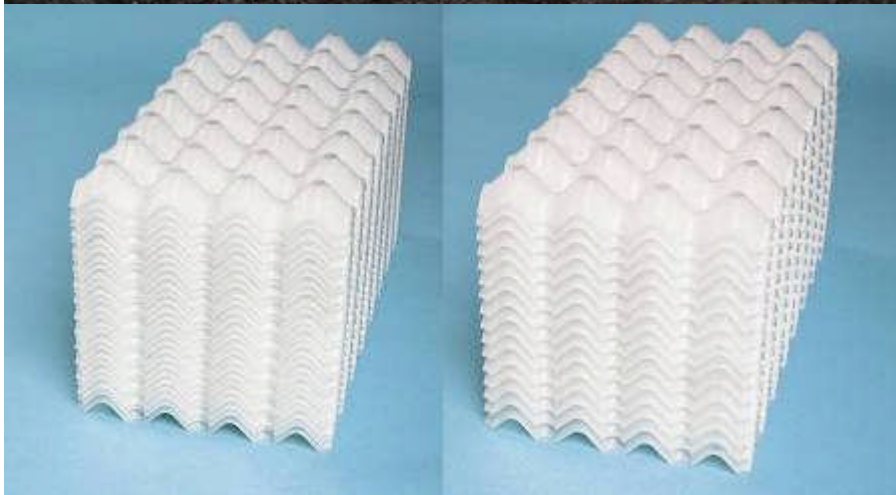


MSR Coalescing Plate Modules for Precast Concrete Vault OEM Use



Field-Assembled
Precast Vault at
Service Station



Nominal 8 mm Spacing Nominal 16 mm Spacing
MSR Polypropylene Coalescing Media



Precast Vault at
OEM Yard

**MSR is seeking OEM
concrete vault manu-
facturers to partner
with in selling oil water
separators**



MSR Versatile designs:

MSR Coalescing plates can be installed in:

- **Rectangular vaults**
- **Large manholes**
- **Electric utility vaults**
- **Cable pull boxes**
- **Precast or Cast-in-Place Vaults**
- **Any other concrete structure large enough and strong enough for the service.**

UV Protected plates in frame at BC Fire training school

Complete Service:

Mohr Separations Research offers complete consulting, design and equipment service in removing oil from water. We utilize a proprietary process simulation program to custom design each separator so that you can be sure that the effluent water will meet your customer requirements.

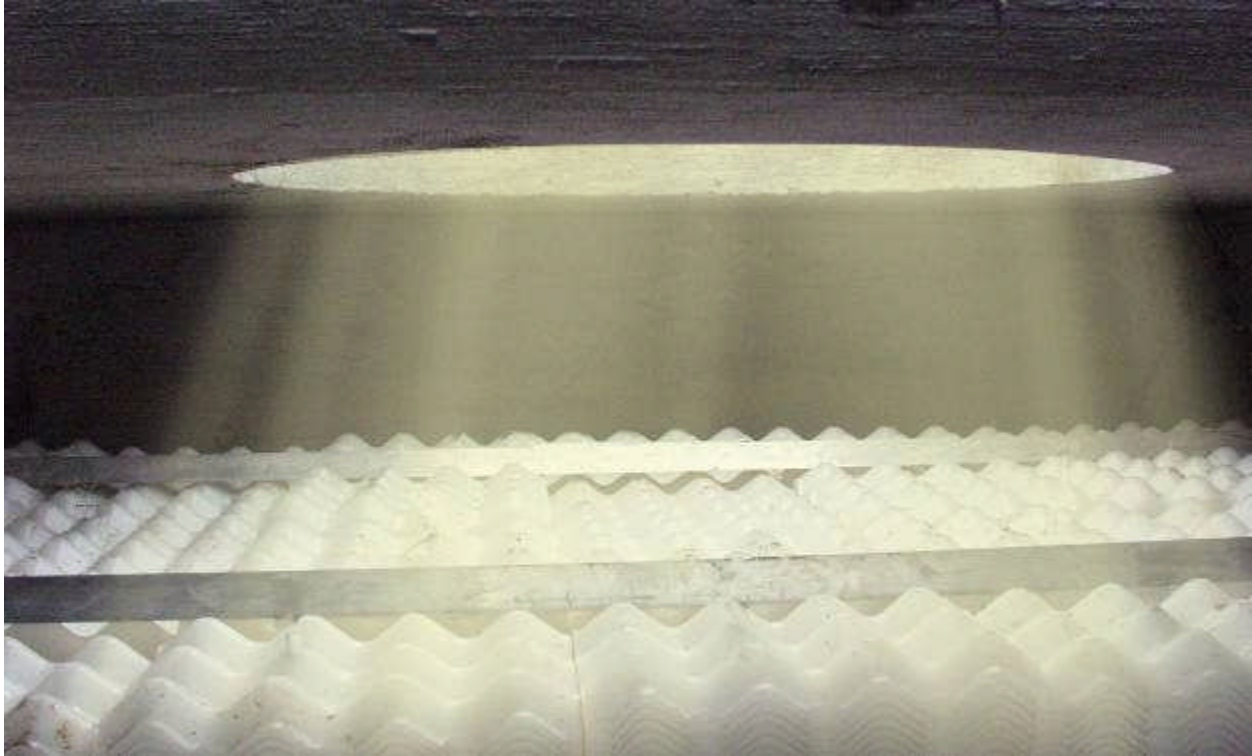
We can provide a process report showing the assumptions made and the effluent quality to satisfy regulatory personnel.



What we do for OEMs:

- Review your existing size vaults to see what can be used.
- Do a process simulation calculation to determine appropriate flow rate ranges.
- Prepare drawings showing baffle locations etc.
- Prepare a custom size calculation for each application and a process report for each customer describing performance.
- Sell coalescing media kits or bulk media to fit the size required.





Precast Separator at Airport Fueling Apron

Operating Principles

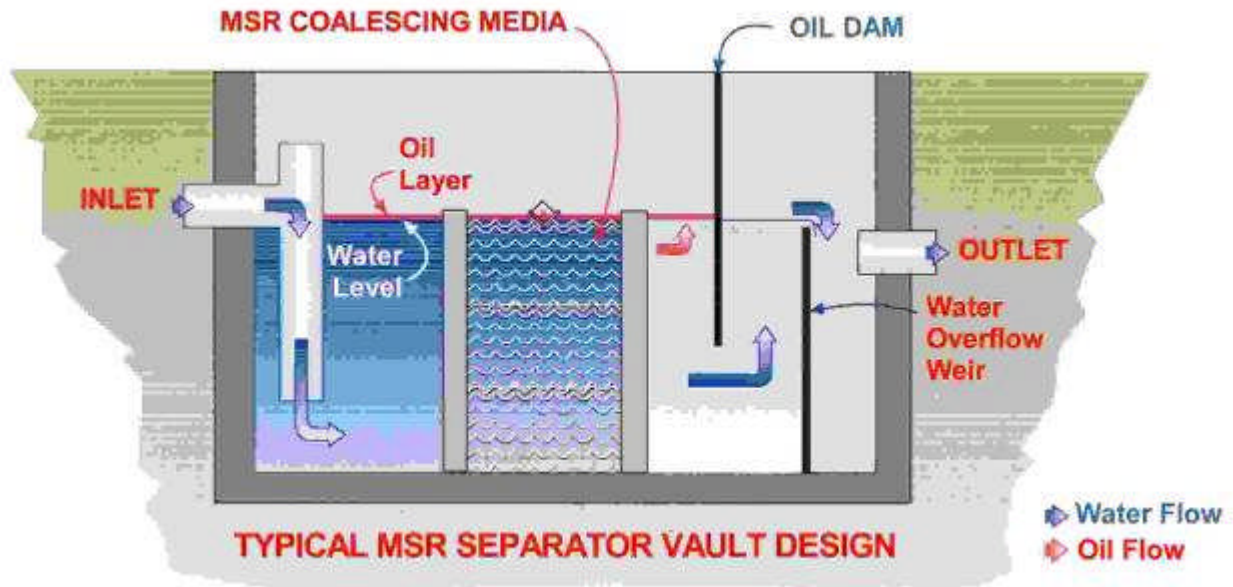
MSR Coalescing plate modules are designed to separate oil from water utilizing the buoyancy of the oil droplets. The droplets rise within the water flow according to Stokes's Law, a mathematical relationship that allows calculation of the rise velocity based on the droplet sizes and the difference in specific gravity between the water and the oil. In general, smaller droplets and/or droplets of greater specific gravity rise more slowly.

The droplets common in both industrial applications and stormwater are generally very small, and very small droplets rise *very* slowly. To facilitate good removal, the rise *distance* must therefore be short.

Ordinary large empty tanks or API separator type systems are not efficient at removing small oil droplets because the small droplets rise slowly and the rise distance required for the droplets to come to the surface for separation is large.

MSR Coalescing plates are closely spaced to minimize rise distances and ensure capture of even very small droplets. The coalescing plates are made from an oleophilic "oil-loving" plastic that helps capture droplets and encourages coalescing. They are available in either nominal 1/4" or nominal 1/2" space

The water flow carries the droplets into the modules where they rise by buoyancy up to the underside of the coalescing plates where they are captured. As more droplets are captured they form a layer on the plates and eventually break loose as large drops and migrate to the surface through the oil ports designed for that purpose. The oil forms a layer on the surface of the water and is eventually removed for use.



Materials of Construction:

MSR Coalescing plates are available in two injection-molded materials:

- Polypropylene. This material is suitable for most applications where the oil to be separated does not contain large quantities of aromatics chemicals such as Benzene and Toluene.
- Polyoxymethylene (POM). This material is suitable for use in aggressive chemicals such as Benzene. This plastic is also known as "acetal" and often by the Dow Tradename "Delrin"



Modules installed in Manhole

Dimensions and General Information

MSR Coalescing Plates are 300 mm wide x 600 mm in length (in the direction of flow). They can be used either as individual modules approximately 12" tall, or stacked to whatever height is necessary to meet the requirements of the flow. They can also be used in the construction of larger packs such as that shown at left, designed for service in an atmospheric tank. Flow through this pack is from left to right in the photo. The pack would be installed in a rectangular vault in such a way that the water flow must pass through the plates to remove the oil. Packs of this type are used for convenience of installation and service.



Large Multi-Module Pack

OEM Information:

If you are interested in competing in this market, Please contact Kirby Mohr as the address below.

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