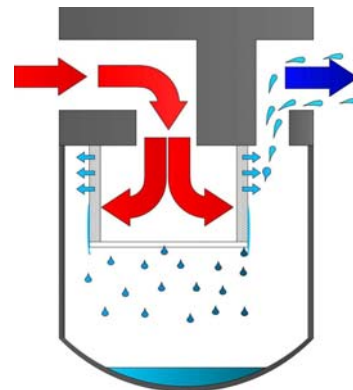


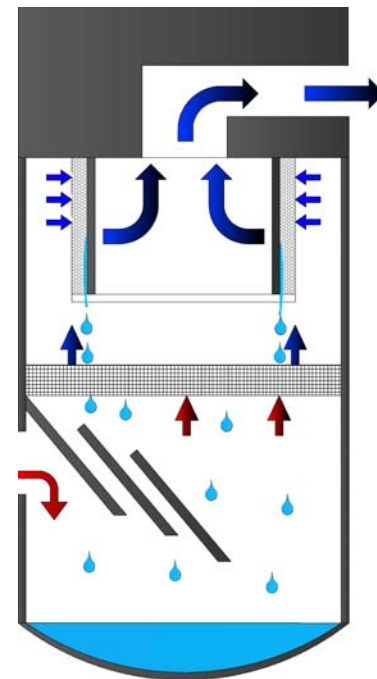


Gas Flow Membrane or GFM Technology® was developed to solve the growing and significant problems associated with wetter unconventional “New Gas”.

In traditional coalescing units, gas enters at the inside of the filter element and flows to the outside. As shown in the image, the extracted liquids are fully exposed to the exiting gas flow. This traditional configuration often causes liquids to be drawn back into the exiting flow stream. This re-entrainment of liquids and contaminants is known as carryover. Carryover is problematic in any application and is especially challenging as a growing percentage of gas is obtained from unconventional sources such as shale and bio gas.



TM Filtration’s GFM Technology® effectively solves carryover concerns by employing a reverse flow design through a multi-stage filtration process designed to take advantage of our innovative GFM filter element. In the first stage gas enters the vessel and is directed into a tangential circular flow pattern by radial impingement plates. The centrifugal force separates and removes large particles and slugs of liquid. In the second stage, gas flows upward through either a mechanical mesh or vane scrubber to remove medium-sized particles. The third and final stage of filtration occurs in the GFM filter element.



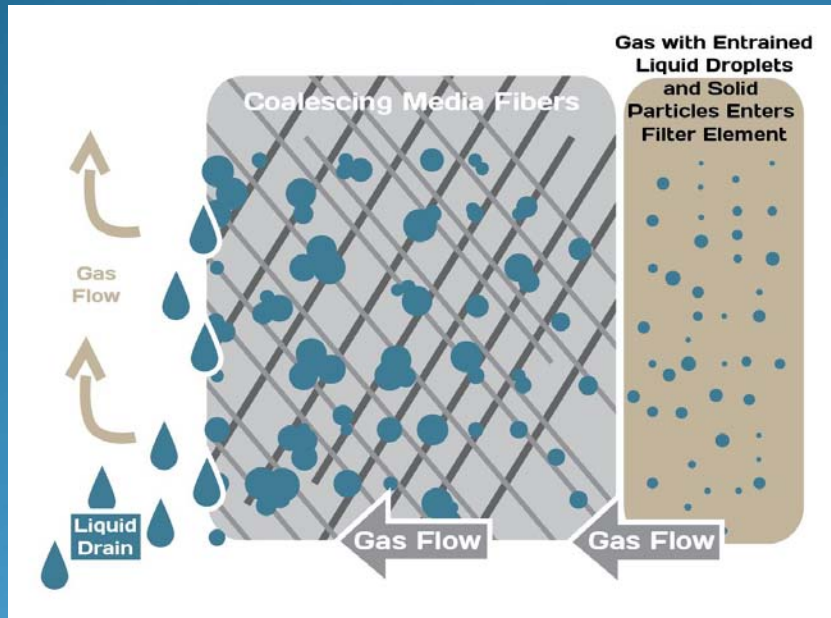
Our patented GFM filter element features multiple layers of media, each performing a critical role in the filtration and coalescing process. The pleated outer shell consists of polyester and micro borosilicate glass layers which provide the surface area required to remove fine particulate and also coalesce aerosols into larger droplets. This large surface area relates to longer filter life, reduced maintenance cost, smaller vessel diameters, and optimum velocity through the element. The final filtration layer is TM Filtration’s unique inner core. Engineered using a pressure-responsive sintered polypropylene membrane, the inner core acts as an RO liquid barrier while allowing gas to pass through freely.

The net result of this advanced design is cleaner gas streams at reduced operational cost.



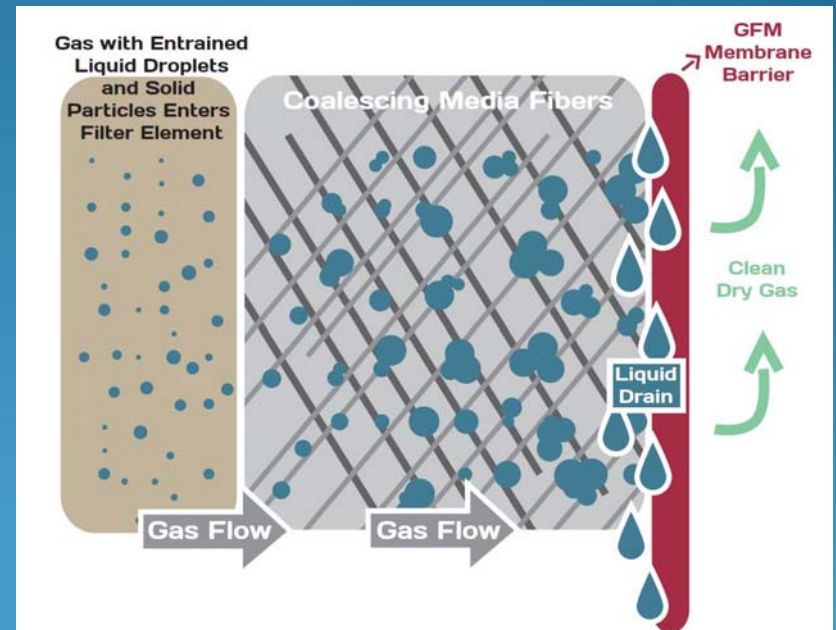
Filter Design Comparison

Traditional Element Design



Flow Inside to Outside

GFM Technology Element Design



Flow Outside to Inside