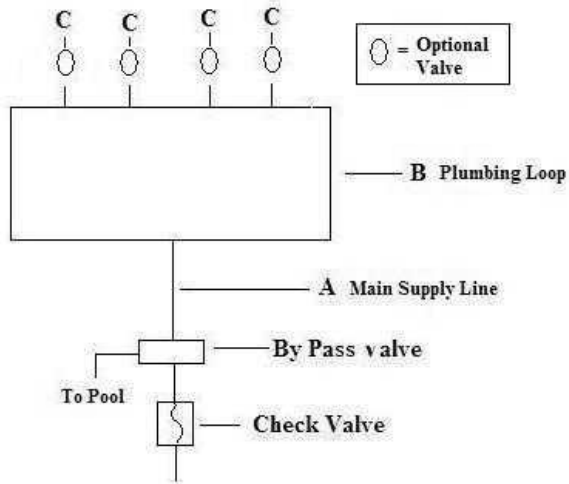
**FOR WINTERIZATION, REMOVE FIBER BY LOOSENING BOTTOM CONNECTION ON MINI LAMINAR AND PULLING FIBER OUT. LOOSEN STAINLESS STEEL CLAMP ON WATER SUPPLY HOSE, REMOVE HOSE FROM BARBED FITTING, BLOW WATER LINES CLEAR AND INSTALL PLUG TO SEAL WATER HOSE.**

**If internal screens of the Lighted Laminar Flow become obstructed this will effect the laminar stream or light output. To correct this, please remove laminar fountain from the deck box assembly and apply water pressure at the mini laminar fountain exit point. This will back flush the laminar and allow debris to be exited from the bottom.**

**After back flushing, reinstall the mini laminar fountain and adjust water flow and angle for desired effect.**

	# of Mini Laminars			
	1	2	3	4
GPM	6	14	24	32
Head (FT)	16	19	26	36

	Pipe Size		
# of units	A	B	C
1	1"	1"	3/4"
2	1.5"	1"	3/4"
3	2"	1.5"	3/4"
4	2"	1.5"	3/4"



**Fiberstars Mini Laminar  
Flow and Plumbing  
Chart**

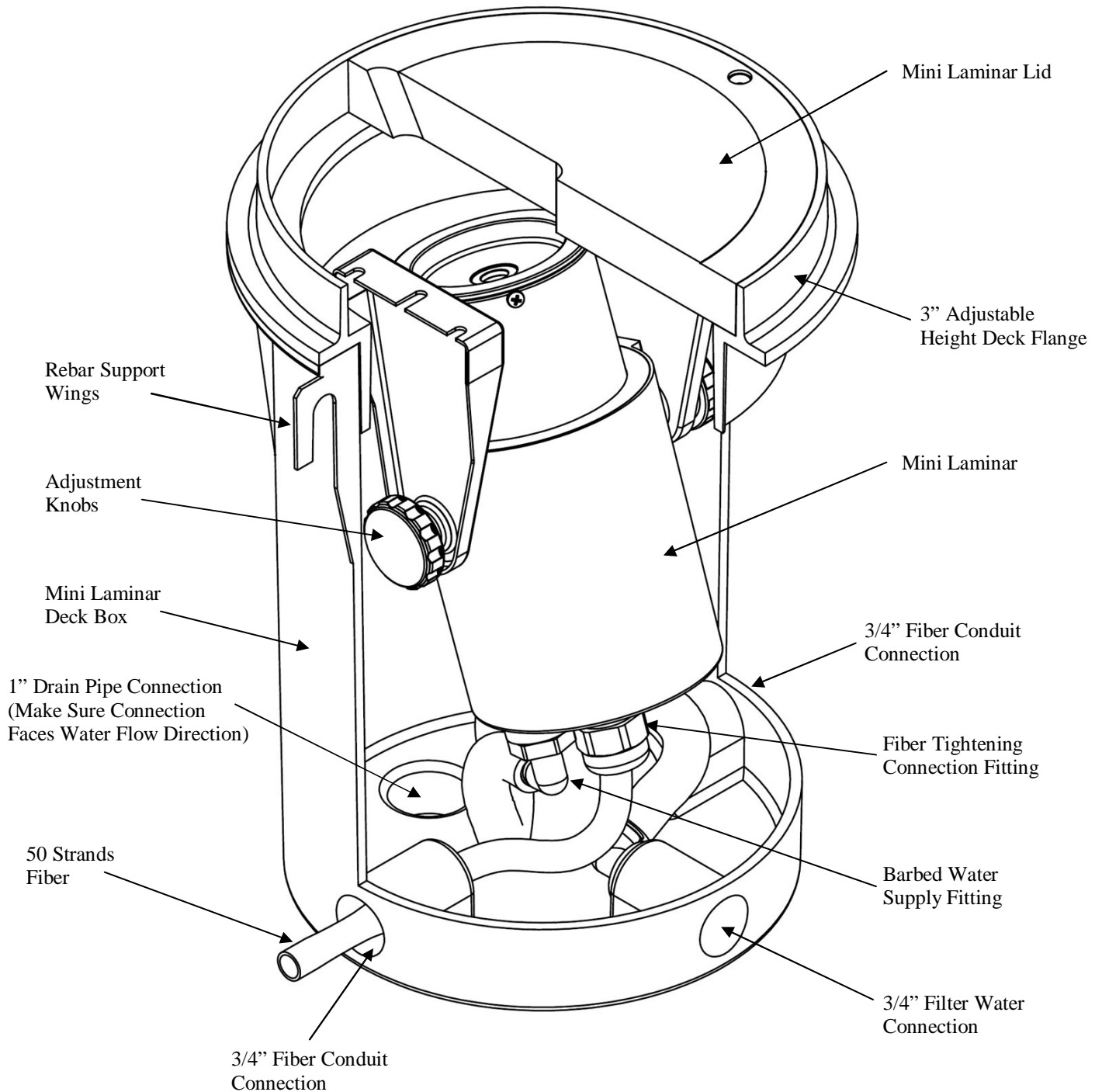


Figure A

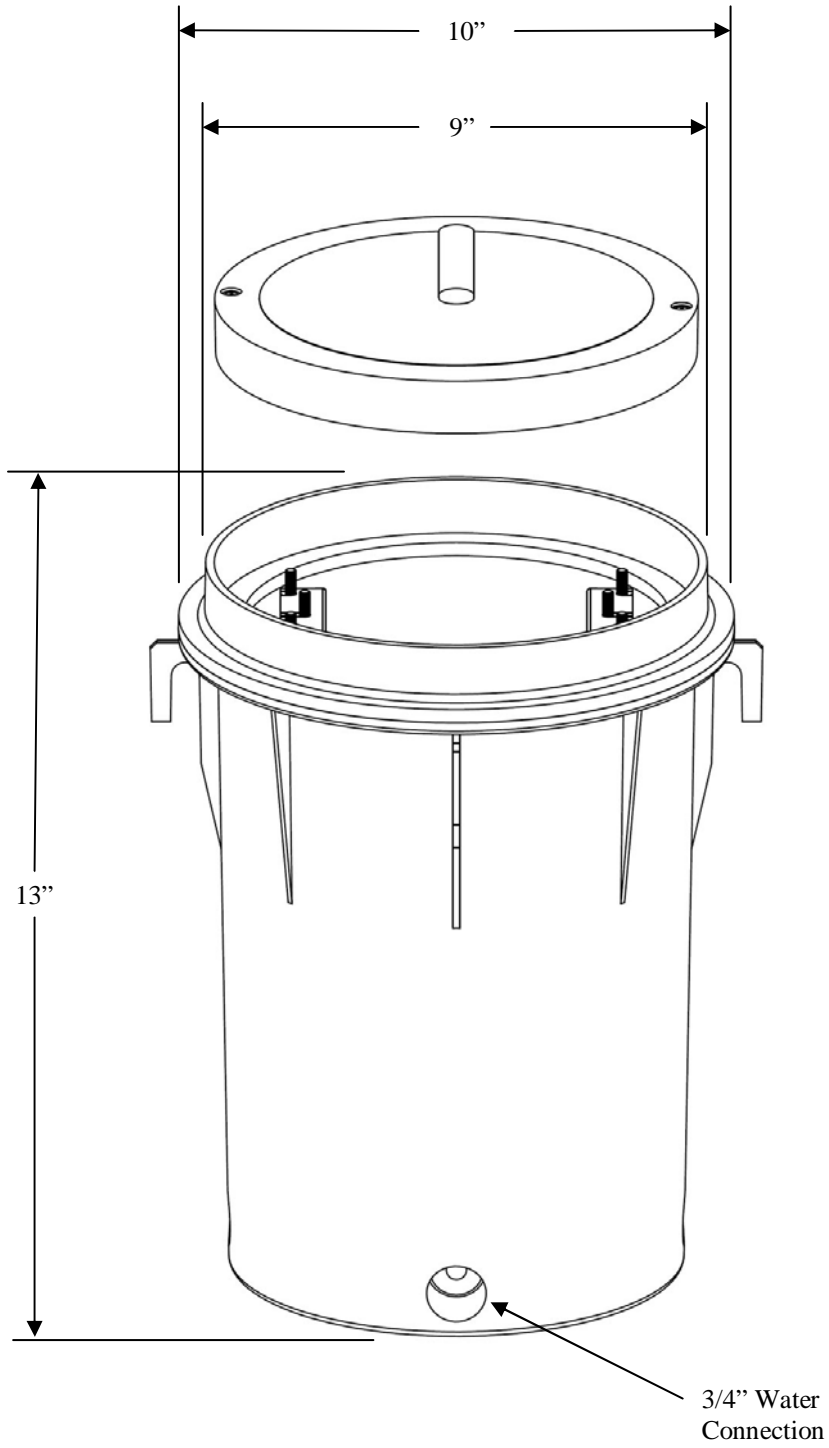


Figure B

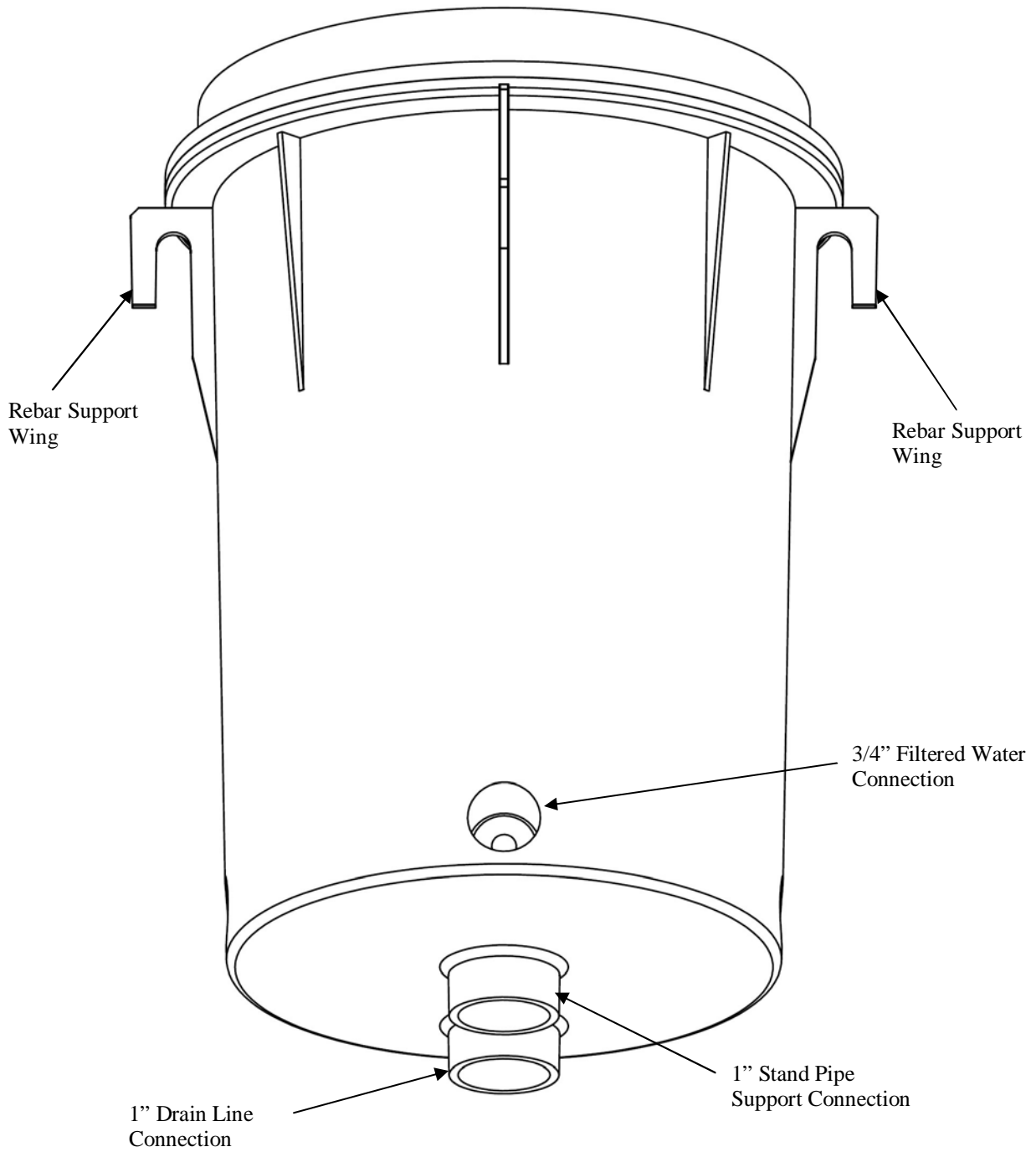


Figure C