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**"The Use of Porous Metal Filters in Water Filtration Systems"**

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Category: 1 Water Filtration

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**Abstract**

As the largest single market segment for filtration/separation, the water industry represents many unique and challenging applications. Among this wide range of applications/market segments are industrial process water, municipal/industrial waste water, municipal drinking water (including desalination of water), and many more.

Industrial users of disposable filters have long dealt with the cost of handling/disposing of used, dirty filters. These costs include the labor to remove the filters and package them for disposal, as well as the transportation and actual disposal costs. As the cost for all of these items is continuously increasing, users are more closely considering the benefits of cleanable porous metal filter elements. In particular, users are focusing on self-cleaning filters that can be back-washed or back-pulsed to remove accumulated debris.

These porous metal filter elements used in these self-cleaning applications are typically constructed of sintered (or diffusion bonded) woven wire cloth, sintered metal powder, or sintered fiber metal felt. This paper examines the construction and performance characteristics of each of these media, including available micron ratings, comparative pressure drop, and self-cleaning designs. Diffusion bonded wire cloth filter elements will be examined in greater detail.