



# Hydrocarbon Removal Matrix (HRM) Cartridges

## MYCELX Polishing Filters

### Specifications

Filtration Media  
Material of

Construction:  
**Polypropylene  
with MYCELX  
Proprietary  
Chemistry**

222FEC End Cap  
Material and  
Dimensions:  
**2.5" Polypropylene,  
Buna-N O-Ring**

Maximum  
Operating  
Temperature:  
**160°F (72°C)**

Maximum  
Operating  
Differential  
Pressure:  
**35 psid @ 100°F  
(38°C)**

Minimum  
Operating Pressure  
Required:  
**1 psi**

Operating pH  
Range:  
**3 - 11**

Operating Pressure  
Drop Across Media  
Upon Oil Removal:  
**1 psi**

Typical Flow  
Capacities of HRM  
Based Systems:  
**1 - 10,000 gpm**



HRM PART NUMBER CONFIGURATOR				
MYCELX Treated Filter Type	Cartridge Length (Inches)	Nominal Outside Diameter (1" ID)	Raw/Untreated Nominal Filter Micron Size (µm)	End Cap
MD	<div style="border: 1px solid black; padding: 5px; width: 100px; height: 100px; margin: 0 auto;"> <div style="border: 1px solid black; width: 80%; height: 80%; margin: 5px auto;"></div> </div>	<div style="border: 1px solid black; padding: 5px; width: 100px; height: 100px; margin: 0 auto;"> <div style="border: 1px solid black; width: 80%; height: 80%; margin: 5px auto;"></div> </div>	5	<div style="border: 1px solid black; padding: 5px; width: 100px; height: 100px; margin: 0 auto;"> <div style="border: 1px solid black; width: 80%; height: 80%; margin: 5px auto;"></div> </div>
	5 10* 20* 30 40 50	S = 2.5"  LD* = 4.5" (LD Options are 10" or 20" Length Only)		DOE (Leave Blank)  222FEC  LD (Leave Blank)
Part Number Examples: MD40S5 (HRM 40" Long, 2.5" OD, Double Open End Option) MD30S5222FEC (HRM 30" Long, 2.5" OD, 222 Flat End Cap Option) MD10LD5 (HRM 10" Long, 4.5" OD, Double Open End Option)				

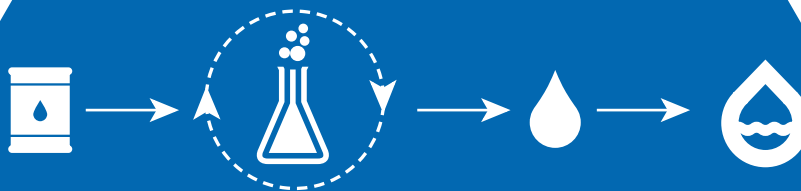
# Hydrocarbon Removal Matrix (HRM) Cartridges

MYCELX Polishing Filters

HRM

Comparison to ALTERNATIVE Technologies	MYCELX HRM Cartridge	Clay/Carbon	OWS/Coalescers	Hydrocyclones
Mechanism of oil removal	Instant, permanent and complete oil removal upon contact. True and Broad phase affinity. No desorption. Required contact time for oil removal: < 1 sec	Adsorption Desorption isotherms apply. Required contact time for hydrocarbon removal: 5 min	Gravity or media assisted enhanced gravity based separation. Required contact time for oil removal (30-50 microns): 10-15 min	Centrifugal or enhanced gravity based separation.
Robustness to handle variable oil loading	Effectively handle high to low oil loading to same effectiveness and < 1 psi pressure drop	Fouls and plugs even with medium oil loading	Can remove oil only up to 30-50 microns oil droplet size	Can remove oil only up to 15-20 microns oil droplet size
Oil Removal Capacity to greater than 90% removal effectiveness	4-6 lbs./ lb. of MYCELX media	0.03-0.3 lbs/lb of adsorbent media	Cannot remove less than 30 micron oil droplets.	Cannot remove less than 20 micron oil droplets.
Ability to handle mixed oily water streams	Yes. Instant, permanent and complete removal	No. Desorption occurs	No, only free phase or > 50 micron droplets will be removed	No, only free phase or > 50 micron droplets will be removed
Footprint of system per flow requirements	1 X	5-6 X	15-20 X	2-3 X
Cost to remove oil at smallest footprint, lowest waste generation and sustained effectiveness	1 X Environmentally Benign Concentrated dry oily waste	5-10 X	2-3 X 90% effective only for oil droplets > 30 microns	4-8 X 90% effective only for oil droplets > 20 microns

Absorbs Oil Without Absorbing Water



## Key Benefits

Oil Removal Cartridge

Delivered as dry cartridge – no liquid or chemicals.

Permanent immobilization of the oil in the MYCELX cartridge. No desorption.

High flow capacity at smallest footprint compared to any alternate technology.

Safe and easy to handle. No hazardous components. Certified by EPA and Fish and Wildlife Department for safe handling and discharge into aquatic environment.

Spent oily cartridge holds very little water; therefore saturated cartridge has high BTU residual fuel value due to high oil content and very low water content.