



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)



5
10*
20*
30
40
50

Nominal
Outside Diameter
(1" ID)



S = 2.5"

LD* = 4.5"
(LD Options
are 10" or 20"
Length Only)

Raw/Untreated
Nominal Filter
Micron Size (µm)



End Cap



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.