



HIGH TEMPERATURE GAS FILTRATION

AVAILABLE IN ALLOYS OF 316L SS, HASTELLOY®, INCONEL® OR CARPENTER 20Cb3®

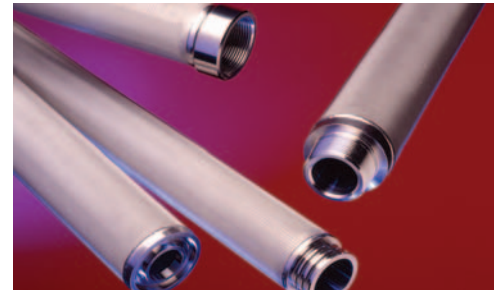
Purolator's Poroplate® hot gas filters are application engineered and manufactured to optimize your process. By tailoring the filters to meet the specific operating conditions of your systems, we provide filters that tolerate higher temperatures and offer greater throughput. In addition, Poroplate® hot gas filters provide greater back pulse efficiency with no measurable product bleed through. The result: an optimized chemical process system.

POROPLATE® SINTERED WIRE MESH FILTERS

Poroplate® filter media are made from multiple layers of woven wire mesh sintered together into a rigid, durable, porous structure. Each wire mesh layer is chosen for a specific engineering purpose: filtration (particle size removal), flow drainage, or strength. Poroplate® filter media are sintered in porous panels which are then formed and welded into strong, self-supporting filter tubes.

ENGINEERED SOLUTIONS

For gas applications, we design Poroplate® elements to be surface-loading filters. In this configuration, the filtration mesh layer is located on the upstream side of the media in the normal flow direction. Drainage and support mesh layers are below. This design provides a filter with very little pressure drop, affording the system operator longer on-stream cycles. As the particles contact the filter, they are retained on the surface of the filter media, not deep in the pores as in ceramic or sintered powder elements. When the elements are back-pulsed or cleaned, the retained particles (filter cake) release easily and the filter element returns to like-new condition. Our rigid multi-layer design withstands constant back pulsing. The sintered media will not tear, thus preventing catalyst or contaminant particles from bypassing downstream.



Hot gas is often processed in environments reaching 900° C with high chlorine gases. Poroplate® filter tubes made in Inconel® alloy have the metallurgical characteristics and mechanical strength to withstand this harsh working environment.

FEATURES

- Sintered multi-layer wire mesh laminate media
- All-welded durable construction
- Surface filter media
- High Porosity media

OPTIONS

- Micron ratings (2, 10, 30, 40, 70, 100, 125)
- Filter element diameter and length
- Attachment fittings (threaded, flanged, welded in, etc.)
- Multiple alloy selections (316LSS, Hastelloy®, Inconel®, Carpenter 20Cb3®, etc.)

Note: Hastelloy is a registered trademark of Hayes International, Inc. Inconel is a registered trademark of Special Metals Corp. Carpenter 20Cb-3 is a registered trademark of Carpenter Technology, Inc.

BENEFITS

- Longer element life — no media tearing
- Lower differential pressure
- Higher temperature tolerance
- Lower operating costs
- Greater chemical resistance
- Longer cycle times
- Greater back pulse or cleaning efficiency
- Greater production rates

PUROLATOR FACET, INC.
a CLARCOR company

www.purolator-facet.com

8439 Triad Drive, Greensboro, NC 27406-9611

Phone: (800) 852-4449 or (336) 668-4444

Fax: (336) 668-4452

E-mail: info@purolator-facet.com

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Purolator®

PROPLATE® FILTER ELEMENTS

Multi-layer woven wire mesh design: provides precise filtration with high flow rates and excellent durability.

Sintered structure: metallurgical bond at each wire contact point locks in the pore structure and micron rating.

Excellent ductility: Poroplate® media is fully annealed and ductile. Therefore, it is able to withstand higher pressures, frequent back-pulses, and physical abuse better than brittle ceramic or powder metal elements.

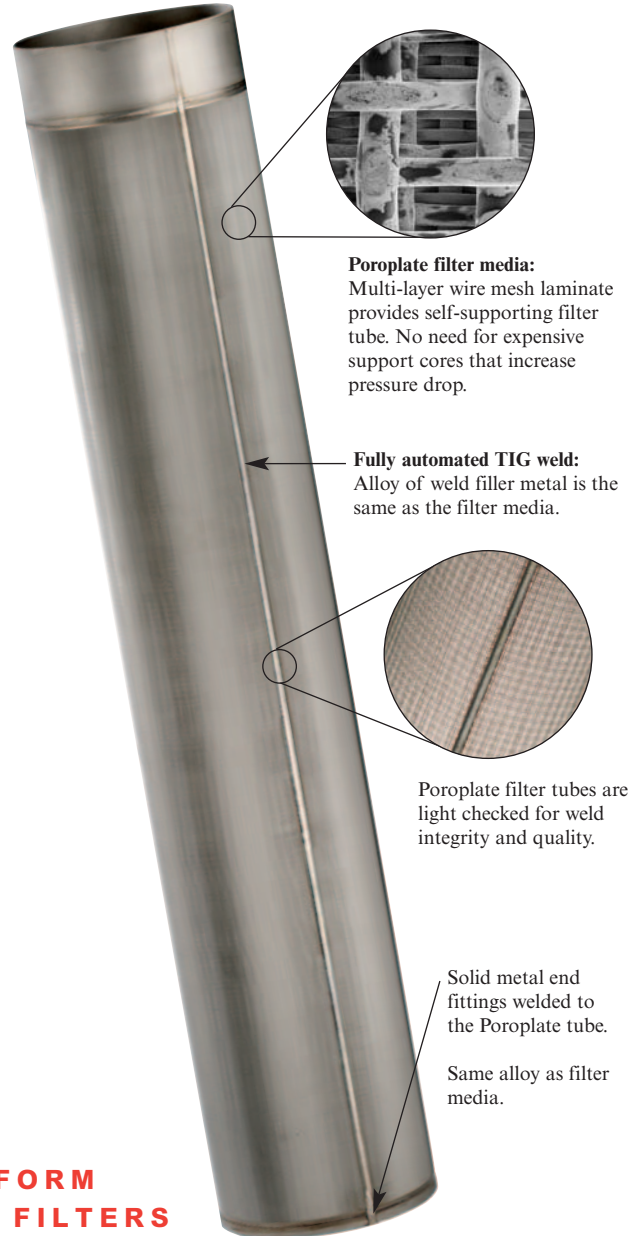
Surface loading medium: retains solids on the surface of the filter for easy cleaning or back-pulsing.

Self-supporting filter tubes: eliminate expensive support cores.

All-welded construction: no adhesives or mechanical fasteners. Performed by certified welders on fully-automated TIG weld machines for uniform weld quality.

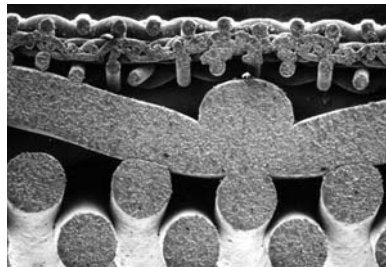
High temperature alloys: Poroplate® elements are available in 316L SS, Inconel®, Hastelloy®, and other alloys.

Summary: Poroplate® hot gas filter elements provide custom solutions tailored to your process conditions. The sintered multi-layer wire mesh media provide higher flow rates, higher process temperatures, and more durable filter elements than other media types.

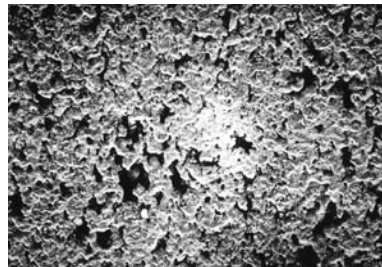


PROPLATE SURFACE FILTERS OUTPERFORM SINTERED POWDER METAL OR CERAMIC FILTERS

- Fine mesh captures contaminants on upstream surface.
- Downstream support layers provide open flow channels for low differential pressure, high flow rates, and long filtration cycles.
- Backflushes well, yielding like-new filter elements.



Poroplate® Filter Media



Sintered Powder Metal Filter Media

- Complex pore structure captures contaminants deep in the media.
- Low porosity means low flow rates and frequent cleaning cycles.
- Tortuous pore structure limits backflush efficiency.

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Fax: (336) 668-4452

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