

2.2 SYRINGE FILTERS

CHMLAB offers a wide range of syringe filters designed to provide efficient and fast filtration of organic and aqueous solutions. CHM® Premium and Chrodisc line are available in a variety of sizes, formats and membranes to cover a wide range of applications in the pharmaceutical, biotechnology, agricultural, food, beverages and environmental labs.

Premium syringe filters

CHM® Premium syringe filters are the best choice to raise your filtration standards.

We have designed our syringe filters to provide filtration fast, efficient, effective and easy.

With a wide range of membranes (Cellulose Acetate, Nylon, Regenerated Cellulose, PTFE, PVDF, PP, PES and glass micro-fiber), pore sizes (0.2, 0.45, 0.7, 0.8, 1, 1.2 and 3.1) and diameters (4, 13 and 25), and with sterile and non-sterile versions, the syringe filters cover most of the applications in laboratories for pharma, biotechnology, agricultural, food and environmental labs.

SCA Cellulose Acetate syringe filters

CHM® SCA syringe filters are designed for the quick and efficient filtration up to 100 ml of liquid. Ready-to-use units, offer high flow rates at low inlet pressures, presented in 5 pore sizes: 0.2, 0.45, 0.8, 1.2 and 5 µm and in 2 diameters: 13 and 25 mm, to fulfil your filtration requirements for clarifying/ultra cleaning.

They are supplied in sterile and non-sterile versions.

Features:

- Hydrophilic membrane
- Low protein binding
- High throughput
- Superior strength and stability
- Up to 100 ml of sample

Applications:

- HPLC sample preparation
- Biological sample preparation
- Protein and enzyme filtration
- Cell culture
- Clarification of aqueous and alcohol solutions



TECHNICAL SPECIFICATIONS					
PORE SIZES	0.2 µm	0.45 µm	0.8 µm	1.2 µm	5 µm
Colouring code	Blue	Yellow	Green	Red	Brown
Flow rates Typical values per cm ² for water at 1 bar (100 kPa) differential pressure:	60 ml/min	180 ml/min	350 ml/min	400 ml/min	500 ml/min
Filter diameter	25 mm (also available in 13 mm)				
Filtration area	5.3 cm ²				
Hold-up volume	0.1 ml				
Limits for use	Max. Recommended operating pressure: 4.5 bar (450 kPa) Housing resists bursting up to 6 bar (600 kPa) Max. Temperature 50 °C				
Material	Cellulose acetate membrane Cylolite (CY/RO Industries trademarked MBS copolymer) housing				
Connectors	Female Luer lock inlet, male Luer lock outlet				



ORDER INFORMATION				
ORDER NUMBER	PORE SIZE (µm)	DIAMETER (mm)	STERILE	QUANTITY/BOX
SCA020013K-S	0.2	13	YES	50
SCA020013Q	0.2	13	NO	500
SCA020025K-S	0.2	25	YES	50
SCA020025H	0.2	25	NO	100
SCA020025Q	0.2	25	NO	500
SCA045013K-S	0.45	13	YES	50
SCA045013Q	0.45	13	NO	500
SCA045025K-S	0.45	25	YES	50
SCA045025H	0.45	25	NO	100
SCA045025Q	0.45	25	NO	500
SCA080013K-S	0.8	13	YES	50
SCA080013Q	0.8	13	NO	500
SCA080025K-S	0.8	25	YES	50
SCA080025H	0.8	25	NO	100
SCA080025Q	0.8	25	NO	500
SCA120013K-S	1.2	13	YES	50
SCA120013Q	1.2	13	NO	500
SCA120025K-S	1.2	25	YES	50
SCA120025H	1.2	25	NO	100
SCA120025Q	1.2	25	NO	500
SCA500013K-S	5	13	YES	50
SCA500013Q	5	13	NO	500
SCA500025K-S	5	25	YES	50
SCA500025H	5	25	NO	100
SCA500025Q	5	25	NO	500

SNY Nylon syringe filters

CHM® SNY syringe filters offers a nylon membrane in a polypropylene housing.

Due to their high chemical compatibility and physical strength, these syringe filters are recommended for clarifying and sterilizing HPLC samples up to 200 ml volume.

They are supplied in two pore sizes, 0.2 and 0.45 µm, and in three diameters 4, 13 and 25 mm.

Features:

- Hydrophilic
- Wide chemical compatibility range
- Up to 200 ml sample
- Autoclaved

Applications:

- Filtration and clarification of small volumes
- Sterilization of aqueous and dilute organic solvents
- HPLC sample preparation
- Biological sample preparation



TECHNICAL SPECIFICATIONS

PORE SIZES	0.2 µm	0.45 µm
Bubble point	3.4 bar	2.0 bar
Flow rates Typical values per cm ² for water at 1 bar (100 kPa) differential pressure:	65 ml/min (25 mm)	110 ml/min (25 mm)
Filter diameter	4 mm, 13 mm, 25 mm	
Filtration area	4.8 cm ² (25 mm)	
Hold-up volume	0.15 ml (25 mm)	
Limits for use	Max. Recommended operating pressure: 6 bar (600 kPa) Max. Temperature 121 °C/ 30 min (autoclave)	
Materials	Nylon membrane Polypropylene housing	
Connectors	Female Luer Lock inlet, Luer slip outlet	

ORDER INFORMATION

ORDER NUMBER	PORE SIZE (µm)	DIAMETER (mm)	STERILE	QUANTITY/BOX
SNY020004H	0.2	4	NO	100
SNY020004Q	0.2	4	NO	500
SNY020013H	0.2	13	NO	100
SNY020013Q	0.2	13	NO	500
SNY020025H	0.2	25	NO	100
SNY020025Q	0.2	25	NO	500
SNY045004H	0.45	4	NO	100
SNY045004Q	0.45	4	NO	500
SNY045013H	0.45	13	NO	100
SNY045013Q	0.45	13	NO	500
SNY045025H	0.45	25	NO	100
SNY045025Q	0.45	25	NO	500

SRC Regenerated Cellulose syringe filters

CHM® SRC units contains hydrophilic and solvent-resistant regenerated cellulose membranes. These CHM® ready-to-use syringe filter units are resistant to a wide range of solvents for simple, rapid and reliable ultra-cleaning of small-volume samples for HPLC or GC analysis. They are supplied in two pore sizes, 0.2 and 0.45 µm, and in three diameters 4, 13, and 25 mm.

The choice of diameter depends on the volume to be filtered:

- vol. <1 ml - Ø 4 mm
- vol. <5 ml - Ø 13 mm
- vol. <100 ml - Ø 25 mm

Features:

- Hydrophilic membrane
- Suitable for aqueous solutions and organic solvents.
- Low protein adsorption
- Resistant to a wide range of solvents
- Extremely versatile
- Autoclaved

Applications:

- Filtration of aqueous and organic solutions
- Sample preparation for HPLC and GC
- Clarification
- Protein chemistry

TECHNICAL SPECIFICATIONS

FILTER DIAMETER	4 mm	4 mm	13 mm	13 mm	25 mm	25 mm
Pore	0.20 µm	0.45 µm	0.20 µm	0.45 µm	0.20 µm	0.45 µm
Bubble point (water)	> 3.4 bar (0.2 µm) > 2.0 bar (0.45 µm)					
Filtration area	0.07 cm ²	0.07 cm ²	1.7 cm ²	1.7 cm ²	4.8 cm ²	4.8 cm ²
Flow rates Typical values at 1 bar (100 kPa) Differential pressure	a) for hexane					
	3.5 ml/min	10 ml/min	140 ml/min	280 ml/min	230 ml/min	430 ml/min
	b) for methanol					
	1.5 ml/min	3 ml/min	55 ml/min	105 ml/min	160 ml/min	325 ml/min
	c) for water					
	0.5 ml/min	1.5 ml/min	10 ml/min	30 ml/min	60 ml/min	100 ml/min
Limits for use	Max. operating pressure: 4.5 bar (450 kPa) Burst pressure: 6 bar (600 kPa) Max. Temperature 121 °C, 30 min (autoclave)					
Materials	Regenerated cellulose membrane. Polypropylene housing					
Connectors	Female Luer lock inlet, Luer Slip outlet					



ORDER INFORMATION

ORDER NUMBER	PORE SIZE (µm)	DIAMETER (mm)	STERILE	QUANTITY/BOX
SRC020004H	0.2	4	NO	100
SRC020004Q	0.2	4	NO	500
SRC020013H	0.2	13	NO	100
SRC020013Q	0.2	13	NO	500
SRC020025H	0.2	25	NO	100
SRC020025Q	0.2	25	NO	500
SRC045004H	0.45	4	NO	100
SRC045004Q	0.45	4	NO	500
SRC045013H	0.45	13	NO	100
SRC045013Q	0.45	13	NO	500
SRC045025H	0.45	25	NO	100
SRC045025Q	0.45	25	NO	500

STF PTFE syringe filters

CHM® STF syringe filters are indicated to clean small volume samples for HPLC or GC analysis, where higher chemical resistance is required than offered by CHM® SRC (Regenerated cellulose).

They are supplied in two pore sizes, 0.2 and 0.45 µm, and in three diameters 4, 13 and 25 mm.

The choice of diameter depends on the volume to be filtered:

vol. <1 ml - Ø 4 mm

vol. <5 ml - Ø 13 mm

vol. <100 ml - Ø 25 mm

Features:

- Hydrophobic
- High chemical resistance to most solvents and acids
- Up to 100 ml sample
- Autoclaved

Applications:

- Filtration of strong acids and aggressive solutions
- Cleaning of small volume samples for HPLC or GC application which require greater chemical resistance than regenerated cellulose syringe filters.
- Venting applications
- Degassing solvents
- Phase separation



TECHNICAL SPECIFICATIONS						
FILTER DIAMETER	4 mm	4 mm	13 mm	13 mm	25 mm	25 mm
Pore	0.20 µm	0.45 µm	0.20 µm	0.45 µm	0.20 µm	0.45 µm
Bubble point (water)	> 1.4 bar (0.2 µm) > 0.9 bar (0.45 µm)					
Filtration area	0.07 cm ²	0.07 cm ²	1.7 cm ²	1.7 cm ²	4.8 cm ²	4.8 cm ²
Flow rates Typical values at 1 bar (100 kPa) Differential pressure	a) for ethanol					
		2.0 ml/min	25 ml/min	65 ml/min	70 ml/min	130 ml/min
	b) for methanol					
		4.5 ml/min	55 ml/min	105 ml/min	160 ml/min	260 ml/min
	c) for air					
		0.06 ml/min	0.5 ml/min	1.1 ml/min	1.7 ml/min	2.2 ml/min
Limits for use	Max. operating pressure: 4.5 bar (450 kPa) Burst pressure: 6 bar (600 kPa) Max. Temperature 121 °C, 30 min (autoclave)					
Wetting water penetration pressure	4 bar (400kPa)	3.0 bar (400kPa)	4 bar (400kPa)	3.0 bar (400kPa)	4 bar (400kPa)	3.0 bar (400kPa)
Materials	Regenerated cellulose membrane. Polypropylene housing					
Connectors	Female Luer lock inlet, Luer Slip outlet					

ORDER INFORMATION				
ORDER NUMBER	PORE SIZE (µm)	DIAMETER (mm)	STERILE	QUANTITY/BOX
STF020004H	0.2	4	NO	100
STF020004Q	0.2	4	NO	500
STF020013H	0.2	13	NO	100
STF020013Q	0.2	13	NO	500
STF020025H	0.2	25	NO	100
STF020025Q	0.2	25	NO	500
STF045004H	0.45	4	NO	100
STF045004Q	0.45	4	NO	500
STF045013H	0.45	13	NO	100
STF045013Q	0.45	13	NO	500
STF045025H	0.45	25	NO	100
STF045025Q	0.45	25	NO	500



SPV PVDF Polyvinylidene Fluoride syringe filters

CHM® SPV units contains polyvinylidene fluoride (PVDF) membrane.

These CHM® ready-to-use syringe filter units are ideal for sterilizing and clarifying filtration of biological solutions. They are compatible with a wide range of solvents, even with aggressive acids and alcohols. Up to 100 ml of sample. Also available in individual sterile peel-pack.

They are supplied in two pore sizes, 0.2 and 0.45 µm, and in three diameters 4, 13 and 25 mm.

Features:

- Hydrophilic membrane
- Low protein adsorption
- High binding capacity
- Excellent chemical compatibility
- High flow rates
- Autoclaved

Applications:

- Filtration of aqueous and organic solutions
- Sterilization of aggressive and non-aggressive solvent-based mobile phases
- Sterilizing and clarifying filtration of biological solutions
- Chromatography
- Protein sequencing

TECHNICAL SPECIFICATIONS

DIAMETERS	13 mm	13 mm	25 mm	25 mm
Pore Size	0.20 µm	0.45 µm	0.20 µm	0.45 µm
Bubble point	2.3 bar	1.1 bar	2.3 bar	1.1 bar
Filtration area	1.7 cm ²		4.5 cm ²	
Flow rates Typical values for water at 15 psi and 23°C (100 kPa) differential pressure	13 ml/min	50 ml/min	50 ml/min	200 ml/min
Materials	PVDF membrane Polypropylene housing			
Connectors	Female Luer Lock inlet, Luer Lock outlet			

ORDER INFORMATION

ORDER NUMBER	PORE SIZE (µm)	DIAMETER (mm)	STERILE	QUANTITY/BOX
SPV020004H	0.2	4	NO	100
SPV020004Q	0.2	4	NO	500
SPV020013K-S	0.2	13	YES	50
SPV020013Q	0.2	13	NO	500
SPV020025K-S	0.2	25	YES	50
SPV020025H	0.2	25	NO	100
SPV020025Q	0.2	25	NO	500
SPV045004H	0.45	4	NO	100
SPV045004Q	0.45	4	NO	500
SPV045013K-S	0.45	13	YES	50
SPV045013Q	0.45	13	NO	500
SPV045025K-S	0.45	25	YES	50
SPV045025H	0.45	25	NO	100
SPV045025Q	0.45	25	NO	500

SPP Polypropylene syringe filters

CHM® SPP units contains Polypropylene (PP) membrane.

Due to their broad chemical compatibility, these CHM® ready-to-use syringe filters can be used with aqueous and organic solvents. They have low extractable levels to provide accurate and consistent analysis results for sensitive ion chromatography applications.

These polypropylene syringe filters are used in HPLC where detection levels are below 230 nm.

They are supplied in two pore sizes 0.2 and 0.45 μm , and in two diameters 13 and 25 mm

Features:

- Broad chemical compatibility
- Hydrophobic membrane
- Negligible protein binding

Applications:

- Filtration of aqueous and organic solvents
- HPLC applications. Detection levels < 230 nm
- Ion chromatography
- Total digest for heavy metals

TECHNICAL SPECIFICATIONS

DIAMETERS	13 mm	13 mm	25 mm	25 mm
Pore size	0.2 μm	0.45 μm	0.2 μm	0.45 μm
Materials	PP membrane Polypropylene housing			
Connectors	Female Luer Lock inlet, Luer Lock outlet			

ORDER INFORMATION

ORDER NUMBER	PORE SIZE (μm)	DIAMETER (mm)	STERILE	QUANTITY/BOX
SPP020013Q	0.2	13	NO	500
SPP020025H	0.2	25	NO	100
SPP020025Q	0.2	25	NO	500
SPP045013Q	0.45	13	NO	500
SPP045025H	0.45	25	NO	100
SPP045025Q	0.45	25	NO	500



SPE Polyethersulfone syringe filters

CHM® SPE units contains Polyethersulfone (PES) membrane.

These CHM® ready-to-use syringe filter units are designed to remove particles during general filtration. They are ideal for use in life science applications.

Preparation of aqueous, biological or protein based solutions for chromatography analysis.

Up to 100 ml of sample. Also available in individual sterile peel-pack.

They are supplied in two pore sizes, 0.2 and 0.45 µm, and in two diameters 13 and 25 mm.

Features:

- Hydrophilic membrane
- Low protein binding
- Fast flow rates
- Wide range of chemical compatibility
- High flow rates
- Not autoclaved. Sterilization only by gamma irradiation or ethylene oxide

Applications:

- Purification and sterilization of aqueous solutions and/or biological samples
- Protein and enzyme filtration sterilization
- IC chromatography
- Cell culture
- Tissue culture media sterilization

TECHNICAL SPECIFICATIONS

DIAMETERS	13 mm	13 mm	25 mm	25 mm
Pore size	0.20 µm	0.45 µm	0.20 µm	0.45 µm
Bubble point	2.0 bar	0.7 bar	2.0 bar	0.7 bar
Filtration area	1.7 cm ²		4.8 cm ²	
Flow rates Typical values for water at 15 psi and 23 °C (100 kPa) differential pressure	8 ml/min	12 ml/min	100 ml/min	150 ml/min

ORDER INFORMATION

ORDER NUMBER	PORE SIZE (µm)	DIAMETER (mm)	STERILE	QUANTITY/BOX
SPE020013K-S	0.2	13	YES	50
SPE020013Q	0.2	13	NO	500
SPE020025K-S	0.2	25	YES	50
SPE020025H	0.2	25	NO	100
SPE020025Q	0.2	25	NO	500
SPE045013K-S	0.45	13	YES	50
SPE045013Q	0.45	13	NO	500
SPE045025K-S	0.45	25	YES	50
SPE045025H	0.45	25	NO	100
SPE045025Q	0.45	25	NO	500



SGF Glass microfiber syringe pre-filter

Glass microfiber syringe pre-filter

CHM® SGF syringe filters contain a glass fibre filter with a retention efficiency of 98% for 1.2 µm spherical particles. It is very useful when relatively dirty solutions have to be clarified, or as a pre-filter of 0.2 µm or 0.45 µm CHM® SCA. They are available in 0.7 µm, 1.0 µm, 1.2 µm and 3.1 µm.

Features:

- Hydrophilic material
- Acrylic binder
- High flow rates
- Up to 500 ml of sample volume
- Not autoclaved. Sterilization only by gamma irradiation or ethylene oxide

Applications:

- Filtration of aqueous and organic solutions
- Fast pre-filtration of samples with high particle load
- Pre-filter of small volume liquids to avoid saturation of small-porosity membranes
- Fuel hydraulic fluids and machined parts



TECHNICAL SPECIFICATIONS

PORE SIZE	0.7 µm	1.0 µm	1.2 µm	3.1 µm
Filter diameter	25 mm			
Filtration area	6.2 cm ²			
Max. operational pressure	4.5 bar			
Burst pressure	6 bar			
Max. temperature	50 °C			
Connectors	Female Luer Lock inlet, Male Luer Lock outlet			

ORDER INFORMATION

ORDER NUMBER	PORE SIZE (µm)	DIAMETER (mm)	STERILE	QUANTITY/BOX
SGF070025Q	0.7	25	NO	500
SGF100025Q	1.0	25	NO	500
SGF120025Q	1.2	25	NO	500
SGF310025Q	3.1	25	NO	500

S+GF Syringe filter + glass microfiber prefilter

Glass microfiber pre-filter combined with membrane filter enhance sample preparation efficiency.

The membrane materials, Cellulose Acetate, Nylon, Polyethersulfone (PSE) and PTFE, are combined with 1.0 µm glass microfiber filter.

Membrane porosity: 0.45 µm, filter diameter 25 mm

Applications:

- Filtration of aqueous solutions
- Filtration of organic solutions
- Prefiltration
- HPLC, GC and IC chromatography

ORDER INFORMATION

ORDER NUMBER	MATERIAL	PORE SIZE (µm)	DIAMETER (mm)	STERILE	QUANTITY/BOX
SNY045025Q+GF	Glass microfiber prefilter + Nylon membrane	1.00 + 0.45	25	NO	500
STF045025Q+GF	Glass microfiber prefilter + PTFE membrane	1.00 + 0.45	25	NO	500
SPE045025Q+GF	Glass microfiber prefilter + Polyethersulfone membrane	1.00 + 0.45	25	NO	500
SCA045025Q+GF	Glass microfiber prefilter + Cellulose Acetate membrane	1.00 + 0.45	25	NO	500



Chrodisc syringe filters

CHRODISC filter units offer high quality membrane, consistency and reliability which convert this syringe filter into one of your best choices of the laboratory filter products in the industry.

These CHRODISC filter units are excellent for the clarification of aqueous solutions.

The special design of the coloured gear edge combined with the different media (Nylon, PTFE, PP and PVDF) contributes to a fast and efficient filtration.

These syringe filters are suitable for a wide range of applications in pharmaceutical, environmental, biotechnology, food and beverage, and agricultural testing laboratories.

Features and benefits:

- Special design
- Low extractables and low binding
- Sample volume:
 - <10ml (13mm)
 - <100ml (25mm)
 - <150ml (33mm)
- Minimum sample hold-up: syringe filters' housings are specifically designed to maximize sample recovery
- High resolution print: easy to identify pore size and media
- Colour coding to identify filter membrane
- 0.45 μm for most clarification applications and 0.22 μm when fine particulate removal is required.

Applications:

- General particle removal
- Dissolution testing
- HPLC, UHPLC, IC, GC
- Routine QC analysis
- Environmental samples
- Food analysis
- Biofuel analysis
- Composite assays



ORDER INFORMATION

ORDER NUMBER	MEMBRANE TYPE	PORE SIZE (µm)	COLOUR	DIAMETER (mm)	STERILE	QUANTITY/ BOX
XTF020013D	PTFE	0.2	RED	13	NO	200
XTF045033M	PTFE	0.2	RED	13	NO	1000
XTF045013D	PTFE	0.45	RED	13	NO	200
XTF045013M	PTFE	0.45	RED	13	NO	1000
XTF020025D	PTFE	0.2	RED	25	NO	200
XTF020025M	PTFE	0.2	RED	25	NO	1000
XTF045025D	PTFE	0.45	RED	25	NO	200
XTF045025M	PTFE	0.45	RED	25	NO	1000
XTF020033D	PTFE	0.2	RED	33	NO	200
XTF020033M	PTFE	0.2	RED	33	NO	1000
XTF045033D	PTFE	0.45	RED	33	NO	200
XTF045033M	PTFE	0.45	RED	33	NO	1000
XPV020013D	PVDF	0.2	YELLOW	13	NO	200
XPV020013M	PVDF	0.2	YELLOW	13	NO	1000
XPV045013D	PVDF	0.45	YELLOW	13	NO	200
XPV045013M	PVDF	0.45	YELLOW	13	NO	1000
XPV020025D	PVDF	0.2	YELLOW	25	NO	200
XPV020025M	PVDF	0.2	YELLOW	25	NO	1000
XPV045025D	PVDF	0.45	YELLOW	25	NO	200
XPV045025M	PVDF	0.45	YELLOW	25	NO	1000
XPV020033D	PVDF	0.2	YELLOW	33	NO	200
XPV020033M	PVDF	0.2	YELLOW	33	NO	1000
XPV045033D	PVDF	0.45	YELLOW	33	NO	200
XPV045033M	PVDF	0.45	YELLOW	33	NO	1000
XNY020013D	NYLON	0.2	PURPLE	13	NO	200
XNY020013M	NYLON	0.2	PURPLE	13	NO	1000
XNY045013D	NYLON	0.45	PURPLE	13	NO	200
XNY045013M	NYLON	0.45	PURPLE	13	NO	1000
XNY020025D	NYLON	0.2	PURPLE	25	NO	200
XNY020025M	NYLON	0.2	PURPLE	25	NO	1000
XNY045025D	NYLON	0.45	PURPLE	25	NO	200
XNY045025M	NYLON	0.45	PURPLE	25	NO	1000
XNY020033D	NYLON	0.2	PURPLE	33	NO	200
XNY020033M	NYLON	0.2	PURPLE	33	NO	1000
XNY045033D	NYLON	0.45	PURPLE	33	NO	200
XNY045033M	NYLON	0.45	PURPLE	33	NO	1000
XPP020013D	PP	0.2	ORANGE	13	NO	200
XPP020013M	PP	0.2	ORANGE	13	NO	1000
XPP045013D	PP	0.45	ORANGE	13	NO	200
XPP045013M	PP	0.45	ORANGE	13	NO	1000
XPP020025D	PP	0.2	ORANGE	25	NO	200
XPP020025M	PP	0.2	ORANGE	25	NO	1000
XPP045025D	PP	0.45	ORANGE	25	NO	200
XPP045025M	PP	0.45	ORANGE	25	NO	1000
XPP020033D	PP	0.2	ORANGE	33	NO	200
XPP020033M	PP	0.2	ORANGE	33	NO	1000
XPP045033D	PP	0.45	ORANGE	33	NO	200
XPP045033M	PP	0.45	ORANGE	33	NO	1000