

Industrial Applications

FRL

Porex's polypropylene filter design for pneumatic machinery offers a superior performing, low-cost alternative to traditional sintered-metal filters, providing excellent efficiency, reliability and longevity.



Design Challenge

Pneumatic systems use filters, regulators and lubricators (FRLs), all working together, to provide clean and conditioned air/gas required to drive or power pneumatic machines. For years, pneumatic component manufacturers relied on the filtration capacity of a sintered metal filter element to provide proper filtration and ensure the mechanical reliability and long-term service of pneumatic machines. To meet increasing competitive pressures, the manufacturers sought a lower cost, comparably performing alternative to the traditional sintered metal filter.

Solution

Porex engineers first analyzed the beneficial attributes of the sintered metal filter such as its good balance of strength, particle filtration efficiency and air flow/back pressure features. They next closely simulated the sintered metal's pore size, pore volume and pore morphology from a specialty grade polypropylene raw material.

Results

Porex's single component polypropylene molded filter design provides an excellent combination of particulate filtration efficiency, airflow and backpressure performance values for pneumatic systems owners, designers and manufacturers. At the same time, it complies with strength and aesthetic requirements. Collectively, these features help ensure the highest levels of pneumatic reliability and longevity for pneumatic machinery.

By combining ideas, know-how and proven results with the highest standard of innovation and excellence, POREX Porous Media provides unique solutions for various applications.



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PPG-218-071706-00

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