

► Mott can filter your toughest slurries?

Process Filtration News

November 2006

When working with a feed that has a high solids concentration, the filtration you use is critical. The right filter provides filtration without clogging, withstands unusually



[Click here](#) to download/view in printer-friendly (pdf) format.

harsh environments, and provides consistent, reliable performance. Mott's all-metal **LSX Crossflow Filters** meet these challenges. Mott porous metal LSX Filters have been successfully installed and operated by customers for solid/liquid separations in nuclear wastewater, fatty alcohols, and solvent mixtures used in paints and coatings just to name a few. Proven through decades of use under the worst possible conditions, the LSX combines Mott engineering expertise, industry experience, and a great design to solve your toughest filtration challenge. A unique solution for truly demanding applications.

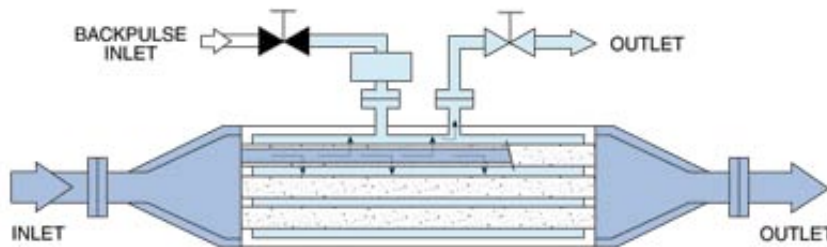


CrossFlow Filters

Mott HyPulse® LSX CrossFlow Filters for Hard-to-Handle Filtration

Mott Corporation developed HyPulse LSX filters for use in difficult filtration applications where high strength and corrosion resistance is a requirement. For over 40 years, these filters have been used in chemical process industries to concentrate catalysts, pigments, and other hard-to-handle slurries, as well as in nuclear waste processing to concentrate low- and high-level radioactive wastes. Not many filters can stand the heat like Mott's porous metal technology.

The LSX filter can be single or multi-tube assemblies that are usually oriented in a horizontal flow path. The porous metal filter tubes are open on both ends and are secured within tubesheets that are sealed within the housing. The contaminated stream is pumped through the inside of the filter tubes, and the differential pressure created across the elements causes a portion of the flow to pass through the porous media into the clean side of the housing. This exits as clear filtrate.



Filter elements typically range from 0.25" ID in laboratory models up to 0.625" ID in large process models. The area of porous filtration media can be as low as 0.1 Ft² up to 240 Ft² in large process models.

LSX filters will provide outstanding performance with hard discrete solids and can be effective with some slimy or soft solids. Typical applications including washing and concentration in photographic film pigment production, and the purification of solutions used in the product of nuclear fuel for power reactors. They have also been used for the concentration and recovery of yellow pigment grade iron oxide. The aqueous solution is recycled back into the process, saving millions of gallons of water.



LSX Filter Bundle



Features of the Mott LSX Filter:

- High velocity crossflow porous tubes
- Builds to a high concentration of feed solids
- Produces a consistently clean filtrate
- Reliability – All-welded metal media
- Minimal backwash volume
- Continuous operation
- Self-contained (hazardous materials)

LSX Filter Design:

- Constructed like shell-and-tube heat exchanger
- Particulate remains in the recirculating stream while allowing filtrate to exit on a continuous basis
- Can support continuous or intermittent solids purge

LSX small-scale filtration

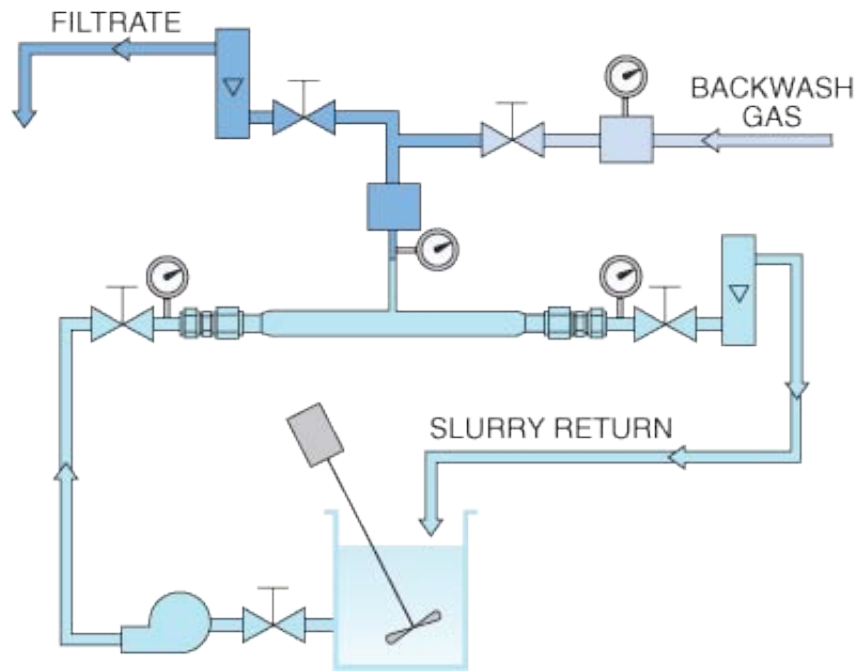
Mott also offers LSX laboratory filters that are ideally suited for process testing and for low-flow applications such as liquid sampling. Accurate scale-up to production from a single element test model is typically reliable, as each element acts independently. Such testing can be performed by a Mott applications engineer at our facility or directly at the customer's site.

LSX Lab Filter



Mott's HyPulse LSX laboratory filter, in addition to being a small-scale filtration solution in itself, is also used to perform crossflow feasibility studies during process-scale application development.

Model 7610 CrossFlow – Pilot Equipment Diagram



For more information

If you have questions or would like additional information on Mott's LSX Filters, please feel free to contact us at Quest@mottcorp.com or visit our website www.mottcorp.com. You can also download one of the following brochures found on our website in the [Resource Center](#).

