



Inks, Paints, and Specialty Coatings

Training guide for filtration products and applications

aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding



ENGINEERING YOUR SUCCESS.

For technical or application support related to our fluid filtration solutions, please call our toll free number **877 784 2234** or email **dhpsales.na@parker.com**

Parker donnick hunter has a continuous policy of product development and although the Company reserves the right to change specification, it attempts to keep customers informed of any alterations. This publication is for general information only and customers are requested to contact our Process Filtration Sales Department for detailed information and advice on a product's suitability for specific applications. All products are sold subject to the company's Standard conditions of sale.

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Introduction

Providing a cost-effective filtration technology that ensures consistent quality and process optimization

Parker domnick hunter's proven product range and applications experience in the inks, paints, and specialty coatings industry enables us to ensure that every step of the manufacturing process meets the customers' quality specifications. The manufacture and application of an ink or coating can be divided into the following processes:

- Resin processing and introduction of resins to blending and dispersion phases.
- Production of deionized water for use in aqueous based product.
- Additives and raw materials for the dispersion phase.
- Product manufacturing processes where the pigments are milled and blended with either solvent or water and packaged.
- Packaging and transportation of the liquid products to the application, whether it is printed, painted, or coated.

Given the variations of these processes for inks, paints, or specialty coatings, it is critical to consider the operating parameters when selecting filtration for each stage of manufacturing.

As formulations become more complex, the manufacturing process demands also become increasingly more critical. With increasing energy and disposal costs, it is important that the

recommended filtration systems provide minimal process downtime and low product waste, so the total cost of ownership of the filtration system is balanced, without compromising the quality of the end product.

MARKET APPLICATIONS

Additives & Raw Materials

- Diluents
- Fillers
- Primers
- Stabilizers
- Surfactants
- Resins
- Polymers
- Water
- Pigment
- Oils
- Plasticizers
- Emulsions
- Solvents

Commercial & Industrial Coatings

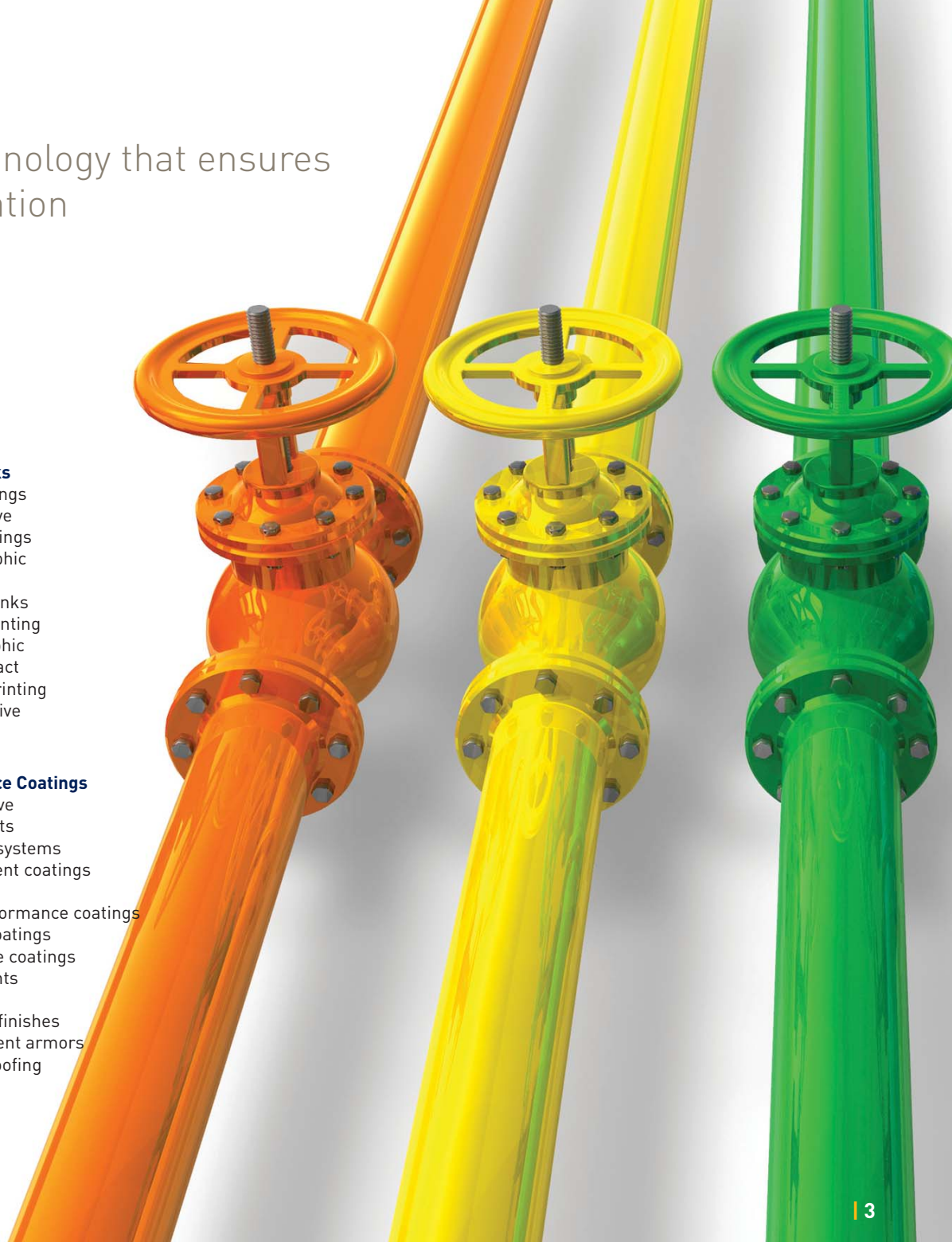
- Adhesives
- Aerosols
- Architectural paint
- Caulks
- Corrosion inhibitors
- Dyes
- Finishes
- Marine coatings
- Packaging coatings
- Primers
- Sealants
- Shellac
- Varnishes
- Lacquer
- Wood finishes

Printing Inks

- Can coatings
- Conductive
- Film coatings
- Flexographic
- Gravure
- Heat set inks
- Ink jet printing
- Lithographic
- Non-impact
- Screen printing
- UV sensitive

Specialty & Performance Coatings

- Automotive
- Clear coats
- Flooring systems
- Fluorescent coatings
- Glaze
- High performance coatings
- Optical coatings
- Protective coatings
- Road paints
- Stains
- Textured finishes
- Transparent armors
- Water proofing

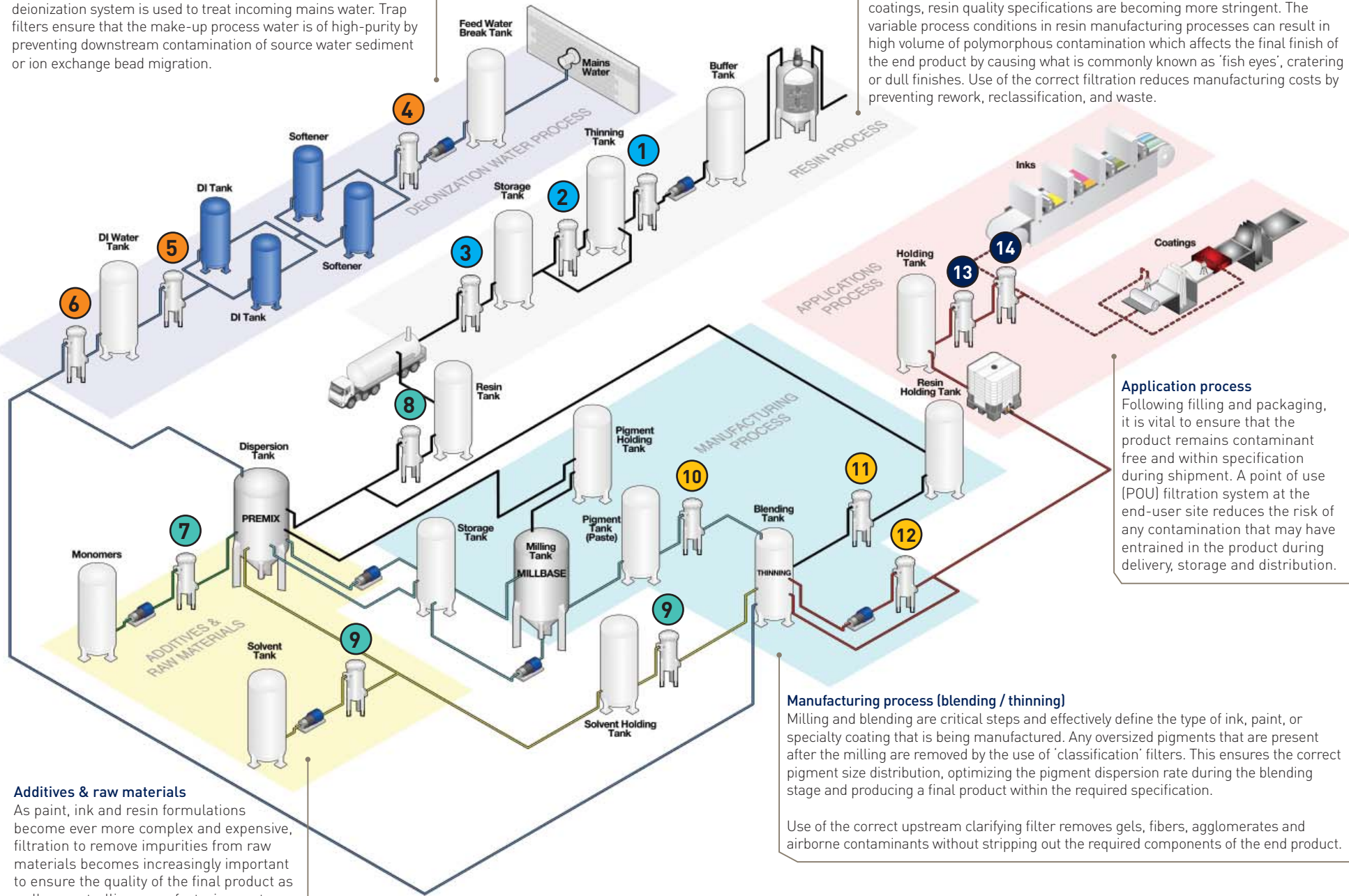


Deionized water process

The use of Polypropylene depth or high-flow pleated filters on the deionization system is used to treat incoming mains water. Trap filters ensure that the make-up process water is of high-purity by preventing downstream contamination of source water sediment or ion exchange bead migration.

Resin process

Resins such as acrylics, alkyds, epoxies and polyesters are key constituents to paints and inks, and with the development of more and more sophisticated coatings, resin quality specifications are becoming more stringent. The variable process conditions in resin manufacturing processes can result in high volume of polymorphous contamination which affects the final finish of the end product by causing what is commonly known as 'fish eyes', cratering or dull finishes. Use of the correct filtration reduces manufacturing costs by preventing rework, reclassification, and waste.



Additives & raw materials

As paint, ink and resin formulations become ever more complex and expensive, filtration to remove impurities from raw materials becomes increasingly important to ensure the quality of the final product as well as controlling manufacturing costs.

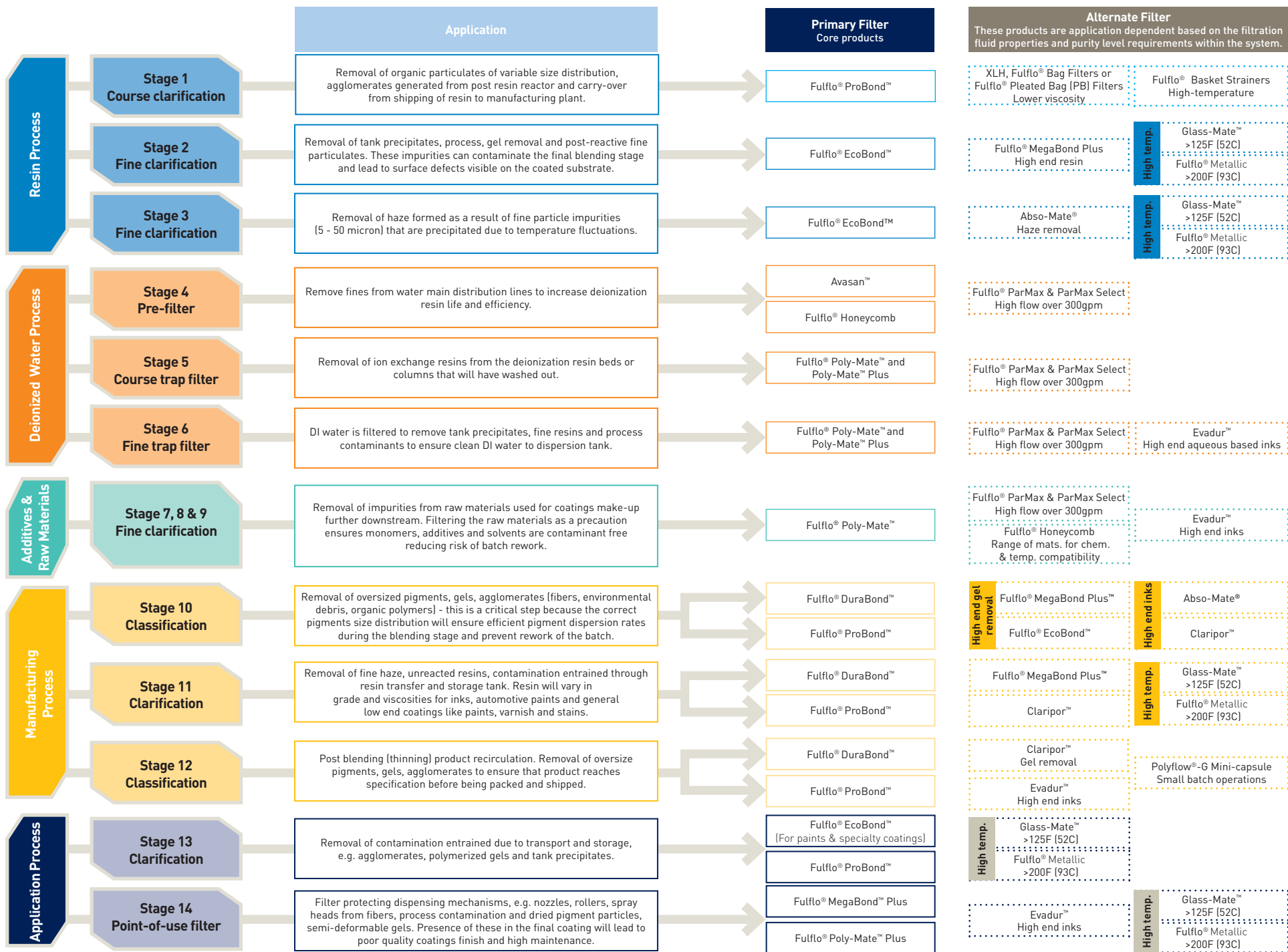
Manufacturing process (blending / thinning)

Milling and blending are critical steps and effectively define the type of ink, paint, or specialty coating that is being manufactured. Any oversized pigments that are present after the milling are removed by the use of 'classification' filters. This ensures the correct pigment size distribution, optimizing the pigment dispersion rate during the blending stage and producing a final product within the required specification.

Use of the correct upstream clarifying filter removes gels, fibers, agglomerates and airborne contaminants without stripping out the required components of the end product.

Application process

Following filling and packaging, it is vital to ensure that the product remains contaminant free and within specification during shipment. A point of use (POU) filtration system at the end-user site reduces the risk of any contamination that may have entrained in the product during delivery, storage and distribution.



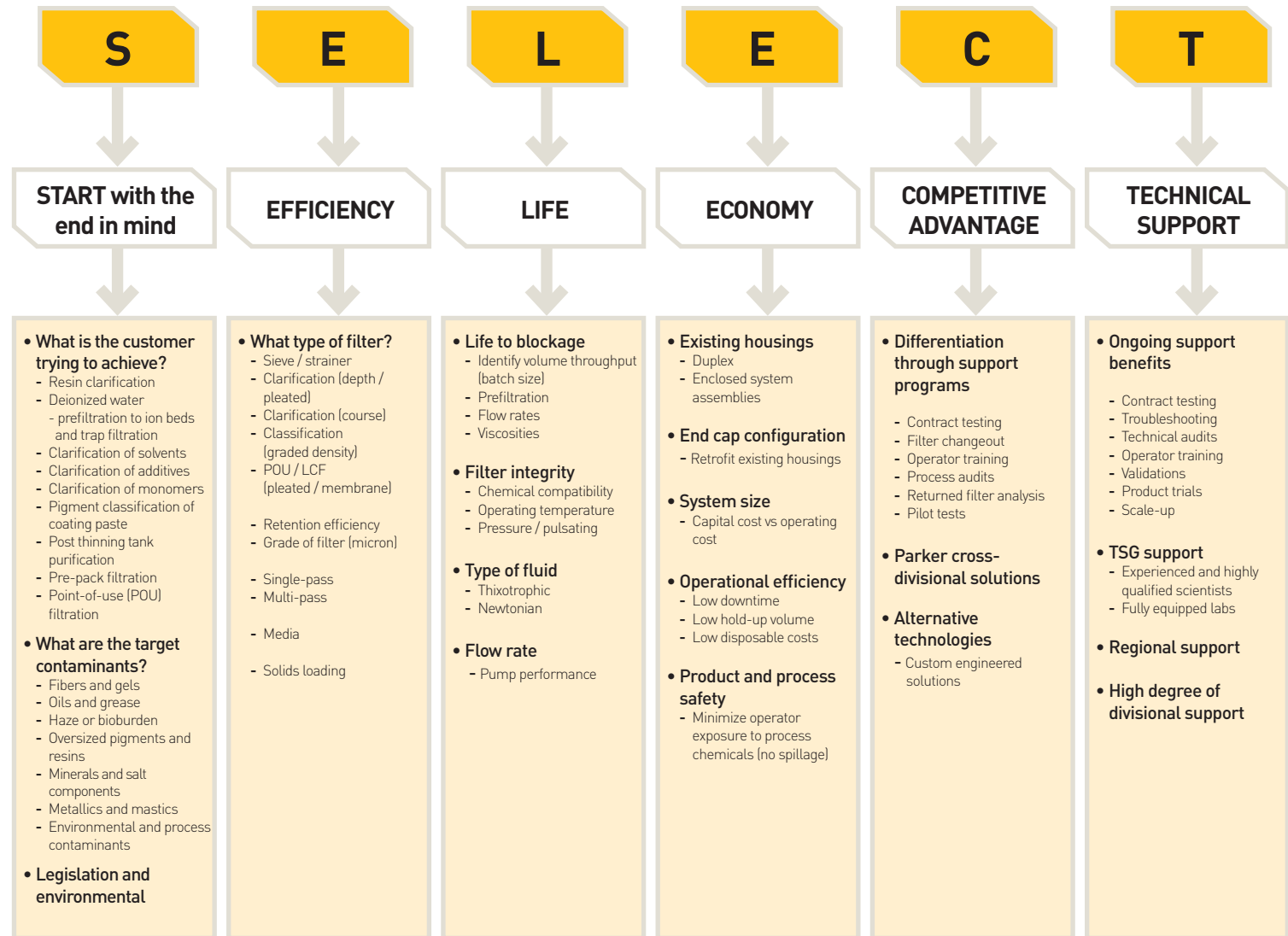
Product selection

Identifying customer needs

In order to meet filtration specifications, physical and chemical conditions of the process have to be considered.

It is therefore essential that a methodical process for identifying the customer's needs is followed.

The SELECT process builds on the principles used to select the optimized filtration solution for the end-user. So, keeping the end goal in mind, these outlined procedures are designed to help identify suitable filtration solutions.



Resin process

Understanding the basic application

Resins such as acrylics, alkyds, epoxies and polyesters are key constituents of paints and inks and with the development of more sophisticated coatings, resin quality specifications are becoming more stringent.

The variable process conditions during resin manufacturing can result in a variety of contaminants such as:

- Haze
- Salts
- Deformable gels
- Fibers
- Semi-solid particles

These affect the final finish of the coating by causing defects such as "fish-eyes", cratering and lead to poor finishes.

Incorrect filters can lead to:

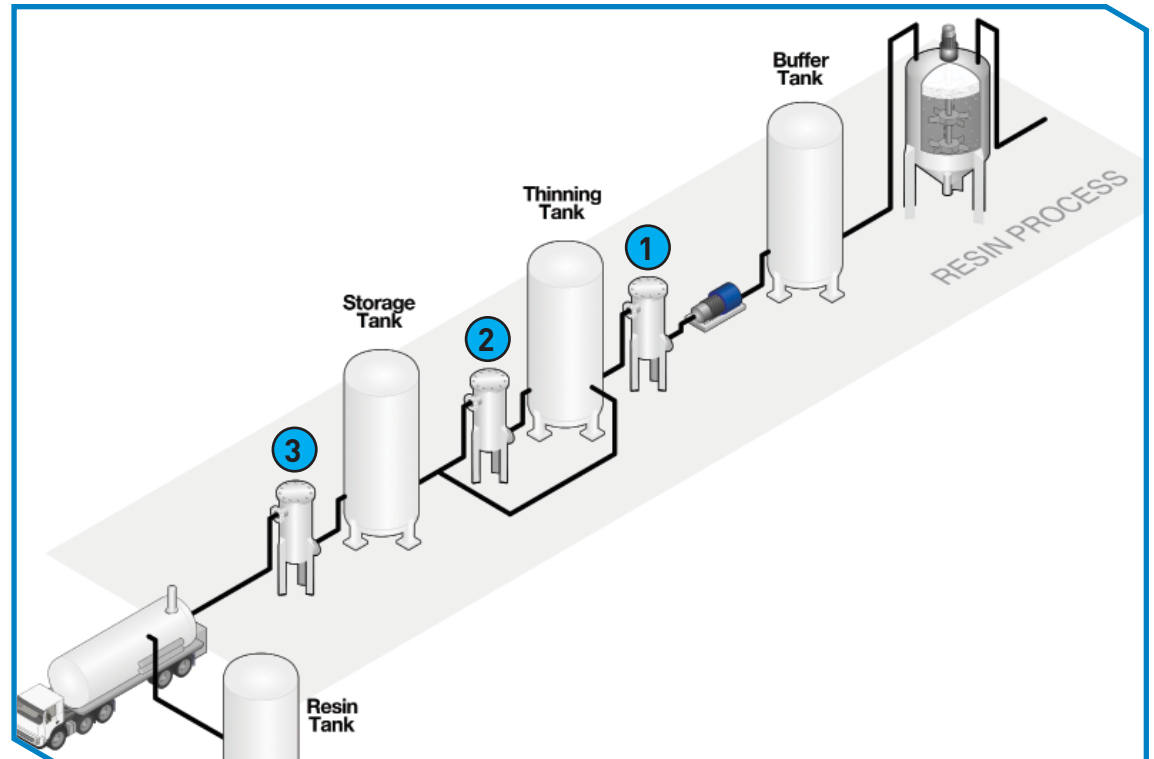
- Re-working (re-classification) of the resin
- Resin waste
- Excessive filter replacements

Resulting increase in:

- Disposable costs
- Energy costs
- Recirculation of batches

Leading to overall higher manufacturing costs.

The varying size distribution of the contaminants offer a challenge that requires multiple filter types and stages.



Resin Process
Core Products

Core Filter	Stage	Features	Benefits	Advantages
Fulflo® ProBond™ 50-150 micron	1	A phenolic resin filter	Excellent compatibility with high temperature and aggressive resins	High durability and life
		Graded rigid density matrix	No gel or contaminant off-loading	Low batch rejects and re-work
		Silicone-free media	Prevents formation of cratering or 'fish-eyes' on surface finish	No wastage / reject or re-work of coated substrate
Fulflo® EcoBond™ 1-50 micron	2 & 3	Graded density matrix	Ideal for haze removal or multi-pass	Maintains quality at low cost
		No surfactants, binders or adhesives	Very low extractables	No recontamination or alteration of end product
		Uniform fiber diameter	Consistent filter performance	Assured quality of end product

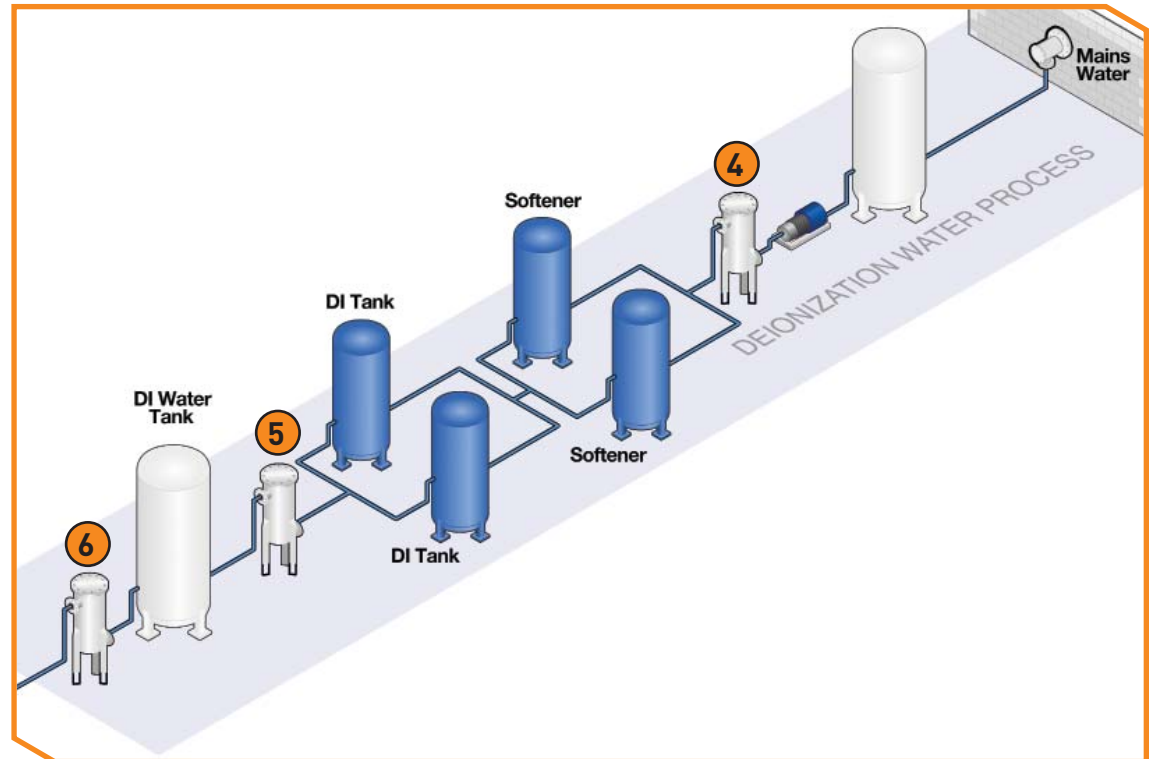
Deionized water process

Understanding the basic application

Water used in the manufacturing process must be deionized and filtered. Pre-filters to the deionization system are used to treat incoming mains water. The trap filters ensure that the make-up process water is of high purity by preventing downstream contamination of source water sediment or ion exchange bead migration.

Following the deionization system the water is filtered to remove any fine resins that could potentially wash out from the deionization beds or columns.

The stored deionized water is filtered to remove any tank or process debris before it is introduced into the dispersion or blending tanks.



Deionized Water Process
Core Products

Core Filter	Stage	Features	Benefits	Advantages
Avasan™	4	Graded density matrix	Wide distribution particle capture of mains water contaminants	Extends life and effectiveness of softener and DI beds
Fulflo® Honeycomb™	4	Continuous strand winding geometry	Consistent particle capture performance	Extends life and effectiveness of softener and DI beds
Fulflo® Poly-Mate™ & Poly-Mate™ Plus 0.25-10 micron (Use Poly-Mate™ Plus for nominal efficiency)	5 & 6	Controlled pore size distribution	Prevents downstream migration of DI tank and softener particulates	Maintains quality at low cost
		High filtration surface area	High flow rates and extended life	Low maintenance and operating costs
		Non-fiber shedding media	Maintains filter efficiency and integrity	Assured consistency and product quality

Additives and raw materials

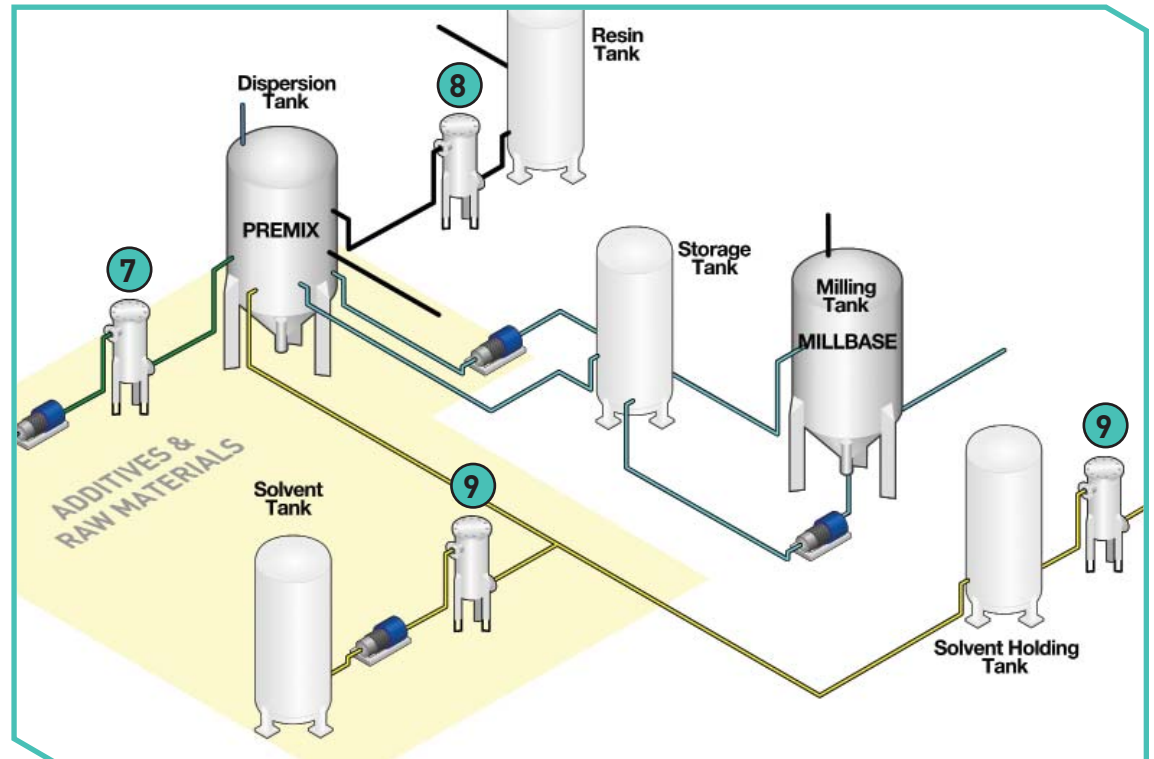
Understanding the basic application

The dispersion rate of the pigments is a critical step for establishing the final product specification and properties. The additives and raw materials enable the dispersion to be optimized and any impurities present will interfere with the dispersion phase.

Filtration of the additives and raw materials at source and prior to the critical dispersion, grinding and mixing steps ensures that the quality at every stage is maintained thus preventing batch rework.

Maintaining control of the manufacturing process is helped by implementing the correct type of filtration in the process. The removal of multiple impurity types from the various feed streams into the dispersion tank is achieved by selecting the appropriate classifying or clarifying filter.

Filtering only at the final stage of manufacturing is unproductive and costly because no one filter can remove all contaminant types.



Additives & Raw Materials
Core Products

Core Filter	Stage	Features	Benefits	Advantages
Fulflo® Poly-Mate™ 0.5-3 micron	7, 8 & 9	Controlled pore size distribution	Prevents downstream migration of DI tank and softener particulates	Maintains quality at low cost
		High filtration surface area	High flow rates and extended life	Low maintenance and operating costs
		Non-fiber shedding media	Maintains filter efficiency and integrity	Assured consistency and product quality

Manufacturing process

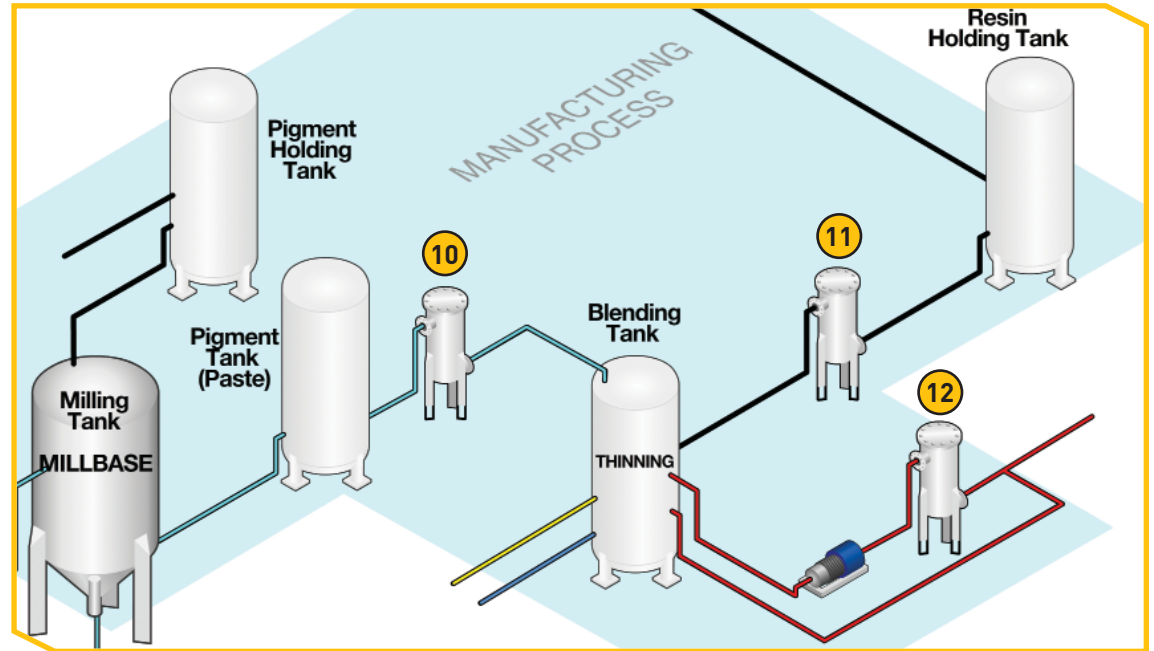
Understanding the basic application

Following the dispersion of the 'premix' the pigments that characterize the end product are added to form a viscose paste called the 'dispersion' or 'mill base'. The mill base is loaded with pigments of varying size distribution that are not consistently mixed and are agglomerated.

The mill base is then ground or milled to achieve pigments of the required size so that they disperse uniformly and provide the character for intended function. Any oversize pigments are removed from the batch by classification filters and reworked into subsequent batches.

Final product specifications are achieved in the blending (thinning) stage. The blending stage involves reducing or thinning to ensure that the tint, durability and properties are exact to specification prior to packing and shipping.

This is often the most critical stage and consequently may require recirculation of the batch through filters to control the pigment size distribution and removal of by-products such as fibers, gels and agglomerates.



Manufacturing Process
Core Products

Core Filter	Stage	Features	Benefits	Advantages
Fulflo® DuraBond™ 1-25 micron High end inks, automotive coatings and paints	10, 11 & 12	No requirement of core / cage	Easy to dispose	Environmentally friendly and reduces disposal costs
		Fibers made of Bi-component polymer	Enables a strong rigid density matrix that does not shed fibers	Selective retention of deformable particles over a longer differential pressure drop rise and so provides good filter life
		Silicone-free materials of construction	Will not cause 'fish-eyes' or cratering on painted surface	Reduces product waste and improves yield
Fulflo® ProBond™ 2-75 micron Varnish, stains, all-grade paints & high viscosity pastes	10 & 12	No requirement of core / cage	Easy to dispose	Environmentally friendly and reduces disposable costs
		Made of Phenolic resin	Provides rigid matrix and compatibility at high temperature and solvents	Retention of deformable particles over a longer differential pressure drop rise and so provides good filter life at cost-effective process
		Silicone-free materials of construction	Will not cause 'fish-eyes' or cratering on painted surface	Reduces product wastage and improves yield

Application process

General overview for inks, paints & specialty coatings

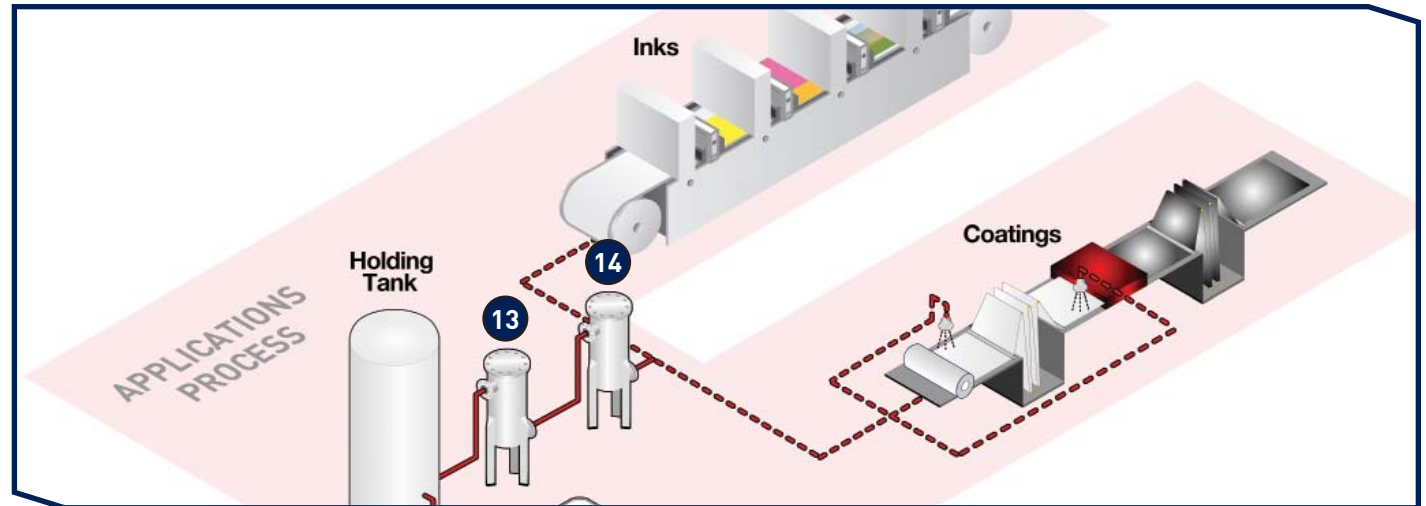
The final step in the manufacturing process is the product filling. The end product, whether an ink, paint or specialty coating, is required to be filled and packed free from any process contaminant.

As a preventative measure and good manufacturing practice (GMP) most high end manufacturers such as automotive, paper coaters, can, coil coaters and printers will ensure that the end product is filtered from environmental or process contaminants that may have entered or developed during shipping or while in storage.

All inks, paints and specialty coatings are usually dispensed through a controlled and automated dispensing system.

To ensure smooth running and low down time on maintenance of the dispenser, a point-of-use (POU) security filter is used. These filters are also appropriately known as last chance filters (LCF).

The function of the POU / LCF is to protect nozzles, seals and pumps on the original equipment manufacturer (OEM) dispensing system.



Application Process
Core Products

Core Filter	Stage	Features	Benefits	Advantages
Fulflo® EcoBond™ 1-25 micron High end paints & coatings	13	Graded density matrix	Excellent pore size distribution	High dirt holding capacity and life
		No surfactants, binders or adhesives	Very low extractables	No recontamination or alteration of end product
		Uniform fiber diameter thermally bonded	No media migration	Consistent filter performance and filter integrity
Fulflo® ProBond™ 25-75 micron Low end inks, paints, & specialty coatings	13	No requirement of core /cage	Easy to dispose	Environmentally friendly and reduces disposable costs
		Made of Phenolic resin	Provides rigid matrix and compatibility at high temperature and solvents	Retention of deformable particles over longer differential pressure drop rise providing good filter life at cost-effective process
		Silicone-free materials of construction	Will not cause 'fish-eyes' or cratering on painted surface	Reduces product waste and improves yield
Fulflo® MegaBond™ Plus 5-30 micron Low end inks, paints, & specialty coatings	14	True graded density matrix	Absolute rated filter Beta 5000 (99.99%)	High dirt retention on single-pass ensures total protection
		Thermally welded end caps	No by-pass of coating	Assured filter performance, integrity and product quality
		Silicone-free	Will not cause 'fish-eyes' or cratering on painted surface	Reduces product wastage and improves yield
Fulflo® Poly-Mate™ Plus 0.25-30 micron High end inks, paints, & specialty coatings	14	Controlled pore size distribution	Consistent particle capture	Maintains coating application quality at low cost
		High filtration surface area	High flow rates and extended life	Low maintenance and operating costs
		Non-fiber shedding media	Maintains filter efficiency and integrity	Assured consistency and product quality

Services

Technical Support Group (TSG)

In these industries, manufacturers and end-users face stringent environmental and operational compliances, where the trend is to ensure low VOC exposure and spillage of hazardous waste and provide a more user friendly process environment. Combined with the market demands for high quality products, this means that the raw materials and chemistries used in formulations result in higher manufacturing costs.

Parker domnick hunter is committed to providing comprehensive technical support of our products through our global sales network and dedicated technical support group. Our team of trained scientists, engineers and technicians is available to answer questions on the capabilities of our products, assist customers to select, specify and design filtration systems to meet specific user requirements, and provide a range of advisory and troubleshooting services.

We provide technical support to assist in carrying out and training operators on a wide range of activities related to using our products, system sizing and performance optimization.

Results can be utilized to manipulate pre and final filter trains to achieve the desired throughput and quality, without over processing.

An overview of the services provided include:

Laser particle size analysis

Quantitative particle counting can give an indication of the expected workload of a filter system. This can identify the need for prefiltration or the use of an alternative technology.

Particulate analysis

Identification of the particulate loading within a process fluid or the analysis of filtrate through various filtration grades and materials can identify the optimum filtration system. Specific particulates can also be identified through light microscopy and SEM to establish the contaminant source.

Chemical and analytical techniques

Chemical testing can be conducted to characterize retained materials on a filter media, aiding in identification of the source of a blockage material. Various analytical techniques, including FTIR (Fourier Transfer Infra Red) spectroscopy, Mass Spectrometry, HPLC and GC can be used to aid in filtration related diagnosis.

Filterability index analysis

Small-scale trials can be conducted with sample volumes of product under controlled laboratory or process conditions. This method is used to determine the optimum multi-stage filter system or determine the filter size required for a process batch or a continuous process. This allows the system to be specifically sized and designed to give optimum economies in both hardware installation and replacement element cost.

Existing system optimization

Where a process is altered through increased operational demand, for example through extension of a production campaign, higher production volumes or an increased number of product changes, Parker domnick hunter offers support to ensure the system remains appropriate for these changed process demands.

Fault diagnosis

Often filtration is a critical step or control point within a process, therefore, when finished product quality is not achieved the filter is often the first point of call. The Parker domnick hunter TSG group can provide a reactive service to enable rapid 'root cause' analysis and assist in minimizing the risk of recurrence.

Depth Media Filters

Avasan™



- Pure polypropylene construction
- Finish-free construction provides optimum fluid purity and eliminates foaming
- Continuous bonding of fibers throughout the filter matrix ensures non-fiber releasing construction
- Graded density construction provides built-in prefiltration and longer life

A proprietary melt-blown manufacturing process uses a specially formulated polypropylene polymer to produce a uniquely graded density filter cartridge designed specifically for process water filtration. Rated particle capture from 1 to 75 µm.

Fulflo® DuraBond™



- Fixed pore structure provides efficiency, integrity and optimum particle retention
- Thermally bonded fiber matrix provides rigid dimensionally stable construction without fiber migration
- Rigid construction eliminated contaminant unloading and channelling
- Corrugated porous surface maximizes dirt holding capacity

Most economical high strength filter cartridges available. Featuring an integral rigid thermally bonded construction, the DuraBond™ provides consistent filtration for a wide variety of fluids.

Fulflo® EcoBond™



- Thermally bonded melt blown fiber matrix provides dimensionally stable construction
- Continuous fiber matrix prevents media migration and ensures consistent quality filtration performance
- Finish-free construction provides optimum fluid purity and eliminates foaming condition
- Superior inter-layer bonding eliminates contaminant unloading and channelling

Feature a graded density matrix of uniform polypropylene fibers for consistent filtration for a wide variety of fluids. No fiber finish or surfactants are present to generate extractables. Available in nominal ratings of 1, 5, 10, 25 and 50 µm.

Fulflo® MegaBond™ Plus



- True graded density filter matrix enables controlled pore size and distribution
- Continuous fiber matrix eliminates media migration and high filter efficiency
- Free from surfactants and binders - can not contaminate filtered product
- Pure grade material of construction used ensuring filter integrity and performance

Absolute rated depth cartridges with high dirt-holding capacity and longer life. The fixed core inner structure of thermally bonded continuous microfibrillar polypropylene fibers combined with modified outer layer fixed pore structure offers a graded density filter and minimal contaminant off loading.

Fulflo® Honeycomb



- Broad range of media provide excellent compatibility with water, a variety of oils and organic solvents
- Continuous strand winding geometry provides performance consistency
- Various O-ring and end cap options available
- Multiple length cartridges minimize change-out time, eliminate spacers, and are available to fit competitive filter vessels

Parker has the world's largest manufacturing capacity for wound cartridges, offering superior quality for effective particulate removal from 0.5 to 150 µm at nominal capture efficiency.

Fulflo® ProBond™



- Outer, spiral wrap collects large particles and agglomerates, while inner layers control particle size
- Silicone-free construction ensures no contamination to adversely affect adhesion properties of coatings
- Extra long acrylic fibers provide added strength; resist breakage and migration common with short fiber cartridges

Unique proprietary two-stage filtration design to maximize particle removal and service life in viscous fluid applications.

Pleated & Large Diameter Pleated Filters

Abso-Mate®



- Non-fiber releasing and contain minimal extractables
- Single-piece construction eliminates bypass concerns
- All-polypropylene construction offers wide chemical compatibility with most chemicals
- Absolute rated for consistent and reliable performance (99.98%, β=5000)

Cost-effective and absolute rated for capturing particles 0.2 to 70 µm in size. This pleated cartridge is of all-polypropylene construction, and without adhesives that could potentially contaminate fluids.

Claripor™



- Graded density layering for superior removal of amorphous particles
- Absolute retention ratings for critical filtration
- Pleated construction yields high flow rates compared to traditional depth filters
- All Polypropylene construction

The best of pleated and depth technologies combine in the Claripor to provide high flow rates, excellent gel removal, and absolute particle retention from 0.5 to 90 µm.

Glass-Mate™



- Absolute-rated media provides reliable removal efficiency
- Thermally bonded end caps eliminates particle bypass
- Laminated media maximizes flow capacity and minimizes media migration
- Non-fiber releasing media with minimal extractables provide high purity filtration

Offer better temperature resistance than standard polypropylene cartridges and absolute rated efficiency for 0.45 through 40 µm.

Fulflo® Poly-Mate™



- All Polypropylene construction maximizes chemical resistance
- High pleated surface area for extended service life, low pressure drop and high flow capacity
- One-piece, continuous to 40 inches length, integrally sealed pleated filter media
- Finish free and non-fiber releasing polypropylene construction

A unique combination of polypropylene melt blown and spun-bonded media provides high surface area at retention ratings of 0.5 to 60 µm at 99% efficiency.

Fulflo® Poly-Mate™ Plus



- Fixed pore construction provides ultimate particle retention
- Pleat pack optimization offers high flow rates and extended service life
- Non-fiber releasing enabling consistent quality filtration performance
- One piece integral construction is 100% bonded for maximum cartridge integrity

High surface area and efficiency 'all-polypropylene' pleated cartridges.

Fulflo® ParMax™ and ParMax Select



- Large diameter patented select pleat adds up to 40% extra life
- High flow capacity permits use of fewer elements and cuts capital expenditure
- Inside-out flow pattern ensures positive capture of contaminants
- Absolute retention ratings for critical filtration

Large diameter high flow cartridges.

Metallic Filters

Fulflo® Metallic



- Available in 304 and 316 Stainless Steel
- Temperature compatibility up to 500°F with synthetic seals; up to 1500°F with NPT connections
- Cartridges may be cleaned and reused
- Welded and crimped construction eliminates need for adhesives which can be a contaminant source and limit temperature range

With fourteen nominal ratings from 2 to 840 µm, the Metallic Filter Cartridges are the ideal choice for high temperature and high flow rate filtration applications.

Encapsulated Filters

Polyflow®-G Mini-Capsule



- All Polypropylene construction
- Pleated encapsulated media with a variety of inlet/outlet connection options
- High flow rate reduces processing time
- Long service life minimizes change out frequency

These encapsulated filters offer absolute retention at 0.6 to 10 µm for critical applications where cross-batch contamination and hold-up volume are a concern.

Membrane Filters

Evadur™



- High purity polypropylene support structure
- Thermally bonded to exclude liquid capture and extractables
- Strict quality control on measuring rinse-up, integrity testing, flow rate, and extractable levels

This high purity hydrophilic polyethersulfone membrane cartridge is designed specifically for high purity water and chemical filtration applications with retention ratings of 0.03 to 0.65 µm.

Bag Filters

Fulflo® Bag Filters



- Standard filter bags fit Fulflo® vessels and most major competitive models
- Felt bags come standard with glazed surface treatment to effectively control migration of fibers into the filtered product
- In-to-out flow allows positive retention of bulk contaminant
- Low filter disposable costs

Perform at high flow rates and viscosities to 10,000 cps or higher. Standard bag filters are available in nominal micron ratings from 1 to 800 µm.

Fulflo® Pleated Bag



- High capacity reduces the number of filters required resulting in less frequent change-out and lower filtration costs
- High capacity allows for smaller housings and less capital expenditure
- Inside/Outside flow captures and retains contaminants to eliminate potential fouling downstream
- Designed to fit existing Parker Fulflo bag housings (CB, FB, and SB models)

Provides a cost-effective alternative, with higher removal efficiencies, over standard bag media configurations. The variety of media materials makes it an optimum choice for inks, paints, and coating applications requiring 1 to 90 µm capture at 99% efficiency.

Fulflo® Basket Strainers



- Constructed of 316 Stainless Steel
- Available in two standard sizes to fit all Fulflo bag filter vessels
- Cleanable permanent media
- Designed for high flow rates and operating pressures up to 150 psi

Effectively remove large-sized particles ranging from US Mesh 100 to 20 (149 to 840 µm). Fulflo Basket Strainers are useful as prefilters for the collection of gross contaminants in viscous liquids up to 15,000 SSU.

Fulflo® XLH



- Provide twice the dirt-holding capacity at a lower cost than many competitive bags and cartridges of the same micron rating
- Require less frequent change out, minimal storage and disposal space, and are easy to install and remove
- Each bag is incinerable (with Quik-Seal™ option), reducing filter disposal costs

Ideal for filtration applications requiring removal of solids, the all-polypropylene high-efficiency for quality filtration performance.

Filter Vessels

Fulflo® bag filter vessels

Bag filter vessels designed for economical filtration of coatings applications

- Single and multi-bag housings
- Available in 304 or 316 SS
- GMP Industrial design with ASME coded options
- Vessels available as standard or custom design



Cartridge filter vessels

Cartridge filter vessels designed for economical filtration of coatings applications

- Single and multi-cartridge housings
- Available in 304 or 316 SS
- GMP Industrial design with coded options (ASME, PED-CE)
- Vessels available as standard or custom design



Worldwide Filtration Manufacturing Locations

North America

Compressed Air Treatment Filtration & Separation/Balston

Haverhill, MA
978 858 0505
www.parker.com/balston

Finite Airtek Filtration Airtek/domnick hunter/Zander

Lancaster, NY
716 686 6400
www.parker.com/faf

Finite Airtek Filtration/Finite

Oxford, MI
248 628 6400
www.parker.com/finitefilter

Engine Filtration & Water Purification

Racor
Modesto, CA
209 521 7860
www.parker.com/racor

Holly Springs, MS
662 252 2656
www.parker.com/racor

Beaufort, SC
843 846 3200
www.parker.com/racor

Racor – Village Marine Tec.

Gardena, CA
310 516 9911
desalination.parker.com

Parker Sea Recovery

Carson, CA
310 637 3400
www.searecovery.com

Hydraulic Filtration

Hydraulic Filter
Metamora, OH
419 644 4311
www.parker.com/hydraulicfilter

Laval, QC Canada
450 629 9594
www.parkerfarr.com

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Oxnard, CA
805 604 3400
www.parker.com/processfiltration

Madison, WI
608 824 0500
www.scilog.com

Phoenixville, PA
610 933 1600
www.parker.com/processfiltration

Aerospace Filtration

Velcon Filtration
Colorado Springs, CO
719 531 5855
www.velcon.com

Europe

Compressed Air Treatment domnick hunter Filtration & Separation

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Parker Kittiwake

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www.kittiwake.com

Parker Procal

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Process Filtration

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www.twinfilter.com

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www.parker.com/australia

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