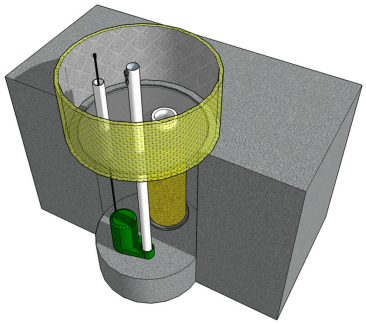
Versatile and Proven Solutions for Secondary Containment Compliance

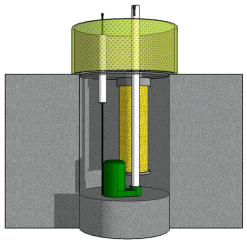
INSTALLATION GUIDE FOR VIPOR-SUMP SYSTEM

Operation and Maintenance

OPERATION

The VIPOR-SUMP system is an automatic oil filtration system that evacuates water from secondary containment vaults and sumps. The VIPOR-SUMP polishes and captures sheen as it evacuates water with complete shutoff capabilities in the event of an oil discharge.





Under normal conditions when water drains into the VIPOR-SUMP system, the VSF (Vault Sump Filter) ring surrounding the VIPOR-SUMP unit captures large sediment and the pre-filter (25 micron) captures small sediment. Next, water enters the 6-x 18-inch HFF (Hydrocarbon Flow Filter) where hydrocarbons and most volatile organic compounds will be removed from the water to a non-detectable level while meeting federal SPCC mandates. The filtered water will then be pumped out of the system by the Zoeller M98 dewatering submersible pump. Should a major hydrocarbon release occur, the VIPOR-SUMP stops all flow.

BILL OF MATERIALS

- VIPOR-SUMP (C.I.Agent)
- VSF (Vault Sump Filter) 24-inch pre-filter ring (C.I.Agent)
- 6- x 18-inch HFF (Hydrocarbon Flow Filter) (C.I.Agent)
- Zoeller® M98 dewatering submersible pump (C.I.Agent)
- SCADA (Supervisory Control and Data Acquisition) high-level alarm (C.I.Agent)
- 2-inch schedule 40 PVC pipe. Amount will vary by location. Note: a 10- to 20-ft, 2-inch flexible hose is also an option (Supplied by contractor)
- 2-inch schedule 40 fittings – four, 45- & 90-degree elbows. Varies by location. (Supplied by contractor)
- 2-inch no-hub coupling (Supplied by contractor)
- PVC primer and cement (C.I.Agent)

- PTFE thread-sealing tape (C.I.Agent)
- Sikasil Sealant #290 (Supplied by contractor)

INSTALLATION GUIDE

The VIPOR-SUMP system requires site-specific installation adjustments or modifications. Sites vary in design such as the depth of the sump, width of the sump, and HFF size and quantity required.

TOOLS REQUIRED

- Reciprocating saw
- Drill
- Drill bit 3⁄16-inch
- Screw driver
- Nut driver

STEP BY STEP INSTALLATION PROCESS

1. Pump all standing water from the containment area and floor sump through a C.I.Agent EVAC filter bag to capture sheen.
2. Clean the floor sump until it is free of dirt, mud, scum, debris and trash. The immediate area where the pump is to be placed must be thoroughly cleaned to avoid clogging the pump intake and causing pump failure.
3. Drill a 3⁄16-inch hole in the 2-inch PVC pipe slightly above the top of the pump as directed by the pump manufacturer. (***Tip*** – apply PTFE tape to all threaded PVC caps and plugs)
4. Place the Zoeller pump in the bottom of the sump. Measure the distance from the pump outlet to the sump lid and cut a section of 2-inch PVC pipe at this distance. Fish the pump wires through the vent hole on the lid of the VIPOR-SUMP.
    a. Cut a section of 2-inch PVC pipe to 15 inches and place it into the 2-inch vent hole. Slide it into the hole so that it has about 12 inches above grade and pull the wires through. This hole allows the wires to pass through and provides a vent for the sump pump to operate correctly.
5. Using Sikasil Sealant, place a bead of sealant around the lip of the sump where the VIPOR lid will be placed.
6. Place the VIPOR lid on the lip of the sump. If there is no lip, use 2-inch stainless steel angle brackets to support the lid slightly below floor level inside the sump using

concrete anchors.

7. Position the VIPOR lid on the angle bracket and caulk edges to form a seal.
8. Cut the 2-inch PVC pipe to the required discharge length.
   a. Install the SCADA alarm 1 foot above the floor level of the containment

MAINTENANCE

Maintenance schedule for the VIPOR- SUMP should be set up on monthly basis and/or after a significant rain event.

Note: The frequency of maintenance varies by job site, depending on how much dirt exists in the containment that can clog the pre-filter. Some sites require less frequent maintenance, and some after every rain event. The customer should check after the first few rain events. The amount of sediment caught in the pre-filter should give an indication of maintenance frequency.

1. Maintenance consists of visual inspection—by removing or lifting vault lid—to determine if there is standing water in the containment.
2. In the event of a high-level alarm:
   a. The 25 micron pre-filter may have become clogged and will need to be rinsed out or replaced
   b. The Zoeller sump pump may have lost power or the float may have failed to turn on the pump
   c. If there has been an oil release and the HFF filter solidified and prevented hydrocarbons from flowing through, the HFF will need to be removed and replaced