

SPI Pump-Thru-Barrier™ Installation and Maintenance Procedures



Pump-Thru-Barrier™ (PTB) has three internal parts shown in the upper left picture 1. Petro-Barrier Canister (bottom) 2. Oil Sheen Canister (Middle) 3. Dirt-Sheen Filter (Top) all filters nest on each other and are held in place by rubber gasket/seals. The external filter contains a housing and pleated filter shown in the upper right.



The Pump-Thru-Housing is made from a 24" diameter HDPE corrugated pipe where the internal parts are installed and covered with a 1/4" aluminum cover. The water intake line is 1.5" and is pumped through the external dirt filter that is housed on an adjustable aluminum frame. The 2" return hose is at the same level as the intake hose. For cold weather operations the PTB has an optional Heat Blanket for both the housing and the external filter providing continued operation at temperatures tested below -15F°. The sump pump is available with a heater providing melted water directly around the pump. The hoses require no heating since there are no check valves and the water drains when the pump shuts off.



The Petro-Barrier-Canister allows the water to be drained at over 35 GPM removing oil sheen below 5 ppm and sealing in the even of a catastrophic oil spill. The canister flange has an oil/water gasket and is attached to the internal housing flange with screws. The canister also has two lifting rings for easy removal.



The Oil Sheen Canister provides extra protection from leaks and absorbs oil sheen before getting to the Petro-Barrier-Canister. This canister nests on top of the Petro-Barrier-Canister and is held in place with a rubber gasket seal. The seal prevents water and oil from by-passing the canister. There are also 2 lifting rings for easy removal.



The Dirt/Sheen Filter “DSF” is a soft filter that uses Adsorb-It fabric and filter batting to be the first defense against dirt and oil sheen as it enters into the PTB housing. The DSF is held in place with a rubber retaining ring and fits snug on top of the Sheen Filter.



The 2” return hose allows water and oil back into the containment area in the event of a dirt overload or an Oil Spill. The 1.5” inlet hose enters the external filter and is regulated with a brass ball valve.



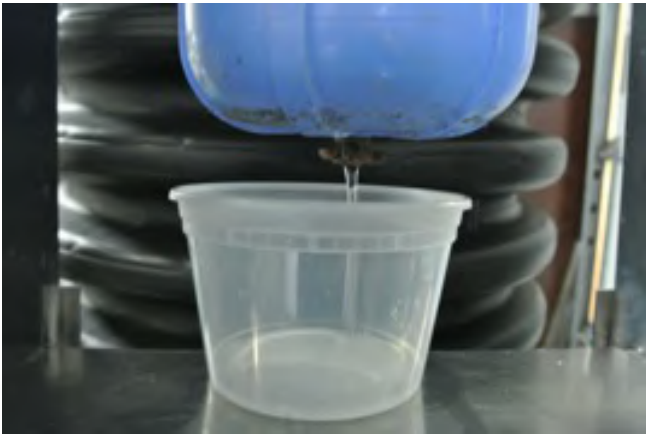
The external filter is attached to an aluminum stand that has adjustable legs that can be leveled for different terrain's. The first point of maintenance is the dirt filter. It is changed by loosening the blue housing and unscrewing then removing and replacing the 20” pleated filter. It is most important when installing the “PTB” that the containment area is clean and all dirt, cement dust and debris is swept and vacuumed. If installed in a dirty, uncleaned area the filter will need to be replaced often as with a clean area quarterly, biannually or yearly depending on the location.



The two holes in the upper picture is the 1.5” intake on the left and the 2” return on the right. As the water rises when it reaches the return line it flows back into the containment area. In the picture on the right the water has just started to pump and it is flowing through the 1.5” hole.



The water is being pumped from the water vessel into the “PTB” and it is discharging through the bottom 4” discharge pipe. The flow rate with the provided sump pump is 30 - 35 gallon per minute. The pump shuts off when the level is about 3” and turns on at 8 - 9” of water. The pump has a diaphragm on and off switch and detects the water level there is no float that can get stuck and prevent operation.



The external filter has a petcock valve for draining in cold weather. Simply unscrew the valve and drain all the excess water from the housing. If this is not done in freezing conditions it may crack. The optional Heating Blanket is available for the external filter as well as the housing.



Pump-Thru-Barriers™ are available with heating blankets for both the external housing and the external water filter. These blankets turn on automatically when the temperatures fall below freezing keeping the internal temperature of both units at around 60°.



There is also a sump pump heater that keeps the water directly around the pump from freezing. This is important in cold weather operations on days that allow for melting. The water is pumped allowing for the required containment. The heat blankets, sump heater and sump pump require a 30 amp circuit and require 4 plugs.

