Science.
Applied to Life.™

Customer Application Brief
Chemical

The takeaways on High Flow in chemical loadout filtration.

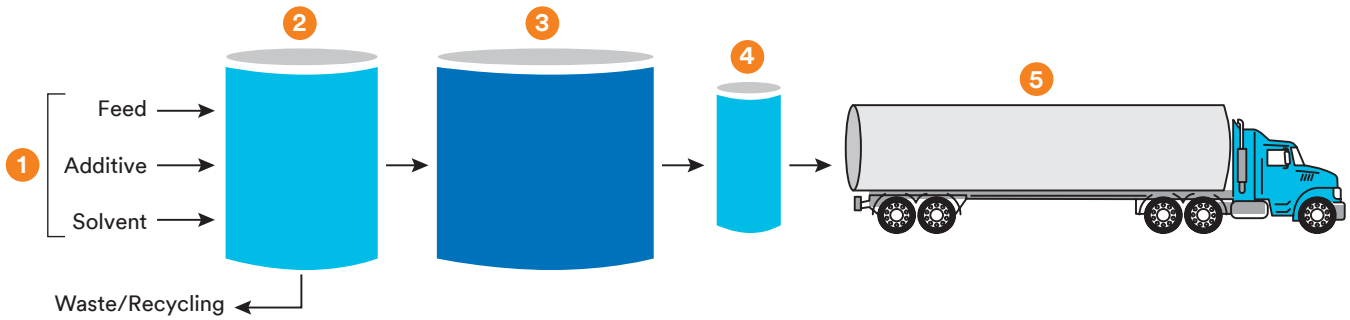
Loadout filtration is a critical step in the process to ensure that product quality meets the specifications your customers demand. As final product is transferred from storage to tankers, rail cars or pipelines, flow rates are typically very high to move inventory quickly.

Contamination in the final product, such as rust and scale from the storage tank or downstream piping, can foul distribution equipment. Pumps, valves, nozzles and meters are all susceptible to fouling – reducing or completely stopping loadout flow rates.

Equipment fouling can result in maintenance or replacement costs, downtime and lost or delayed revenue.

Contamination can also result in off-spec product, possibly leading to product rejection and reprocessing. Off-spec products can result in maintenance costs, reduced productivity, lost revenue and negative customer experiences.

Typical Chemical Manufacturing Process



1 Feed
Additive
Solvent

2 Reactor

3 Storage

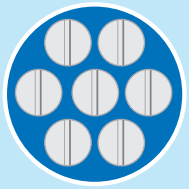
4 Final Filter

5 Loadout

3M™ High Flow Filter System vs. Conventional 2.5" Nominal Depth Cartridge System

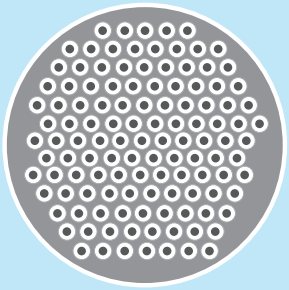
2,000 gpm (7,571 LPM) Flow Requirement

3M™ High Flow Filter System



7 cartridges in a 24" diameter housing

Competitive Nominal Depth Cartridges



120 cartridges in a 36" diameter housing

Fewer change-outs save time with High Flow filtration.

3M™ High Flow filter systems provide effective filtration at the high flow rates typical in chemical loadout. These systems utilize large diameter (6.5" O.D.) compound radial pleated cartridges in a compact housing design. The high-efficiency polypropylene microfiber media features compatibility with a wide variety of chemicals resulting in consistent, predictable particle retention efficiencies.

Compared to nominally rated 2.5" depth filter cartridges or bag filters, these filter systems offer the following advantages:

- **Higher Particle Retention Efficiencies (99.9%):** Provides consistent and reliable filtration of particulates that can cause off-spec product.
- **High Flow Capability:** Flow rates up to 500 gpm in a single cartridge.
- **Compact Housing Design:** Reduces up-front capital expenditure requirements and footprint.
- **Ease of Use:** Fewer cartridges means filter change-outs are quicker and easier.
- **Twist-to-Lock Cartridge:** Provides a positive indication of proper sealing, reducing the possibility of bypass.

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