



SEITZSCHENK® PRODUCTS FOR
THE BREWING INDUSTRY

Having the right filter guarantees a beer's shelf life without harming its polish, color, head, aroma or taste.

Our filters for beer processing meet the highest quality

filtration standards.

uncompromised

assurance of the

of all SeitzSchenk®



Our dedication to

quality is your

safety and reliability

products. Even

further, our commitment to research and development

continues to produce technologies that will expand the

boundaries of filtration excellence.



The name SeitzSchenk is closely linked with beer filtration. Over the last century, we have worked with the highly specialized staffs at many breweries to develop numerous advances in beer filtration.



CUSTOMER DESIGNED SOLUTIONS

Beer can exhibit a wide range of filterability. Based on our experience and ongoing research with beer filtration, we offer a spectrum of consulting services and a complete range of high quality, fully proven filters.

Our specialty is meeting individual filtration needs. SeitzSchenk experienced professionals are at your disposal for both support in the field and helping you resolve individual filtration challenges.

OUR CONTRIBUTIONS TO THE BEER INDUSTRY

Breweries are under constant pressure to both improve quality and cut costs. SeitzSchenk R&D programs devote considerable time to ongoing improvements in filter effectiveness, reliability, safety and economy.

In 1979, we began an R&D program dedicated to the development of special membranes designed for cold-sterile beer filtration.

This work produced enclosed filtration systems, new filter cartridges and crossflow technology — each of which now serves vital functions in the beer filtration process.

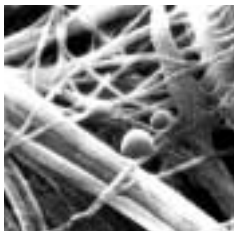
QUALITY ASSURANCE AT EVERY STEP

The SeitzSchenk Division of Pall Corporation runs a Quality Assurance System based on DIN ISO 9001.

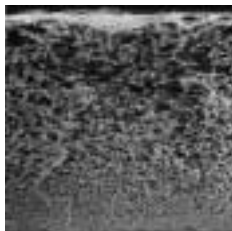
The rigorous attention that we give to each production detail, is reflected in the quality of our products. For SeitzSchenk, quality assurance begins with each product's design then moves through the entire raw materials selection process onto production, testing and distribution.

Customer satisfaction with the quality of our products, conformity to specifications at every step, and a well-trained and motivated work force, are the guidelines SeitzSchenk follows in every aspect of our business.

SEITZSCHENK PRODUCT	FEATURES AND BENEFITS	
<p>Depth Filter Sheets</p>	<p>Classic filter used for natural products. Available in a wide range of micron ratings designed to meet the coarse and polishing filtration needs of beer manufacturers. DE and filter aid supporting sheets also available.</p>	
<p>SUPRADisc® Modules</p>	<p>All of the advantages of the filter sheet media enclosed within an easy-to-handle, stacked disc module. Utilizes less production space and filter changes require less down time. The enclosed system minimizes atmospheric contact with the beer being processed.</p>	
<p>PREcart® PPII Cartridges</p>	<p>Absolute rated, pleated, all polypropylene depth filter cartridge with a wide range of chemical compatibilities. Back flushable DE trap filter, prefilter to membrane cartridges or final filter prior to packaging. Steam sterilizable.</p>	
<p>PREcart® NXT Cartridges</p>	<p>Melt blown all-polypropylene depth filter cartridge with high dirt holding capacity and good colloidal retention capability. Cost effective DE trap filter and prefilter to membrane cartridges prior to packaging. Hot water sanitizable.</p>	



SeitzSchenk depth filter sheets. View of the filter matrix. The distinct effect of depth comes from numerous finely divided maze-like channels and cavities.



Scanning Electron Micrograph: cross section of SeitzSchenk asymmetric membrane media



Microscopic morphology of diatomaceous earth - a key ingredient in most SeitzSchenk filter sheets

SEITZSCHENK PRODUCT**FEATURES AND BENEFITS****MICROsorp® Cartridges**

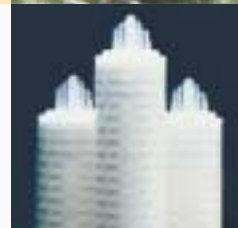
Absolute rated, adsorptive depth filter with excellent colloidal and particulate retention capabilities. Regenerable filter cartridge for particulate, colloid and polishing filtration. Position as prefilter to membrane cartridges or final filter prior to packaging. Steam sterilizable.

**MICROflow™
Crossflow System**

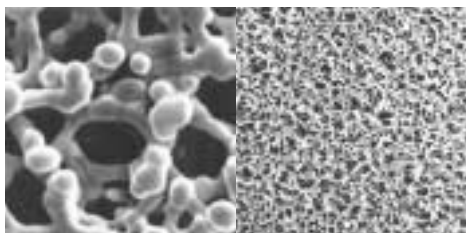
Advanced crossflow microfilters for demanding filtration applications. Extremely long-lived, regenerable filtration system with high mechanical stability, high thermal stability, high chemical stability and the ability to continually filter very high concentrations of turbid matter.

**MEMBRACart® & PRIMALux™
Membrane Cartridges**

Absolute rated membrane filter cartridges. Available in micron ratings required for absolute yeast and bacterial removal. Very good resistance to alkalis and oxidizing agents. Excellent membrane stability to repeat steam sterilization cycles. Regenerable membrane cartridges for use as the final filter in cold-sterile filtered beer packaging.

**NIRO™, VELAdisc™ &
VELACart™ Housings**

Stainless steel filter housings specifically designed for use with SeitzSchenk filter sheets, modules and cartridges. Electrochemically polished, crevice free, for simple and thorough cleaning. Complete range of accessories, fittings and closure options.



SeitzSchenk polysulfone membrane surface and a magnified view showing its sponge-like structure.

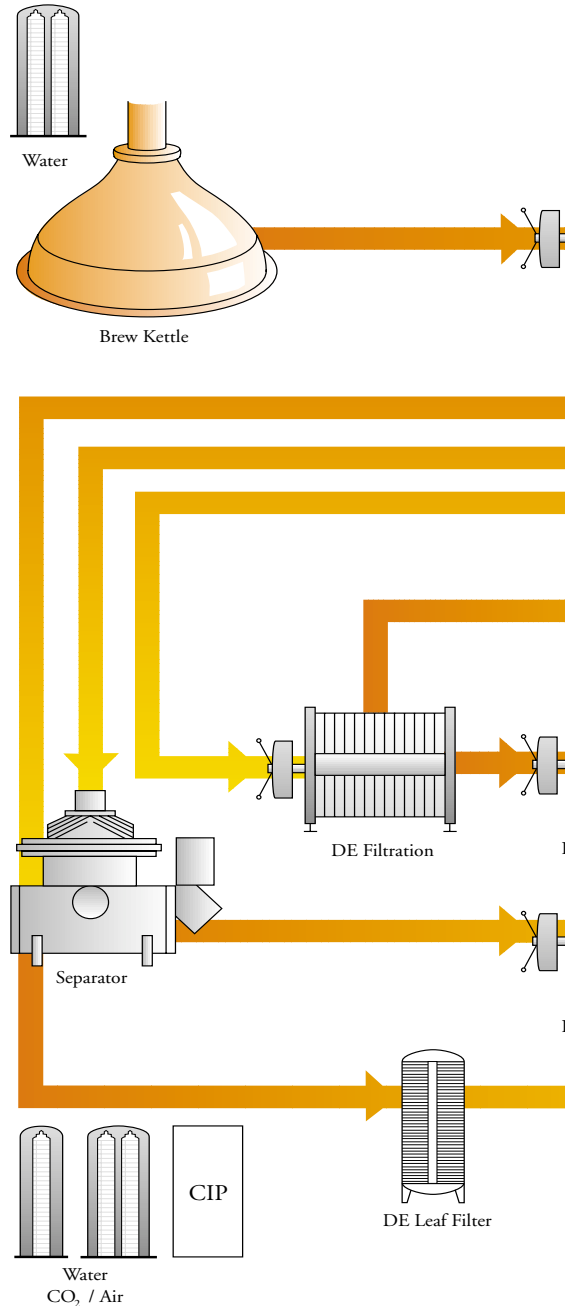
SEITZSCHENK PRODUCTS

Throughout the brewing process are a number of solids separation phases, each with its own set of removal criteria. SeitzSchenk was the first filter manufacturer to address the needs of the brewing industry. In fact, our products have been developed in direct cooperation with brewers.

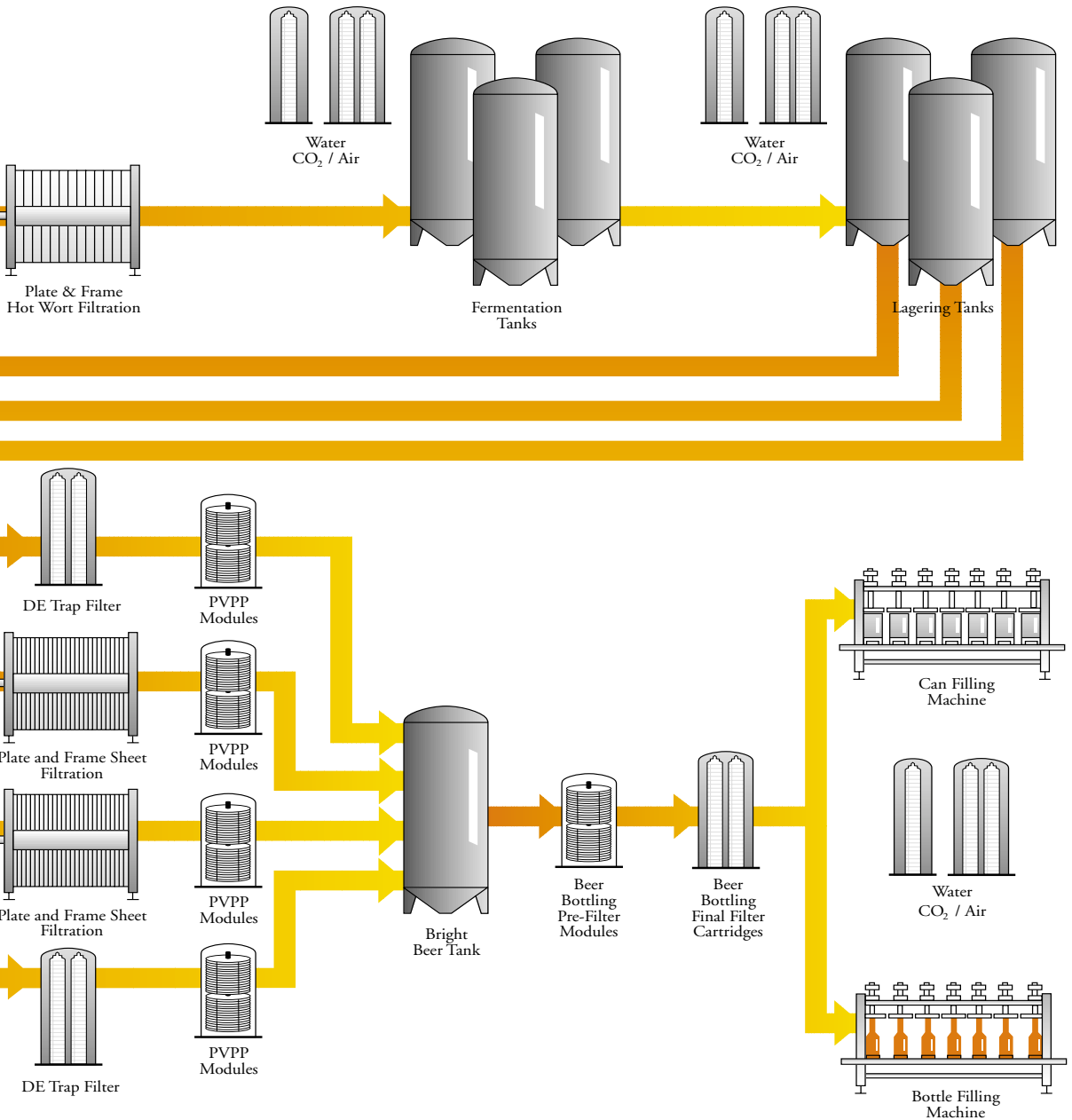
SeitzSchenk depth filter media is unique in its capability to economically filter beer. As with any natural product, the raw ingredients used to create beer can vary from batch to batch. This variability can lead to expensive filtration for many competitive filters. SeitzSchenk has spent many years studying beer filterability and designing products specific for beer filtration. With over a century's worth of experience, SeitzSchenk is the manufacturer offering the widest range of filtration products available to serve the brewing industry.



Let us put our experience to work in your brewery!



FILTRATION APPLICATIONS IN THE BREWERY



MICROBIAL REMOVAL EFFICIENCIES			
SEITZSCHENK MEDIA	CHALLENGE ORGANISM	MICROBIAL REMOVAL (cfu/cm ²)	ORGANISMS DOWNSTREAM (cfu/L)
HS4000	<i>Saccharomyces cerevisiae</i> ¹	1.0 x 10 ⁸	0
HS800	<i>Saccharomyces cerevisiae</i> ¹	1.0 x 10 ⁸	0
HS600	<i>Saccharomyces cerevisiae</i> ¹	1.0 x 10 ⁸	0
HS600	<i>Lactobacillus lindneri</i> ²	1.0 x 10 ⁴	0
HS600	<i>Lactobacillus lindneri</i> ²	3.2 x 10 ⁴	0
HS600	<i>Serratia marcescens</i> ³	1.0 x 10 ⁷	0
HS600	<i>Serratia marcescens</i> ³	1.0 x 10 ⁷	0

¹ *S. cerevisiae* in phosphate buffer

² *L. lindneri* in beer

³ *S. marcescens* in phosphate buffer

DE TRAP FILTERS		
RECOMMENDED SEITZSCHENK FILTER	MEDIA GRADES	MICRON RATINGS
PREcart PPII CARTRIDGES	210	10 µm
	150	5 µm
	130	3 µm
	120	2 µm
	110	1 µm
PREcart NXT CARTRIDGES	10	10 µm
	7	7 µm
	5	5 µm
	3	3 µm
	1	1 µm
	0.5	0.5 µm

Experienced professionals are at your disposal in an advisory capacity and for support in the field. They can help you resolve your individual filtration needs. Please call SeitzSchenk at 1-800-881-4917 and let us put our experience to work in your brewery.



AIR AND GAS FILTERS			
APPLICATION	RECOMMENDED SEITZSCHENK FILTER	MEDIA GRADES	MEDIA DESCRIPTION
REMOVAL OF ORGANICS AND ODORS FROM AERATION AIR	PREcart MCB Cartridges	MCB	Activated Carbon
COALESCING AIR FILTER	PREcart RDF Cartridges	0.3 µm	Pleated Glass Fiber
AIR PARTICULATE REMOVAL	PREcart PPII Cartridges	10.0 µm 5.0 µm 3.0 µm 2.0 µm 1.0 µm	Pleated Polypropylene
FINAL FILTER FOR STERILE AIR AND CARBONATION	PRIMALux VII Membrane Cartridges	0.02 µm	Pleated Polysulfone

BOTTLING FILTERS FOR BEER			
APPLICATION	RECOMMENDED SEITZSCHENK FILTER	MEDIA GRADES	MICRON RATINGS
CLARIFICATION PREFILTER	SUPRAdisc Modules	HS1600 HS800	4 µm 1 µm
BOTTLING PREFILTER	SUPRAdisc Modules	HS600 HS400	0.7 µm 0.5 µm
BOTTLING FINAL FILTER	PRIMALux-D & MEMBRACart Membrane Cartridges	080 065 045 020	0.8 µm 0.65 µm 0.45 µm 0.20 µm



SEITZSCHENK DEPTH FILTERS FOR BEER FILTRATION		
APPLICATION	DEPTH FILTER GRADE	NOMINAL MICRON RATING
COARSE FILTRATION	HS4000	8 µm
	HS2000	6 µm
	HS1600	4 µm
POLISHING FILTRATION	HS800 HS600	1 µm 0.7 µm
CHILL HAZE STABILIZATION	PVPP	N/A
FINE FILTRATION	HS600	0.7 µm
	HS400	0.5 µm

SEITZSCHENK FILTERS FOR BREWERY WATER APPLICATIONS			
APPLICATIONS	RECOMMENDED SEITZSCHENK FILTER	MEDIA GRADES	MEDIA DESCRIPTION
REMOVAL OF CHLORINE, ODORS & ORGANICS	SUPRADisc AKS Modules PREcart MCB Cartridges	AKS4 AKS5 MCB	Activated Carbon
PARTICULATE REMOVAL CARTRIDGES	PREcart PPII Cartridges	3.0 to 10.0 µm	Pleated Polypropylene
	MICROsorp GP Cartridges	2.0 µm	Pleated Glass Fiber & Polypropylene
	PREcart NXT Cartridges	1.0 to 10.0 µm	Melt blown Polypropylene
FINAL FILTER FOR REGENERATION OR BOTTLE RINSE WATER	PREcart PPII Cartridges	1.0 µm	Pleated Polypropylene
	MICROsorp GP Cartridges	1.0 µm	Pleated Glass Fiber & Polypropylene
	PREcart NXT Cartridges	0.5 to 1.0 µm	Melt blown Polypropylene
PARTICULATE REMOVAL CARTRIDGES FOR OZONATED BOTTLE WASHING WATER	PREcart CFT Cartridges	0.2 to 1.0 µm	Melt blown Halar

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STEP 1:

CHARACTERIZATION OF INORGANIC FILTER AIDS



STEP 2:

DETERMINATION OF PARTICLE SIZE DISTRIBUTION OF FILTER AID GRADES



STEP 3:

CHARACTERIZATION OF FILTER MATERIALS



STEP 4:

ZETA POTENTIAL ANALYSIS



STEP 5:

TESTING OF DEPTH FILTER TENSILE STRENGTH



STEP 6:

100% QUALITY CONTROL OF MEMBRANE CARTRIDGES



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