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The Challenges in Hydro Testing Hydrophobic Membrane Devices

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Filter manufactures and Pharmaceutical companies have validated an integrity test method that measures the pressure drop on the upstream side of the hydrophobic membrane device when filled with water. The premise behind this test is that if the membrane is defective by larger than desired pores, leaking seals, pin holes, etc. The water will go through the membrane causing the pressure to drop an unexpected amount. If the device is integral and of the correct pore size the water will not penetrate the hydrophobic membrane and the pressure will drop very little. The challenge comes in when trying to determine what is an acceptable amount of pressure drop to prove that the device is integral and of a correct pore size. This is due to the fact that over time the water will vaporize and pass through the membrane reducing the pressure that in some cases mask a very small leak. This test is further complicated by the variability of the upstream air volume which can decrease the sensitivity of the test. The author will highlight through examples of how these procedure variables effect the test and its predictability of integrity while showing how to minimize these variables making the test predictable of performance.

Biography – Scott P. Yaeger

Mr. Yaeger is currently President of Filtration and Separation Technology LLC, a filtration and separation consulting company as well as the Exclusive Worldwide Distributor for Parker Hannifin's Electrocoat paint filtration and separation devices. He has more than 35 years of experience in filtration and separation in sales, marketing, engineering, manufacturing, technical service and management. He has held senior positions in Sartorius, Cuno, Gelman Sciences, Parker Hannifin and PTI Advanced Filtration before starting his own company. Mr. Yaeger is a graduate of Clarkson University.