

CATALYST FILTRATION

mott
MISSION CRITICAL PRECISION

HyPulse® liquid filters from Mott excel at capturing or recycling expensive catalyst to help chemical companies achieve significant cost savings. With sub-micron filtration technology, Mott can consistently achieve up to 99.9% catalyst filtration regardless of process stream.

Mott utilizes three filter types for catalyst applications:

LSI- For the filtration of standard catalyst capture applications with 15 wt. % slurry to 50 wt. % wet cake

LSM- For the filtration of dense particles such as Raney® nickel

LSX- For crossflow filtration applications with significant sub-micron particles to avoid blinding of filter media



MOTT INSTALLATION EXAMPLES

Variables	Example 1	Example 2
Catalyst Used	5% Pd/C	5% Pt/C
Catalyst Cost Per Kg	\$5,000	\$3,500
Catalyst Kgs Used Annually	1,400	1,800
Total Annual Catalyst Expense	\$7,000,000	\$6,300,000
Capture % Prior to Install	90%	85%
Capture % After Install	99%	99%
Annualized Cost Savings	\$630,000	\$882,000

3 REASONS TO USE A MOTT FILTER FOR CATALYST FILTRATION

1. CAPTURE 99% OF YOUR EXPENSIVE CATALYST

Filter presses and pressure leaf filters rarely capture more than 90% of catalysts, which means thousands of dollars are lost each year due to poor filtration efficiency.

2. TAILORED TO YOUR PROCESS

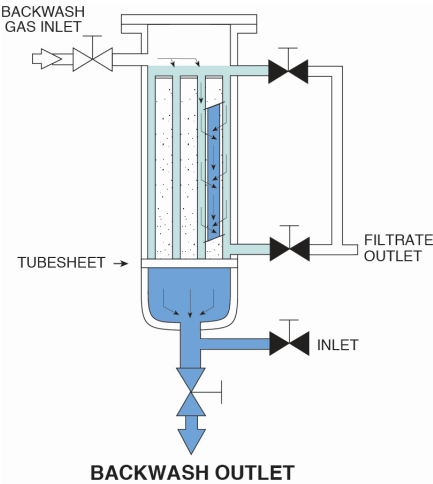
Regardless of if you want to recycle your catalyst back to a reactor or reclaim it for a credit, we will design your filter to achieve your specific process goals.

3. SINGLE PASS CLARITY

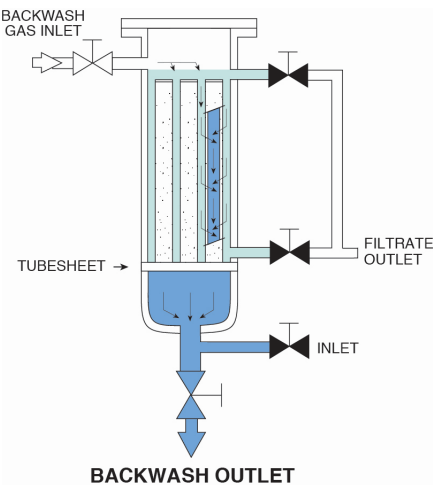
Achieve your desired filtrate quality with only one filtration cycle, typically without the use of filter aids and eliminating the need for recirculation to meet product clarity specifications.

MOTT LIQUID FILTERS

HyPulse LSI filters incorporate inside-out filtration, a method and design unique to Mott Corporation. At the end of each filter cycle, solids are backwashed off the inside of the elements and discharged as a concentrated slurry or wet cake.



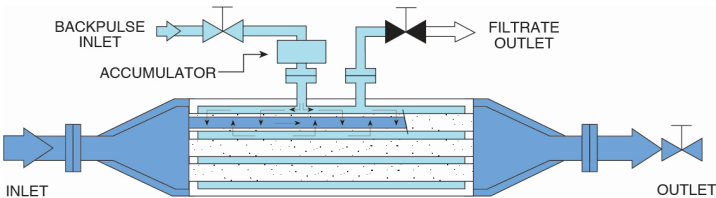
HyPulse LSM filters incorporate inside-out filtration within a double open-ended design. High-density solids are allowed to settle at the bottom of the filter vessel. LSM filters may be operated on a filter/ backwash cycle schedule, or can be used as concentrators in a recirculating system.



MOTT FILTER INSTALLATIONS

Country	Startup	Liquid	Catalyst	Vessel Diameter (Inches)
USA	2018	Resins	Nickel	25
USA	2017	Biowax	Platinum	36
Mexico	2014	Organic Solution	Palladium	20
USA	2014	Active Pharmaceutical Ingredient	Platinum	24
USA	2013	Organic Solution	Nickel	24
Canada	2013	Organic Solution	Palladium	16
Brazil	2013	Organic Solution	Palladium	16
USA	2012	Nitrile Solution	Nickel	20
Thailand	2010	Washing Water	Palladium	24
China	2008	THF Solvent	Ruthenium	20
Belgium	2005	Water/Acetate	Proprietary	24
USA	2004	Organic Solution	Nickel	36
Canada	2004	Organic Solution	Palladium	16
USA	2003	Organic Solution	Nickel	24
USA	2002	Organic Solution	Palladium	30
USA	2001	Methanol/Water	Palladium	16
Canada	2001	Polyolephin Oil	Palladium	24
Japan	2001	Hydrogenated Oil	Nickel	16
USA	2000	Polyol/Amine/Water	Nickel	36
USA	2000	Fermentation Slurry	Palladium	16
Brazil	2000	Organic Solution	Platinum	30
USA	1999	Isopropanol	Nickel	20
USA	1999	Dichloroaniline	Platinum	16
USA	1998	Amines	Nickel	36
USA	1998	Butanol	Nickel	36
USA	1998	Hydrogenated Chemical	Platinum	40

HyPulse LSX filters provide uninterrupted filter cycle performance through crossflow filtration. Slurries flow through the double open-ended filter elements, allowing filtrate to exit the system on a continuous basis while particulate remains in the circulating stream. This is the ideal filtration method for slurries with unique particulate characteristics, or for achieving maximum retention of valuable particulate such as expensive catalysts. Ideal for slurries with high fines content.



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