

Polyvinyl Chloride (PVC)

Filtration of Vinyl Chloride Monomer (VCM) in the Production of PVC

Market Application Publication



Customer Value Proposition

Polyvinyl Chloride (PVC) is a widely used material in the building and construction industries. It offers the advantages of being easy to work with, low-cost, and durable. The intrinsic properties of PVC make it suitable for a variety of uses ranging from consumer goods like clothing and upholstery, to automotive parts, pipes, sealants, and electrical insulation.

There are many benefits to using quality filtration systems in the processing of Vinyl Chloride Monomer (VCM), a toxic chemical used to manufacture PVC.

The role of filtration in the VCM/PVC process impacts production of PVC by reducing impurities, improving yields and protecting workers from the adverse effects of VCM exposure.

Contact Information

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Abso-Mate™ filter

Features and Benefits

Utilizing filters such as our Abso-Mate™, Poly-Mate™ or ParMax™ products is ideal in the VCM/PVC process.

Proper filtration of VCM protects against contaminants entering the polymerization reactor which can compromise the quality and overall yield of PVC.

The high dirt-holding capacity of these filters also equates to longer service life. This reduces the number of change-outs and lessens the frequency of exposure to VCM toxins.

- Minimize health risks
- Increase production yield
- Efficiency in processing
- Reduce production down-time
- Higher product quality

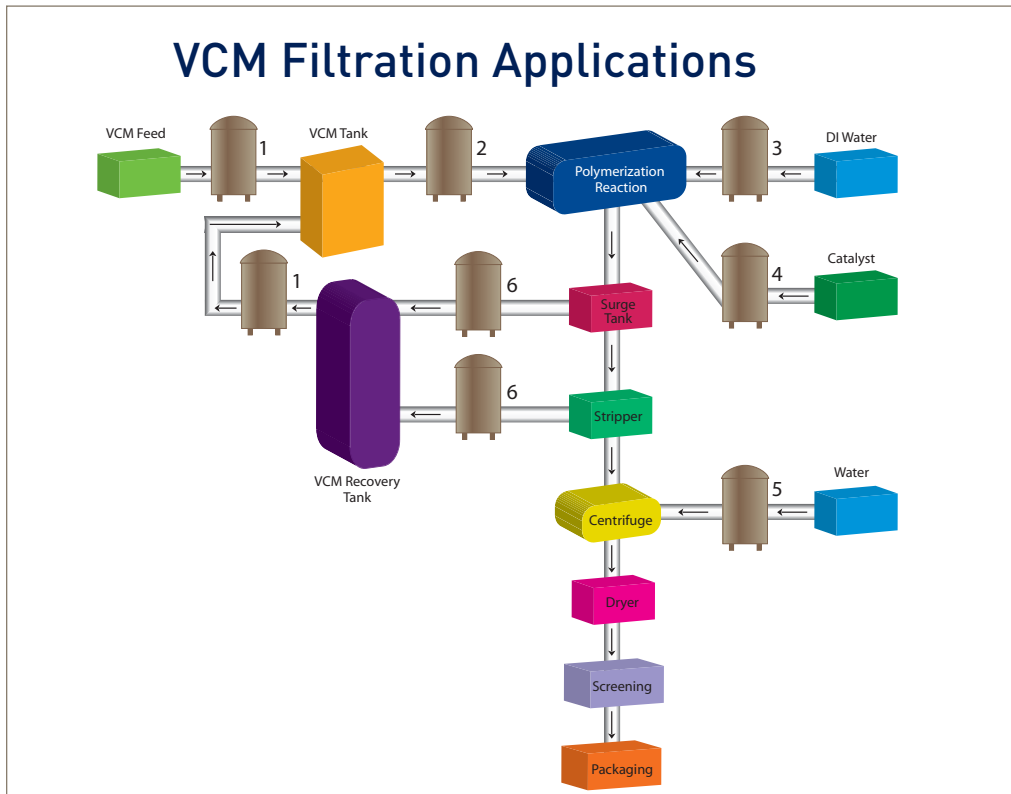
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The Application

Polyvinyl Chloride (PVC) is produced from Vinyl Chloride Monomer (VCM) by a polymerization reaction. All of the raw materials and water for this reaction must be filtered during production to ensure a quality end product. Any unreacted VCM is recovered through further separation, and recycled back into the process. The remaining PVC slurry is dried and formed into flakes or pellets and made ready-for-market. Parker filters contribute to a higher quality product and better yields at the following filtration points in the production of PVC:

1. VCM feed prior to storage tanks
2. VCM feed post-storage tank, upstream of the polymerization reactor
3. DI Water to the polymerization reactor
4. Catalyst to the polymerization reaction
5. Water to the centrifuge
6. Unreacted VCM from the Surge Tank and Stripper, upstream of the VCM recovery tank

High quality particulate-reduction filtration using the following filter types will increase product and intermediate yields by measurable percentages, depending on the levels of contaminants present and the degree (rating) of filtration selected. Consult your Parker representative or Parker Technical Services for the best recommendation and product selection for your specific application.



POSITION	APPLICATION	PURPOSE	FILTER	MICRONS
1	STORAGE TANK FILL & DRAW	PARTICULATE REDUCTION	ABSO-MATE POLY-MATE PARMAX	5 - 25
2	POLYMERIZATION REACTOR	PARTICULATE REDUCTION	ABSO-MATE POLY-MATE PARMAX	5 - 25
3	DI WATER	PARTICULATE REDUCTION	ABSO-MATE POLY-MATE PARMAX	5 - 25
4	CATALYST	PARTICULATE REDUCTION	ABSO-MATE POLY-MATE PARMAX	5 - 25
5	CENTRIFUGE MAKEUP WATER	PARTICULATE REDUCTION	ABSO-MATE POLY-MATE PARMAX	5 - 25
6	VCM RECOVERY CHART	PARTICULATE REDUCTION	ABSO-MATE POLY-MATE PARMAX	25 - 50

