

Variable Impactor Technology in Crankcase Ventilation

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Variable Impactors are a new inertial separation technology that will be released to the market in 2010. This product has improved performance over similar technologies currently on the market. This technology maintains the benefits of an impactor as a life of engine, non-serviceable component; while improving aerosol efficiency over the entire engine operating range. An impactor separates aerosol particles from blowby gases by accelerating the flow through a set of nozzles. The accelerated flow then impacts against a surface and quickly changes direction which causes the particulate matter to stay behind. The efficiency of this mechanism is largely driven by the blowby flow rate, and therefore the acceleration achieved. A variable impactor has the ability to change the number of nozzles the flow passes through as flow rate and pressure change. This allows for more consistent restriction and improved efficiency over a wide flow range. This paper will discuss the patented variable impactor, its underlying operating mechanism, and performance characteristics.