

## SPI Patented Pump-Thru-Barriers™

**Pump-Thru-Barriers™** are a popular product because of their versatility and durability. The gauge mounted on the intake line measures the rate of flow of water passing into the Barrier. When the flow decreases to a certain rate it is time to change filters. With the recent addition of an external filter this is a simple process. The external plastic case is removed and the treated paper filter inside is replaced and the apparatus is re-attached for use. See how effective the paper filters are as a used filter is compared with a new replacement.



The blue plastic filter case, a sump with a heating ring and a **Pump-Thru-Barrier™** covered with a custom sized heating blanket.



See how effective the paper filters are as a used filter is compared with a new replacement.

## SPI Patented Pump-Thru-Barriers™/Oil Water Separator

For removal of fuels and oils to 3ppm or less and in most cases NON-DETECTABLE. Also providing 100% Oil/Fuel Containment

SPI developed the Portable **Pump-Thru-Barrier™** for containment areas that require removal of rain water while not allowing any oil sheen or oil spill to be released. SPI's system uses a sump pump and our patented Media to accomplish this. Rainwater is pumped into the Portable **Pump-Through-Barrier™** and passively drains through the SPI media removing any oil sheen and totally sealing in an oil spill. The Portable **Pump-Thru-Barrier™** has internal filters that allow rain water to be released and oil sheen to be absorbed into the Petro-Barrier™ media. In an oil spill the **Pump-Thru-Barrier™** instantly shuts off all flow and prevents any oil from escaping into the environment. This is accomplished by a return system into the containment area after the oil has shut down the system. The overflow is directed back into the containment area until the operator shuts down the sump pump. This is a system, that is also



portable and can be trailer mounted to allow companies to pump out several areas in one or several locations. During rainstorms, the sump pump pumps the rainwater into the portable barrier unit, where there are dirt and oil sheen filters which prevent the **Petro-Barrier™** from clogging. These filters are easily removed and replaced in minutes. For colder climates, the **Pump-Thru-Barriers™** are outfitted with low level heating blankets, for the unit housing and also for the external water filter. There is an additional external dirt and debris filter that is attached to the inlet water line, that can be cleaned externally.





The **Pump-Thru-Barrier™** in the picture above has an inlet line where the water is pumped into the unit and a return line to the containment area for water or oil in case of a dirty filter or oil spill.



The picture above shows the discharge from the **Pump-Through-Barrier™**. The flow rate is 40+ gallons per minute.



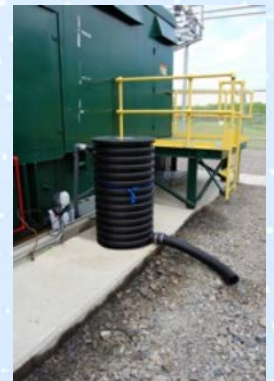
The Portable **Pump-Thru-Barrier™** can be installed for any containment area or areas where you need to be sure no oil sheen is discharged from your facility. The Portable **Pump-Thru-Barrier™** enables companies to install oil containment after the fact, and prevent pooling water and many hours manually pumping them dry. If oil sheen is on the water you now have another problem and either have to treat the water onsite, or have a tank truck haul the water away for treatment. Worse yet, If the water is not pumped out and an oil spill happens, will you have the holding capacity in your containment area? **Pump-Thru-Barriers™** remove oil sheen to less than 3 ppm but in most cases to non-detectable levels. No other system works 24/7/365 days a year providing the protection SPI's **Pump-Thru-Barrier™** delivers.



**Pump-Thru-Barrier™/Oil Water Separator removes and stops:**

- Diesel • Transformer Oil • Heating Oil • Jet Fuel • Kerosene
- Gasoline • Crude Oils • Hydraulic Oil
- along with many other hydrocarbons

In the picture to the left diesel was leaking from a peak generator site into the containment areas with no discharge. This was costing up too \$20,000.00 per month for disposal during the rainy season before the SPI **Pump-Through Barriers™** were installed. The **Pump-Thru-Barriers™** have been installed for three years and the water has not had to be disposed of since. When the diesel is absorbed over time the flow rate will start to decrease and the Barrier cartridge need to be replaced.





## Pump-Thru-Barrier™ Content Instructions



1) Insert Sump Pump Barrier Canister.



2) Align canister holes with Barrier holes and then insert 12 1/4" hex bolt with gasket washer and tighten appropriately.  
**WARNING: Do not over tighten for washer may become defective if gasket is ripped/torn.**



3) Insert Sheen Filter. Push down until it cannot go down further.



4) Make sure gasket ring is flipped up and not down.



## Pump-Thru-Barrier™ Content Instructions (Continued)



5) Insert Barrier Dirt Filter.



6) Push dirt filter down until it cannot go any further.



7) Insert retaining ring. This ring will hold in place the dirt filter.  
**IMPORTANT: Place ring into barrier to secure dirt filter so it gets maximum potential use.**



8) When finished the inside will resemble the picture to the left. Then place the lid on the top of barrier and secure it with 12 3/8" hex bolts.



## Pump-Thru-Barrier™ Oil/Water Separator

SPI Pump-Thru-Barrier™ is outfitted on-site with an external water filter and support brace. The external filter removes dirt down to 35 microns and allows the system to capture the fine dirt prior to getting into the internal dirt filters. The sump pump is tuned on and the flow is adjusted with a max flow rate on the 24" unit of 40+ gpm.





## Pump-Thru-Barrier™ Protecting Water Discharge in Freezing Conditions



Pump-Thru-Barrier™ has a 1.5" inlet with a brass ball valve to control the flow into the Barrier unit. The flow is regulated by the ball valve to keep the flow rate to no more than 40+ gpm. There is a 2" return line that is at the same level as the inlet line that allows any overflow to be directed back into the containment area. The discharge is on the opposite side on the bottom and can be piped to another area for drainage.

Each Pump-Thru-Barrier™ is equipped with a Little John Sump pump and hose for both the inlet and outlet lines. A water filter with a 1.5" inlet and outlet is an available option with replaceable filters. The water filter has a 50 micron filter that is easily changed keeping the internal filters cleaner requiring less maintenance.

The Pump-Thru-Barrier™ is also available with a heating blanket to maintain the inside temperature above freezing for the entire winter. The heating blanket uses green technology and is custom manufactured for the SPI Pump-Thru-Barrier™. There are two options either an external thermometer that can be set to go on and off at certain temperatures or a preset blanket that remains on and shuts down as heating temperature is achieved. The Heating blanket is easily installed and provides companies piece of mind in freezing temperatures. The water filter is also available with a heating blanket so you are always protected as temperatures rise and fall and the last thing you need is a broken connection due to freezing temperatures.

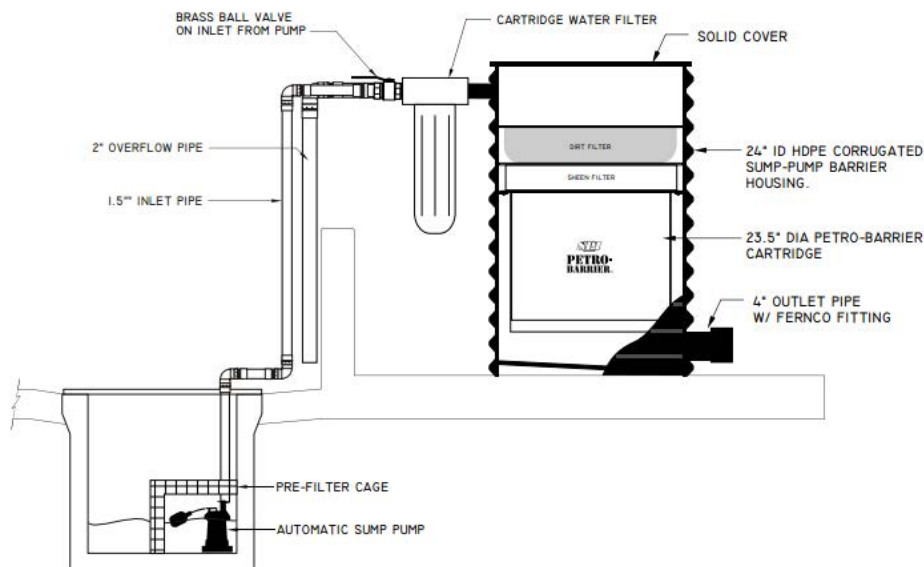
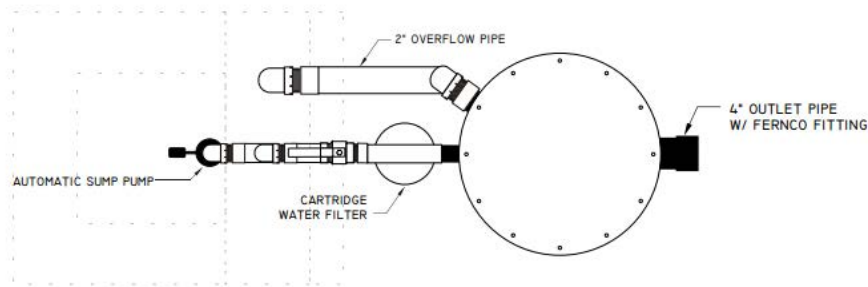


## Cold Weather Operation Pump-Thru-Barrier™

Pump-Thru-Barrier™ are equipped with custom heating blankets that have been tested for temperatures below -40° F in extreme conditions. The following test was conducted at the SPI facility with temperatures of -12° F and not rising above 32° F for 8 straight days. The blankets were installed on the Pump-Thru-Barrier™ housing and external water filter in December 2013 and removed April 1, 2014. Installed in the water vessel is a water heater that kept the water free of ice also through the time period. The internal temperature inside the Pump-Thru Unit was a warm 68°.



### Pump-Thru-Barrier™ Drawings





### Dual Installation Pump-Thru-Barrier™ Drawing

