02

MICROFILTRATION

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Microfiltration is a membrane technical filtration process which removes contaminants from a fluid (liquid or gas) by passing through a microporous membrane.

Membrane filters are surface filters with a precise micro-porous structure. They are used to separate, remove particles or collect micro-organisms for analysis from a fluid.
Particles bigger than the nominal porosity remain on the filter surface, whilst smaller particles goes though the filter unless other interactions into the filter retain them into the filter matrix.

The microfiltration is slower than the filtration with the filter papers (depth filters).
Membranes are made of different polymers and are available in several diameters and pore sizes.
Membrane filters are used in microbiological quality control procedures for a wide range of industries; food, beverage, pharmaceutical, cosmetics, etc.

2.1 MEMBRANE FILTERS

CHM® MCA Cellulose Acetate membrane filters

Cellulose Acetate membranes type MCA, are recommended for the aqueous samples, biological applications and protein filtration.
Filtration membranes are composed of pure cellulose acetate that is internally supported by an inert polyester web.
Its uniform pore size and consistent flow rates ensure reliable performance.
These membranes combine high flow rates and thermal stability with very low adsorption characteristics, making the 0.2 µm pore size perfectly suited for use in disc filter holders to sterilize aqueous solutions, buffers and media. They are also low in extractables and can be repeatedly autoclaved.
They are supplied in four pore sizes, 0.2, 0.45, 0.65 and 0.80 µm, and in seven different diameters, 13, 25, 47, 50, 90, 142 and 293 mm (other diameters available under request).

Features:

· Hydrophilic membrane
· Compatible to aqueous solutions with pH 4-8, most alcohols, hydrocarbons and oils
· Low extractables: ensures tests will be clean with consistent results
· Exceptional dimensional strength and low binding characteristics
· High flow rate

Applications:

· Aqueous solutions filtration
· Protein and enzyme filtration
· Biological and clinical analysis
· Tissue culture media sterilization

TECHNICAL SPECIFICATIONS				
PORE SIZES	**0,2** µm	**0,45** µm	**0,65** µm	**0,8** µm
Bubble point minimum value, wetted with water	3.5 bar (350 kPa)	2.0 bar (200 kPa)	1.3 bar (130 kPa)	0.80 bar (80 kPa)
Flow rates Typical values per cm^2 for water at 1 bar (100 kPa) differential pressure:	22 ml/min	69 ml/min	130 ml/min	200 ml/min
Filter diameter	13 mm, 25mm, 47mm, 50 mm, 90mm, 142 mm, 293 mm (other sizes available under request)			
Material	Cellulose acetate membrane			
Thickness average value	135 µm			
Sterilization	By autoclaving at 121 °C or 134°C, with gamma-radiation or with ethylene oxide			
Thermal stability	Max. 180 °C			
Chemical compatibility	Resistant to aqueous solutions in pH range 4-8, to most alcohols, hydrocarbons and to oils (see chemical compatibility table)			
Extractables	With water less than 1%			

ORDER INFORMATION				
ORDER NUMBER	**PORE SIZE** (µm)	**DIAMETER** (mm)	**STERILE**	**QUANTITY/BOX**
MCA020013H	0.2	13	NO	100
MCA020025H	0.2	25	NO	100
MCA020047H	0.2	47	NO	100
MCA020050H	0.2	50	NO	100
MCA020090T	0.2	90	NO	25
MCA020142T	0.2	142	NO	25
MCA020293T	0.2	293	NO	25
MCA045013H	0.45	13	NO	100
MCA045025H	0.45	25	NO	100
MCA045047H	0.45	47	NO	100
MCA045050H	0.45	50	NO	100
MCA045090T	0.45	90	NO	25
MCA045142T	0.45	142	NO	25
MCA045293T	0.45	293	NO	25
MCA065025H	0.65	25	NO	100
MCA065047H	0.65	47	NO	100
MCA065050H	0.65	50	NO	100
MCA065090T	0.65	90	NO	25
MCA065142T	0.65	142	NO	25
MCA065293T	0.65	293	NO	25
MCA080013H	0.8	13	NO	100
MCA080025H	0.8	25	NO	100
MCA080047H	0.8	47	NO	100
MCA080050H	0.8	50	NO	100
MCA080090T	0.8	90	NO	25
MCA080142T	0.8	142	NO	25
MCA080293T	0.8	293	NO	25

CHM® MRC Regenerated Cellulose membrane filters

CHM® MRC - Regenerated Cellulose membranes for the filtration of organic solvents.
These solvent-resistant hydrophilic membrane filters are perfectly suited for particle removal from solvents.
Often used for ultra-cleaning and de-gassing solvents and mobile phases for HPLC in combination with the All-glass holder (our references FS047300T and FS047300S).

They are compatible with:

- Acetone
- Acetonitrile
- Gasoline
- n-Butanol
- Cellosolve (ethyl)
- Chloroform
- Diethyl acetamide
- Dimethylsulfoxide
- Dioxane
- Acetic acid (96%)
- Ethanol
- Ethyl acetate
- Ethylene glycol
- Freon TF
- Hexane
- Isobutanol
- Isopropanol
- Methylene
- Methylene chloride
- Methyl ethyl ketone
- Pentane
- Tetrahydrofuran
- Toluene
- Trichloroacetic acid (25%)
- Trichlorethane
- Water
- Xylene

Features:

- Hydrophilic
- Excellent chemical compatibility and resistance to organic solvents
- Low non-specific adsorption
- Superior thermal resistance
- High mechanical strength

Applications:

- Filtration of aqueous and organic solutions
- Particle removal from organic solvents or mixtures of aqueous and non-aqueous samples
- Ultra-cleaning and de-gassing solvents and mobile phases for HPLC
- Clarification
- Protein chemistry

TECHNICAL SPECIFICATIONS		
PORE SIZES	**0,2** µm	**0,45** µm
Bubble point minimum value, wetted with water	4.7 bar (470 kPa)	3.0 bar (300 kPa)
Flow rates Typical values per cm^2 for water at 1 bar (100 kPa) differential pressure:	16 ml/min	28 ml/min
Filter diameter	13 mm, 25 mm, 47 mm, 50 mm, 90 mm, 142 mm, 293 mm. (Other sizes available under request).	
Material	Regenerated cellulose membrane reinforced with no-woven cellulose	
Thickness average value	160-200 µm	
Sterilization	By autoclaving at 121 °C or 134°C, with gamma-radiation or with ethylene oxide	
Chemical compatibility	Resistant to almost all solvents (see table above) and to aqueous solutions in the pH range 3-12 (see chemical compatibility table)	
Extractables	With water less than 1%	

ORDER INFORMATION				
ORDER NUMBER	**PORE SIZE** (µm)	**DIAMETER** (mm)	**STERILE**	**QUANTITY/BOX**
MRC020013H	0.2	13	NO	100
MRC020025H	0.2	25	NO	100
MRC020047H	0.2	47	NO	100
MRC020050H	0.2	50	NO	100
MRC020090T	0.2	90	NO	25
MRC020142T	0.2	142	NO	25
MRC020293T	0.2	293	NO	25
MRC045013H	0.45	13	NO	100
MRC045025H	0.45	25	NO	100
MRC045047H	0.45	47	NO	100
MRC045050H	0.45	50	NO	100
MRC045090T	0.45	90	NO	25
MRC045142T	0.45	142	NO	25
MRC045293T	0.45	293	NO	25

CHM® MCN Cellulose Nitrate (Ester) membrane filters

Cellulose Nitrate membranes for sample pre-treatment, particle testing and chemotaxis.
Available in white, black or green, gridded (3.1 x 3.1 mm) or plain, sterile or non-sterile
They are ready-to use membranes and save preparatory time. Filter identification and lot number are printed on the box or on each individual envelope for the sterile versions.

Features:

- Hydrophilic membrane
- Made of Cellulose Nitrate. This material assures excellent retention and optimum colony growth
- Very uniform pore structure which ensures homogeneous distribution of the particles retained on the filter surface
- Various colours give the best contrast to the colonies which are to be counted
- Maximum temperature 130°C
- Autoclavable
- Very high flow rate

Applications:

- Clarification and sterilisation of aqueous solutions
- Microbiological analysis and particle counts
- Particle size analysis
- Pre-filtration and clarification of samples prior to further analysis
- Removal of particles in suspensions to determine the degree of impurity

TECHNICAL SPECIFICATIONS

PORE SIZES	0,2 µm	0,45 µm	0,65 µm	0,8 µm	1,2 µm	3 µm	5 µm	8 µm
Bubble point minimum value, wetted with water	4.0 bar (470 kPa)	2.5 bar (000 kPa)	2.0 bar (000 kPa)	1.4 bar (000 kPa)	1.0 bar (000 kPa)	0.6 bar (000 kPa)	0.5 bar (000 kPa)	0.3 bar (000 kPa)
Flow rates Typical values per cm^2 for water at 1 bar (100 kPa) differential pressure:	20 ml/min	69 ml/min	130 ml/min	200 ml/min	320 ml/min	430 ml/min	570 ml/min	750 ml/min
Filter diameter	13 mm, 25 mm, 47 mm, 50 mm, 90 mm, 142 mm, 293 mm. (Other sizes available under request).							
Material	Cellulose Nitrate							
Thickness average value	Between 90 µm and 140 µm according to different pore size							
Sterilization	By autoclaving (at 121 °C), with gamma radiation or with ethylene oxide							
Thermal stability	Max. 130 °C							
Chemical compatibility	Resistant to aqueous solutions in the pH range 4-8, to hydrocarbons and to some solvents (see chemical compatibility table)							
Extractables	With water less than 1%							

ORDER INFORMATION

ORDER NUMBER	PORE SIZE (µm)	DIAMETER (mm)	STERILE	QUANTITY/BOX
MCN020013H	0.2	13	NO	100
MCN020025H	0.2	25	NO	100
MCN020047H	0.2	47	NO	100
MCN020050H	0.2	50	NO	100
MCN020090T	0.2	90	NO	25
MCN020142T	0.2	142	NO	25
MCN020293T	0.2	293	NO	25
MCN045013H	0.45	13	NO	100
MCN045025H	0.45	25	NO	100
MCN045047H-S	0.45	47	YES	100

ORDER INFORMATION				
ORDER NUMBER	**PORE SIZE (µm)**	**DIAMETER (mm)**	**STERILE**	**QUANTITY/BOX**
MCN045047H	0.45	47	NO	100
MCN045050H	0.45	50	NO	100
MCN045090T	0.45	90	NO	25
MCN045142T	0.45	142	NO	25
MCN045293T	0.45	293	NO	25
MCN065025H	0.65	25	NO	100
MCN065047H-S	0.65	47	YES	100
MCN065047H	0.65	47	NO	100
MCN065050H-S	0.65	50	YES	100
MCN065050H	0.65	50	NO	100
MCN065090T	0.65	90	NO	25
MCN065142T	0.65	142	NO	25
MCN065293T	0.65	293	NO	25
MCN080013H	0.8	13	NO	100
MCN080025H	0.8	25	NO	100
MCN080047H-S	0.8	47	YES	100
MCN080047H	0.8	47	NO	100
MCN080050H	0.8	50	NO	100
MCN080090T	0.8	90	NO	25
MCN080142T	0.8	142	NO	25
MCN080293T	0.8	293	NO	25
MCN120025H	1.2	25	NO	100
MCN120047H-S	1.2	47	YES	100
MCN120047H	1.2	47	NO	100
MCN120050H	1.2	50	NO	100
MCN120090T	1.2	90	NO	25
MCN120142T	1.2	142	NO	25
MCN120293T	1.2	293	NO	25
MCN300013H	3	13	NO	100
MCN300025H	3	25	NO	100
MCN300047H-S	3	47	YES	100
MCN300047H	3	47	NO	100
MCN300050H	3	50	NO	100
MCN300142T	3	142	NO	25
MCN300293T	3	293	NO	25
MCN500013H	5	13	NO	100
MCN500025H	5	25	NO	100
MCN500047H	5	47	NO	100
MCN500050H	5	50	NO	100
MCN500142T	5	142	NO	25
MCN500293T	5	293	NO	25
MCN800013H	8	13	NO	100
MCN800025H	8	25	NO	100
MCN800037H	8	37	NO	100
MCN800047H-S	8	47	YES	100
MCN800047H	8	47	NO	100
MCN800050H	8	50	NO	100
MCN800142T	8	142	NO	25
MCN800293T	8	293	NO	25

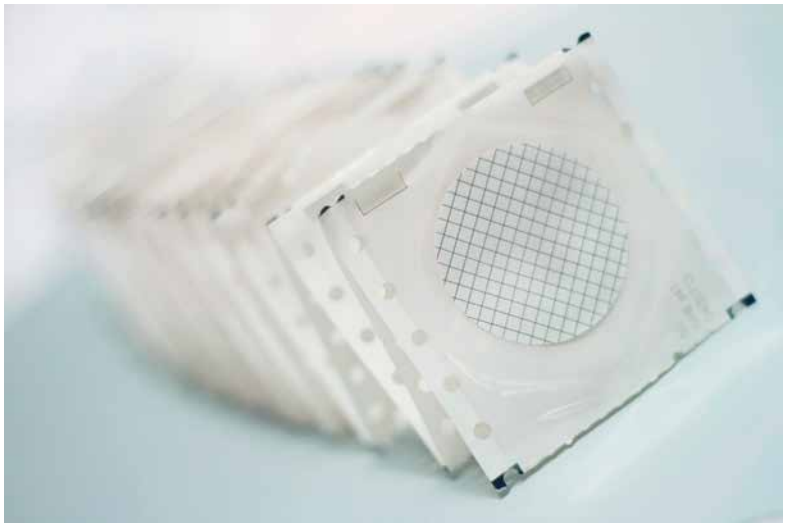
CHM® MNW, MNB, MNG Cellulose Nitrate gridded membrane filters for microbiological analysis

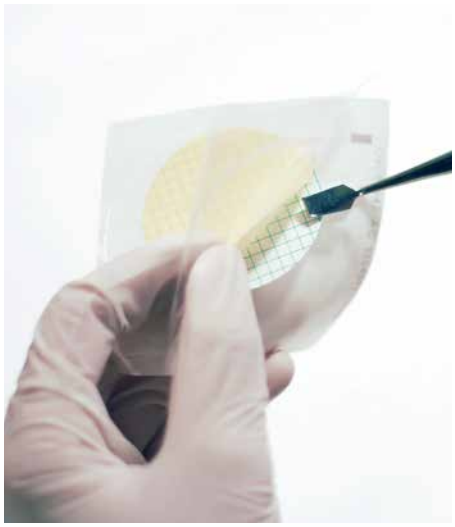
Cellulose Nitrate gridded membranes, sterile and individually packed, for colony counts in routine microbiological quality control.

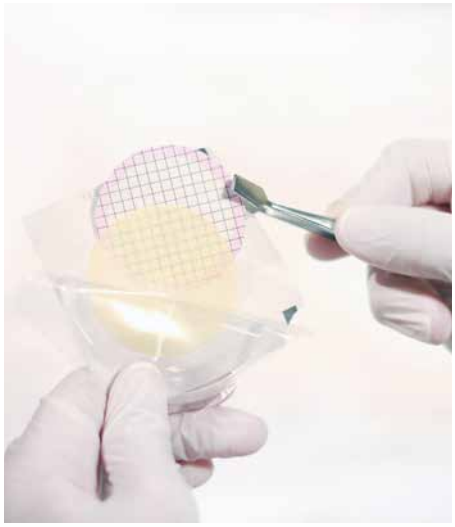
They are ready-to use membranes and save preparatory time. Filter identification and lot number are printed on the box or on each individual envelope for the sterile versions.
The grid size is 3.1x3.1 mm. Available in various colours which the best contrast to the colonies to be counted (white, black and green).

Hydrophobic edge membranes are used mainly in the sterility testing solutions containing antibiotics.

ORDER INFORMATION				
ORDER NUMBER	**PORE SIZE** (µm)	**DIAMETER** (mm)	**STERILE**	**QUANTITY/BOX**
CHM® MNW - Cellulose Nitrate white membranes. Black grid				
MNW020047H-SG	0.2	47	YES	100
MNW020047M-SG	0.2	47	YES	1000
MNW020047H-G	0.2	47	NO	100
MNW045025H-G	0.45	25	NO	100
MNW045047H-SG	0.45	47	YES	100
MNW045047M-SG	0.45	47	YES	1000
MNW045047H-G	0.45	47	NO	100
MNW045047R-SG (*)	0.45	47	YES	300
MNW065047H-SG	0.65	47	YES	100
MNW065047M-SG	0.65	47	YES	1000
MNW065047H-G	0.65	47	NO	100
MNW080047H-SG	0.8	47	YES	100
MNW080047M-SG	0.8	47	YES	1000
MNW080047H-G	0.8	47	NO	100
MNW120025H-G	1.2	25	NO	100
MNW120047H-SG	1.2	47	YES	100
MNW120047M-SG	1.2	47	YES	1000
MNW120047H-G	1.2	47	NO	100
CHM® MNB - Cellulose Nitrate black membranes. White grid. For the detection of yeasts and moulds				
MNB045047H-SW	0.45	47	YES	100
MNB045047M-SW	0.45	47	YES	1000
MNB065047H-SW	0.65	47	YES	100
MNB080047H-SW	0.8	47	YES	100
MNB080047M-SW	0.8	47	YES	1000
CHM® MNG - Cellulose Nitrate Green membranes. Dark green grid. For colony counts				
MNG045047H-SV	0.45	47	YES	100
MNG045047M-SV	0.45	47	YES	1000
CHM® MNW - Cellulose Nitrate white membranes. Green grid and for E.coli and coliforms				
MNW045047H-SV	0.45	47	YES	100
MNW045047M-SV	0.45	47	YES	1000
CHM® MNW - Cellulose Nitrate membranes. Black grid and pink hydrophobic edge				
MNW020047H-SGP3 3 mm edge	0.2	47	YES	100
MNW020050H-SGP3 3 mm edge	0.2	50	YES	100
MNW045047H-SGP3 3 mm edge	0.45	47	YES	100
MNW045050H-SGP3 3 mm edge	0.45	50	YES	100
MNW045047H-SGP6 6 mm edge	0.45	47	YES	100
(*) pack for membrane dispenser				







CHM® MPC Polycarbonate membranes

CHM® MPC Polycarbonate membranes are manufactured from high grade polycarbonate film using track-etch technology. The resulting membrane is a thin, translucent and microporous polycarbonate film with a smooth flat surface.

Their capillary pore structure is uniform and precise with a narrow pore size distribution. The surface makes them ideal for particle identification by microscopy.
Provides flow control for liquids moving through the membrane capturing 100 percent of cells larger than pore size.
Available as standard in six different pore sizes: 0.1, 0.2, 0.4, 0.6, 0.8 and 1.0 µm and in 2 different diameters 25 and 47 mm. Other pore sizes (2, 3, 5, 8, 12, 14 and 20 µm) are available under request.

Features:

- Made of high grade polycarbonate film
- Hydrophilic
- High translucency.
- High flow rate
- A very smooth and shiny surface on both sides facilitates easy sample examination
- Low extractables
- Low protein binding
- Available as hydrophilic or hydrophobic
- Sterilisation: by autoclaving at 121°C or 134°C, γ-radiation or ethylene oxide

Applications:

- Particulate analysis
- Epifluorescence microscopy
- Fluid clarification
- Cytology
- Biological tests, cell biology and cell cultures
- Removal of red blood cells from plasma
- Water microbiology (analysis for Legionella in drinking water)
- Environmental analysis (detection of AOX in water)

TECHNICAL SPECIFICATIONS						
PORE SIZES	**0.1** µm	**0.2** µm	**0.4** µm	**0.6** µm	**0.8** µm	**1.0** µm
Bubble point minimum value, wetted with water	30 psi	20 psi	12 psi	9 psi	7 psi	6 psi
Flow rates Typical values per cm_2 for water at 1 bar (100 kPa) differential pressure:	2.5 ml/min	10 ml/min	33 ml/min	60 ml/min	90 ml/min	130 ml/min
Filter diameter	25 mm, 47 mm					
Material	Polycarbonate					
Thickness average value	Between 5 µm and 12 µm according to different pore size					
Sterilization	By autoclaving at 121 °C					
Chemical compatibility	See chemical compatibility table					
Extractables	Low extractables					

ORDER INFORMATION				
ORDER NUMBER	**PORE SIZE** (µm) (*)	**DIAMETER** (mm)	**STERILE**	**QUANTITY/BOX**
MPC010025H	0.1	25	NO	100
MPC010047H	0.1	47	NO	100
MPC020025H	0.2	25	NO	100

ORDER INFORMATION				
ORDER NUMBER	**PORE SIZE (µm) (*)**	**DIAMETER (mm)**	**STERILE**	**QUANTITY/BOX**
MPC020047H	0.2	47	NO	100
MPC040025H	0.4	25	NO	100
MPC040047H	0.4	47	NO	100
MPC060025H	0.6	25	NO	100
MPC060047H	0.6	47	NO	100
MPC080025H	0.8	25	NO	100
MPC080047H	0.8	47	NO	100
MPC100025H	1.0	25	NO	100
MPC100047H	1.0	47	NO	100
(*) Also available in other pore sizes under request				

CHM® MTF PTFE membrane filters

They are made purely of PTFE (polytetrafluoroethylene) and are therefore permanently hydrophobic.
Unlike other (hydrophilic) filter types, they are not wetted by air humidity, allowing unhindered passage of air at low differential pressures.
CHM® MTF membrane filters have an excellent chemical compatibility; they are also used for the filtration of aggressive chemicals, and acids, to which other filter types are not resistant.
Due to their hydrophobic characteristics, they must be pre-wetted with ethanol or methanol before the filtration of aqueous media.
The main application of this membrane filter type is air/gas filtration.

Features:

- Naturally hydrophobic
- Compatible with strong acids and aggressive solutions
- Allowing passage of air even at low differential pressure
- Sterilisation by at 121 °C or 134°C or by ethylene oxide
- Extractables with water not detected

Applications:

- Filtration of strong acids and aggressive solutions
- Clarifying corrosive substances, strong acids and alkalis (0.45 µm)
- Clarification of samples and mobile phases of HPLC and GC (0.45 µm)
- Sterilisation of air and gases (0.2 µm)
- Venting applications
- Phase separations

TECHNICAL SPECIFICATIONS				
PORE SIZES	**0.1 (air), 0.05, 0.1, 0.22, 0.45, 1.0, 3.0, 5.0, 10.0**			
Bubble point minimum value, wetted with water	1.2 bar (0.2 µm)	0.8 bar (0.45 µm)	0.45 bar (1 µm)	0.1 bar (5 µm)
Flow rates Typical values per cm^2 for water at 1 bar (100 kPa) differential pressure:	0.2 ml/min (0.2 µm)	0.3 ml/min (0.45 µm)	1.6 ml/min (1 µm)	4 ml/min (5 µm)
Filter diameter	13 mm, 25 mm, 47 mm, 50 mm, 90 mm, 142 mm, 293 mm. (Other sizes available under request).			
Material	Polytetrafluoroethylene			
Thickness average value	Between 150 µm and 250 µm according to different pore size			
Sterilization	By autoclaving at 121 °C or 134 °C and with ethylene oxide			
Chemical compatibility	Resistant to almost all chemicals (see chemical compatibility table)			
Extractables	With water none detectable			

ORDER INFORMATION				
ORDER NUMBER	**PORE SIZE (µm) (*)**	**DIAMETER (mm)**	**STERILE**	**QUANTITY/BOX**
MTF020013H	0.2	13	NO	100
MTF020025H	0.2	25	NO	100
MTF020047H	0.2	47	NO	100
MTF020050H	0.2	50	NO	100
MTF020090T	0.2	90	NO	25
MTF020142T	0.2	142	NO	25
MTF045013H	0.45	13	NO	100
MTF045025H	0.45	25	NO	100
MTF045047H	0.45	47	NO	100
MTF045050H	0.45	50	NO	100
MTF045090T	0.45	90	NO	25
MTF045142T	0.45	142	NO	25
MTF100025H	1	25	NO	100
MTF100047H	1	47	NO	100
MTF100142T	1	142	NO	25
MTF500025H	5	25	NO	100
MTF500047H	5	47	NO	100
MTF500142T	5	142	NO	25
(*) Also available in other pore sizes between 0.01 and 10 µm under request				

CHM® MNY Nylon membrane filters

CHM® MNY nylon membrane filters are membranes of hydrophilic nature and chemically resistant to most bases, making them particularly indicated for clarification and sterilization of alkaline solutions.
This type of membranes is compatible with most aqueous samples and some organic solvents, being a good alternative for sterilization and clarification of the mobile phases for HPLC.
These membranes have high non-specific adsorption, which makes them very useful in blotting techniques, mainly for transfer and immobilization of nucleic acids.
They are not recommended for use sterilizing cellular solutions, for which application it is advisable to use the CHM®MCA cellulose acetate membranes.

Features:

· Made entirely of polyamide
· Hydrophilic
· High non-specific adsorption
· High mechanical stability
· Low extractables
· Sterilization by autoclaving (at 121°C) or ethylene oxide

Applications:

· Sterilization and clarification of aqueous and organic solvent solutions
· HPLC sample preparation
· Isolating Legionella

TECHNICAL SPECIFICATIONS		
PORE SIZES	**0.1, 0.2, 0.45, 0.65, 1, 2, 3, 5, 10**	
Bubble point minimum value, wetted with water	3.4 bar (0.2 µm)	2.2 bar (0.45 µm)
Flow rates Typical values per cm^2 for water at 1 bar (100 kPa) differential pressure:	14 ml/min (0.2 µm)	28 ml/min (0.45 µm)
Filter diameter	13 mm, 25 mm, 47 mm, 90 mm, 142 mm, 293 mm. (Other sizes available under request).	
Material	Nylon	
Thickness average value	125 µm	
Sterilization	By autoclaving at 121 °C and with ethylene oxide	
Thermail stability	Max. 140 °C	
Chemical compatibility	See chemical compatibility table	
Extractables	Low extractables	

ORDER INFORMATION				
ORDER NUMBER	**PORE SIZE** (µm) (*)	**DIAMETER** (mm)	**STERILE**	**QUANTITY/BOX**
MNY020013H	0.2	13	NO	100
MNY020025H	0.2	25	NO	100
MNY020047H	0.2	47	NO	100
MNY020050H	0.2	50	NO	100
MNY020090T	0.2	90	NO	25
MNY020142T	0.2	142	NO	25
MNY020293T	0.2	293	NO	25
MNY045013H	0.45	13	NO	100
MNY045025H	0.45	25	NO	100
MNY045047H	0.45	47	NO	100
MNYO45050H	0.45	50	NO	100
MNY045090T	0.45	90	NO	25
MNY045142T	0.45	142	NO	25
MNY045293T	0.45	293	NO	25
(*) Also available in other pore sizes between 0.1 and 5 µm under request				

CHM® MPV PVDF membrane filters

CHM® MPV membrane filters are made of Polyvinylidene Fluoride, and provide high flow rates and throughput, low extractables and broad chemical compatibility.
These membrane filters are non-sterile, and are supplied in pore sizes 0.2 and 0.45 µm, and in 6 different diameters: 25, 47, 50, 90, 142 and 293 mm (other sizes available under request).

Features:

- Hydrophilic
- Low extractables
- Excellent chemical compatibility with aggressive solvents, acids and alcohols
- Sterilisation: by autoclaving at 121°C at 1 bar, γ-radiation or ethylene oxide

Applications:

- Filtration of aqueous and organic solutions
- Analytical sample preparation
- Chromatography
- Clarification
- Protein chemistry

TECHNICAL SPECIFICATIONS		
PORE SIZES	**0.2 µm**	**0.45 µm**
Flow rates Typical values per cm^2 for water at 1 bar (100 kPa) differential pressure:	3 ml/min	7 ml/min
Filter diameter	25 mm, 47 mm, 50 mm, 90 mm, 142 mm, 293 mm. (Other sizes available under request).	
Material	Polyvinylidene Fluoride (PVDF)	
Thickness average value	Between 90 µm and 100 µm according to different pore size	
Sterilization	By autoclaving at 121 °C and with ethylene oxide	
Thermail stability	Max. 85 °C	
Chemical compatibility	See chemical compatibility table	

ORDER INFORMATION				
ORDER NUMBER	**PORE SIZE (*)** (µm)	**DIAMETER** (mm)	**STERILE**	**QUANTITY/BOX**
MPV020025H	0.2	25	NO	100
MPV020047H	0.2	47	NO	100
MPV020050H	0.2	50	NO	100
MPV020090T	0.2	90	NO	25
MPV020142T	0.2	142	NO	25
MPV020293T	0.2	293	NO	25
MPV045025H	0.45	25	NO	100
MPV045047H	0.45	47	NO	100
MPV045050H	0.45	50	NO	100
MPV045090T	0.45	90	NO	25
MPV045142T	0.45	142	NO	25
MPV045293T	0.45	293	NO	25
(*) Also available in other pore sizes between 0.1 and 5 µm under request				

CHM® MPP Polypropylene membrane filters

CHM® MPP polypropylene membrane filters are composed of pure polypropylene with absolute pore size ratings. The exceptionally uniform strength of the device means that the membrane will not crack, tear, break or distort when picked up by hand or forceps.
These filters offer broad chemical compatibility allowing its use with aqueous and organic solvent samples.
CHM® MPP polypropylene membrane filters are suitable for numerous applications in chromatography and biotechnology laboratories.
They are available in 0.2 and 0.45 µm pore sizes, and in 6 different diameters: 25, 47, 50, 90, 142 and 293 mm (other sizes available under request).

Features:

- Hydrophilic
- Low extractables
- Broad chemical compatibility

Applications:

- Used as a support for cell growth, filtration of media and sterilization of tissue culture media
- Aqueous and organic solvent filtration
- Pharmaceuticals and other solutions used for biological work
- HPLC sample preparation requiring low detection levels (< 230 nm)
- Ion chromatography

TECHNICAL SPECIFICATIONS		
PORE SIZES	**0.2 µm**	**0.45 µm**
Bubble point minimum value, wetted with water	15 psi	11 psi
Flow rates Typical values per cm^2 for water at 1 bar (100 kPa) differential pressure:	13 ml/min	22 ml/min
Filter diameter	25 mm, 47 mm, 50 mm, 90 mm, 142 mm, 293 mm. (Other sizes available under request).	
Material	Polypropylene	
Thickness average value	Between 110 µm and 120 µm according to different pore size	
Sterilization	Autoclave, gamma irradiation	
Chemical compatibility	See chemical compatibility table	

ORDER INFORMATION				
ORDER NUMBER	**PORE SIZE** (µm)	**DIAMETER** (mm)	**STERILE**	**QUANTITY/BOX**
MPP020025H	0.2	25	NO	100
MPP020047H	0.2	47	NO	100
MPP020050H	0.2	50	NO	100
MPP020090T	0.2	90	NO	25
MPP020142T	0.2	142	NO	25
MPP020293T	0.2	293	NO	25
MPP045025H	0.45	25	NO	100
MPP045047H	0.45	47	NO	100
MPP045050H	0.45	50	NO	100
MPP045090T	0.45	90	NO	25
MPP045142T	0.45	142	NO	25
MPP045293T	0.45	293	NO	25

CHM® MPE PES membrane filters

This strong micro-porous film membrane is constructed from a high temperature polyethersulfone polymer that is acid and base resistant.
These membrane filters are recommended for aqueous solutions biological applications and protein filtration.
They are designed to remove particulates during general filtration and their low protein and drug binding characteristics make them ideally suited for use in life science applications.
Excellent flow speed, even with viscous liquids
They are supplied as standard in pore size 0.2 and 0.45 µm, and with 6 diameters: 13, 25, 47, 50, 90 and 142 mm (other sizes available under request).

Features:

- Made entirely from polyethersulfone
- Hydrophilic
- Very low non-specific adsorption
- Low drug and protein binding
- Low extractables
- Sterilisation: by autoclaving at 121°C, with γ-radiation, or ethylene oxide

Applications:

- Protein and enzyme filtration and sterilization
- Sterilisation of biological fluids, serum and tissue culture media
- Biological and clinical analysis
- Filtration and sterilisation of pharmaceutical solutions

TECHNICAL SPECIFICATIONS		
PORE SIZES	**0.2 µm**	**0.45 µm**
Bubble point minimum value, wetted with water	50 - 70 psi	35 - 50 psi
Flow rates Typical values per cm^2 for water at 1 bar (100 kPa) differential pressure:	15 ml/min	35 ml/min
Filter diameter	13 mm, 25 mm, 47 mm, 50 mm, 90 mm, 142 mm. (Other sizes available under request).	
Material	Polyethersulfone (PES)	
Thickness average value	Between 110 µm and 150 µm according to different pore size	
Sterilization	By autoclaving at 121°C, with γ-radiation, or ethylene oxide	
Chemical compatibility	See chemical compatibility table	
Extractables	< 2% (< 0.015 mg/cm^2)	

ORDER INFORMATION				
ORDER NUMBER	**PORE SIZE** (µm)	**DIAMETER** (mm)	**STERILE**	**QUANTITY/BOX**
MPE020013H	0.2	13	NO	100
MPE020025H	0.2	25	NO	100
MPE020047H	0.2	47	NO	100
MPE020050H	0.2	50	NO	100
MPE020090T	0.2	90	NO	25
MPE020142T	0.2	142	NO	25
MPE045013H	0.45	13	NO	100
MPE045025H	0.45	25	NO	100
MPE045047H	0.45	47	NO	100
MPE045050H	0.45	50	NO	100
MPE045090T	0.45	90	NO	25
MPE045142T	0.45	142	NO	25

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 Cyrolite (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			
Brust 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
XTF045033D	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

2.3 VENTING FILTERS

SVT Venting filters

CHM® SVT venting filters are reusable units that contain a reinforced PTFE membrane with polypropylene gauze, in a polypropylene housing.
These units are easily connected to fermenters or containers. They can work at high pressure. The large filtering surface (20 cm^2) makes it possible to work at high air flow rates even with a low pressure differential.
They are supplied in two pore sizes, 0.2 and 0.45 µm

Features:

- Hydrophobic
- Reusable filter units (at least 20 autoclaving)
- Light weight (approx. 20 g)
- High flow rates
- Autoclaved
- Sterile and non-sterile versions

Applications:

- Venting of autoclaves
- Sterilization of air and gases

TECHNICAL SPECIFICATIONS		
PORE SIZE	**0.2 µm**	**0.45 µm**
Air flow (1 bar)	27 l/min	32 l/min
Sterilization	Autoclave at 121°C or ETO Autoclave up to 10 times	
Filtration area	20 cm^2	
Filter diameter	50 mm	
Filter housing	62 mm	
Hold-up volume	0,5 ml	
Max. operational pressure	3.5 bar	
Max. temperature	134 °C	
Materials	Membrane: Reinforced PTFE Housing: Polypropylene	
Connectors	6-12 mm or stepped barb	

ORDER INFORMATION				
ORDER NUMBER	**PORE SIZE** (µm)	**DIAMETER** (mm)	**STERILE**	**QUANTITY/BOX**
STF020050T	0.2	50	NO	10
STF020050T-S	0.2	50	YES	10
STF045050T	0.45	50	NO	10
STF045050T-S	0.45	50	YES	10

2.4 BLOOTING MEMBRANES

CHM® BIO-tr@ns blotting membrane

Blotting membranes are used widely in molecular biology, biotechnology and genetics, as a method of transferring proteins, DNA or RNA. CHMLAB offers 3 kinds of BIO-tr@ns blotting membranes PVDF transfer membrane, nitrocellulose membrane and nylon membrane. Selecting the appropriate membrane is critical to the success of a nucleic acid or protein transfer procedure. The several types of Bio-tr@ns transfer membranes exhibit different performance characteristics which can directly affect the outcome of a specific technique.
We can custom blotting membrane, like the shape, size, contents, package and different use as per your requirements.

CHM® BIO-tr@ns NC
CHM® BIO-tr@ns PVDF
CHM® BIO-tr@ns NY

BIO-tr@ns Pure NC membrane

CHMLAB Bio-tr@ns Pure NC membrane is one of the most widely used in analytical and research applications. Minimize amounts of wetting agent and have a lower water extractable content. The high sensitivity of pure cellulose nitrate ensures excellent results in all the transfers, specially in protein blotting.

Features:

· 100% Pure Nitrocellulose
· For process requiring optimum resolution
· Compatible with Chromogenic, Radioactive, Fluorescent detection methods
· Excellent strength
· No detergents added
· Binding Interaction: hydrophobic & electrostatic

Applications:

· Westerns
· Protein & inmunoblotting
· Northerns
· Southerns
· Dot/slot blots

CHMLAB Bio-tr@ns Supported NC membrane recommended for DNA/RNA/Protein transfers with procedures requiring rigorous handling.

Features:

· Supported Nitrocellulose
· Multiple reprobings
· Nucleic acid binding up to 100 µg/cm^2
· High sensitivities, low backgrounds

Applications:

· Multiple re-hybridations
· Colony/plaque lifts
· Northerns
· Southerns
· Dot/slot blots
· Biotinylated detection systems
· Chemiluminescent detection systems

ORDER INFORMATION				
	PURE NITROCELLULOSE		SUPPORTED NITROCELLULOSE	
PORE SIZE	**0.45** µm	**0.20** µm	**0.45** µm	**0.20** µm
CIRCLES (mm) (50/box)				
82	BCN045082K	BCN020082K	BCNS045082K	BCNS020082K
85	BCN045085K	BCN020085K	BCNS045085K	BCNS020085K
132	BCN0450132K	BCN020220220V	BCNS0450132K	BCNS020132K
137	BCN0450137K	BCN020137K	BCNS0450137K	BCNS020137K
SHEETS (cm) (5/box)				
15 x 15 cm	BCN045150150V	BCN020150150V	BCNS045150150V	BCNS020220220V
20 x 20 cm	BCN045200200V	BCN020200200V	BCNS045200200V	BCNS020200200V
22 x 22 cm	BCN045220220V	BCN020220220V	BCNS045220220V	BCNS020220220V
ROLLS (1/PACK)				
30 cm x 3 m	BCN04530300R	BCN02030300R	BCNS04530300R	BCNS02030300R
20 cm x 3 m	BCN04520300R	BCN02020300R	BCNS04520300R	BCNS02020300R

BIO-tr@ns PVDF membrane

CHMLAB Bio-tr@ns PVDF membrane has high protein adsorption, so proteins during transfer or reprobing won't be lost. Open pore structure makes accessing bound proteins and removing unbound probes easily. Membranes optimized for fluorescent blots dramatically increase signal for high sensitivity in quantitative, multiplexing applications.

Features:

· Composition unsuported Polyvinylidene Fluoride
· Ideal for protein sequencing
· Chemical resistance
· No discoloration
· Nonflammable
· Hydrophobic

Applications:

· Western blots
· Western blotting
· Binding assays
· Amino acid analysis
· N-terminal protein sequencing
· Dot/slot blotting
· Glycoprotein visualization
· Lipopolysaccharide analysis

ORDER INFORMATION		
PORE SIZE	**0.45** µm	**0.20** µm
SHEETS (cm) (5/box)	**SHEETS (5/box)**	
15 x 15 cm	BPV045150150V	BPV020150150V
20 x 20 cm	BPV045200200V	BPV020200200V
22 x 22 cm	BPV045220220V	BPV020220220V
ROLLS (1/PACK)		
30 cm x 3 m	BPV04530300R	BPV02030300R
20 cm x 3 m	BPV04520300R	BPV02020300R

BIO-tr@ns NYLON membrane

CHMLAB Bio-tr@ns Neutral Nylon. Open pore structure permits maximum accessibility of target sequences to the probe and allows efficient removal of unhybridized probe, thereby reducing background.

Features:

· High strength
· High sensitivity
· Versatile adsorption properties
· Chemical resistance
· Hydrophilic

Applications:

· Colony/plaque lifts
· Dot/slot blotting
· Cell culture
· Clarification of aqueous solutions
· Chromogenic, radioactive, fluorescent detection systems
· Northerns
· Southerns
· Protein binding
· Microarrays
· Macroarrays

CHMLAB Bio-tr@ns Reprobing Charged Nylon is an inherently charged nylon membrane, specifically designed to allow for numerous reprobings.

Features:

· Positively Supported charged nylon membrane
· Nucleic acid binding is 450 µg/cm^2
· Provide consistent results through 12 or more reprobings

Applications:

· Northerns
· Southerns
· Radiolabelled and non-radiolabelled detection systems
· Multiple reprobings
· UV crosslinking
· Alkaline blotting

ORDER INFORMATION		
	NYLON	**NYLON REPROBING CHARGED**
PORE SIZE	**0.45** µm	**0.45** µm
CIRCLES (mm) (50/box)		
82	BNY045082K	BNYR045082K
85	BNY045085K	BNYR045085K
132	BNY0450132K	BNYR0450132K
137	BNY0450137K	BNYR0450137K
SHEETS (cm) (50/box)		
15 x 15 cm	BNY045150150V	BNYR045150150V
20 x 20 cm	BNY045200200V	BNYR045200200V
22 x 22 cm	BNY045220220V	BNYR045220220V
ROLLS (1/PACK)		
30 cm x 3 m	BNY04530300R	BNYR04530300R
20 cm x 3 m	BNY04520300R	BNYR04520300R

2.5 MEMBRANE DISPENSER

The completely new membrane filter dispenser meets all requirements placed on advanced laboratory equipment. This membrane dispenser is designed for individually sterile-packaged cellulose nitrate membranes packed in reels. Each membrane reel box contains 300 membrane filters individually sealed on a special pleated band, and its design makes it easy to open and seal for storage.
Thanks to the special pack in reels, the dispenser makes each membrane quickly and reliably accessible; avoids filter band slippage or even damaged membranes.

Features:

- Compact and robust design
- Easy insertion of the membrane reels, even without having a complete membrane package
- The control system prevents unwanted dispensing of several membranes at the same time
- The design allows quick and easy cleaning
- Low weight for easy transport

ORDER INFORMATION		
ORDER NUMBER	**DESCRIPTION**	**QUANTITY**
MD001	Membrane dispenser	1
MNW020047R-SG	Cellulose nitrate membrane. Gridded. Pore size 0.20 µm Diameter 47 mm	300
MNW045047R-SG	Cellulose nitrate membrane. Gridded. Pore size 0.45 µm Diameter 47 mm	300
MNW080047R-SG	Cellulose nitrate membrane. Gridded. Pore size 0.80 µm Diameter 47 mm	300
MNB020047R-SW	Black cellulose nitrate membrane. Pore size 0.20 µm Diameter 47 mm	300
MNB045047R-SW	Black cellulose nitrate membrane. Pore size 0.45 µm Diameter 47 mm	300
MNB080047R-SW	Black cellulose nitrate membrane. Pore size 0.80 µm Diameter 47 mm	300

2.6 MICROBIOLOGICAL MONITORS

CHM® Biofun microbiological monitors

CHM® Biofun sterile microbiological monitors are designed to be used in the membrane filtration technique to recover microorganisms from aqueous samples.
Each monitor is a single-use, pre-sterilized filtering unit consisting of a measured filter funnel, base, pad, membrane, removable lid and plug.

The all-in-one sterile construction of these microbiological filter funnels makes them ideal for microbiological analysis. These ready-to-use 100 ml units are suited for monitoring contaminants in all types of aqueous samples and they are specifically designed for the detection and enumeration of microorganisms in pharmaceuticals, cosmetics, food, beverages, water and other liquids.
Filtration unit easily converts to a Petri dish, which can be labelled and incubated for culturing.

No flaming required and with no need to sterilize funnels or filter base between samples, testing time can be reduced by up to 70%.
Reduced contamination thank to the single-use materials that virtually eliminate cross-contamination between funnel and membrane.
All-in-one filtration units reduce the chance of external error and make reproducible results due to this reduction.

Biofun® 100 Monitors are ready to use filter units designed to be placed onto the bases of a vacuum manifold. Funnel adaptors onto bases are provided in each box. All units are supplied sterile and individually wrapped.

Features and Benefits:

- All-in-one system.
- Rapid testing. Testing time can be reduced by up to 70%
- No flaming required: minimizes the risk of cross-contamination
- Reduced contamination.
- Reproducible results
- Easy handling

Applications. Microbiological analysis of:

- Water (potable and waste)
- Soft drinks
- Dairy products
- Beer
- Wine

ORDER INFORMATION

ORDER NUMBER	MEMBRANE TYPE	PORE SIZE (µm)	DIAMETER (mm)	STERILE	UNITS/ PACK
M100-MNW020047K-SG	White MCE gridded membrane with pad	0.2	47	YES	50
M100-MNW020056K-SG	White MCE gridded membrane with pad	0.2	56	YES	50
M100-MNW045047K-SG	White MCE gridded membrane with pad	0.45	47	YES	50
M100-MNW045056K-SG	White MCE gridded membrane with pad	0.45	56	YES	50
M100-MNW080047K-SG	White MCE gridded membrane with pad	0.8	47	YES	50
M100-MNB020047K-SW	Black MCE gridded membrane with pad	0.2	47	YES	50
M100-MNB045047K-SW	Black MCE gridded membrane with pad	0.45	47	YES	50
M100-MNB045056K-SW	Black MCE gridded membrane with pad	0.45	56	YES	50
M100-MNB080047K-SW	Black MCE gridded membrane with pad	0.8	47	YES	50
M100-MNB080056K-SW	Black MCE gridded membrane with pad	0.8	56	YES	50

2.7 MEMBRANE HARDWARE

1-, 3- and 6-branch CHM®FR manifold

CHM®FR manifolds allow independent usage of any one port with a stopcock.
They have been designed specifically for applications in which the particles or microorganisms retained on the membrane filter surface are of interest.
The manifolds are made of AISI 304 and are available with 1, 3 and 6 filtration funnels, and in 40, 100 ml and 500 ml capacity funnels.
In the 3 or 6 branch units, due to the stainless steel taps on the manifold ports, the vacuum for each holder can be turned on and off individually. The stainless steel frit ensures a homogenous distribution of the residues on the membrane filter surface.
Highly polished surface facilitates easy and efficient cleaning and rinsing
Funnel and filter support can be autoclavable and flame sterilisable

TECHNICAL SPECIFICATIONS	
FILTRATION AREA	**12.5 cm^2**
Materials	Stainless steel manifold, funnels, lids, clamps and filter supports. Silicone flat gaskets. Silicone sealing rings for lid, cap and hose nipple connector
Membrane filter	47 / 50 mm diameter
Sterilization	By autoclaving at (121°C or 134 °C) or dry heat (180 °C). Sanitization with flaming

ORDER INFORMATION		
ORDER NUMBER	**NO. OF BRANCH MANIFOLD**	**FUNNELS VOLUME**
FR1x040	1	40 ml
FR1x100	1	100 ml
FR1x500	1	500 ml
FR3x100	3	100 ml
FR3x500	3	500 ml
FR6x100	6	100 ml
FR6x500	6	500 ml

ORDER INFORMATION VACUUM PUMPS				
ORDER NUMBER	**PUMP HEAD**	**DIAPHRAGM**	**VALVES**	**MAX FLOW (Rate (l/min)**
VP022AT18	Aluminium	PTFE-coated	Stainless steel	15
VP086KN18	PPS	EPDM	FPM	6

Filter holders

CHM® Glass filter holders

These versatile all-glass filter holders are supplied with a glass frit filter support. It ensures the uniform distribution of retained particles on the filter surface.
Recommended for colony counting and for collection of suspended solids.

The system composed of glass funnel and base with vacuum connector and receiving flask is supplied with:
ground glass outer and inner joints to connect to the receiving glass or with silicon stopper connector.

ORDER INFORMATION	
ORDER NUMBER	**DESCRIPTION**
FS047300T	Glass filtration system for 47 mm (or 50 mm) membranes with stopper
FS047300S	Glass filtration system for 47 mm (or 50 mm) membranes without stopper

Re-usable CHM® filter holders

The filter holders are specially designed for clarification and sterilisation of aqueous and aggressive samples. These reusable devices are made in different materials in function of the applications.
Depending on the volume and the type of sample to be filtered, CHMLAB is offering 3 ranges of filter holders:

· Filter holder for volumes up to 10 ml (13 mm membrane diameter)
· Filter holder for volumes up to 100 ml (25 mm membrane diameter)
· Filter holder for volumes with more than 100 ml (47 and 50 mm membrane diameter)

CHM® HIN Stainless steel filter holder

CHM® HIN inox holder for solvents and chemicals.
The PTFE-coated surface on the top part is an important property of the filter holder and ensures leak proof sealing without a sealing ring.
The temperature resistance is extremely good, and the chemical compatibility depends only on the used membrane filter type.
Sterilisation: by autoclaving (max. 134 °C) or by dry heat (max. 180 °C).
The top part can easily be mounted on the bottom part using the tightening tool supplied.
Filter supports in the top and bottom parts allow filtration in either direction.

TECHNICAL SPECIFICATIONS		
MEMBRANE FILTER	**25 mm**	**47 mm (in line)**
Filtration area	3 cm^2	13 cm^2
Flow rates Typical values per cm^2 for water at 1 bar (100 kPa) differential pressure:	45 ml/min (0.2 µm filter) 80 ml/min (0.45 µm filter)	0.5 l/min (0.2 µm filter) 1.0 l/min (0.45 µm filter)
Max. operating pressure	7 bar (700 kPa)	20 bar (2000 kPa)
Chemical compatibility	As for stainless steel and PTFE	
Sterilization	By autoclaving (max 134 °C) or by dry heat (max 180 °C)	
Connectors	Female Luer Lock inlet, Luer slip outlet	Hose nipples DN10

ORDER INFORMATION			
ORDER NUMBER	**MATERIAL**	**DIAMETER (mm)**	**QUANTITY/PACK**
HIN025001	INOX	25	1
HIN047001	INOX	47	1

CHM® HPC Polycarbonate filter holder

CHM® HPC Polycarbonate holder for aqueous solutions.
This CHM® HPC filter holder is made of stable polycarbonate and contains a silicone gasket for leak proof sealing.
The polycarbonate material withstands numerous working and washing cycles.
It can be sterilized by autoclaving (max. 121°C).
Filter supports in the top and bottom parts allow filtration in either direction.
The holder has an excellent resistance to pressure; up to 7 bar of operating pressure.
The transparent top part allows the visual control of the correct fit.

TECHNICAL SPECIFICATIONS			
MEMBRANE FILTER	**13 mm**	**25 mm**	**47 mm (in line)**
Filtration area	0.5 cm^2	3 cm^2	12.5 cm^2
Flow rates Typical values per cm^2 for water at 1 bar (100 kPa) differential pressure:	18 ml/min (0.2 µm filter) 35 ml/min (0.45 µm filter)	70 ml/min (0.2 µm filter) 110 ml/min (0.45 µm filter)	150 ml/min (0.2 µm filter) 320 ml/min (0.45 µm filter)

continue on next page >>

TECHNICAL SPECIFICATIONS			
MEMBRANE FILTER	**13 mm**	**25 mm**	**47 mm (in line)**
Max. operating pressure	7 bar (700 kPa)		
Materials	Polycarbonate top and bottom parts Silicone gasket 20.5x26.5 mm		
Chemical compatibility	As for polycarbonate and silicone		
Sterilization	By autoclaving (max 121 °C)		
Connectors	Female Luer Lock inlet, Luer slip outlet		Hose nipples

ORDER INFORMATION			
ORDER NUMBER	**MATERIAL**	**DIAMETER (mm)**	**QUANTITY/PACK**
HPC013001	Polycarbonate	13	1
HPC013012	Polycarbonate	13	12
HPC025001	Polycarbonate	25	1
HPC025012	Polycarbonate	25	12
HPC047001	Polycarbonate	47	1
HPC047012	Polycarbonate	47	12

CHM® HTF PTFE filter holder

CHM® HTF filter holder for organic solvents and aggressive chemicals.
Made completely of PTFE, this holder has a broad chemical compatibility and contains no trace elements which could be released into the liquid being filtered.
Easy cleaning. Autoclavable by dry heat at 180°C.
It is indicated for particle removal from samples and reagents for analytical methods.
The construction of the holder ensures leak proof sealing without a sealing ring, and avoids twisting of the membrane filter when the top is tightened onto the base.

TECHNICAL SPECIFICATIONS	
MEMBRANE FILTER	**13 mm**
Filtration area	0.5 cm^2
Flow rates Typical values per cm^2 for water at 1 bar (100 kPa) differential pressure:	10 ml/min (0.2 µm filter) 18 ml/min (0.45 µm filter)
Max. operating pressure	5 bar (500 kPa)
Materials	PTFE top and bottom part
Chemical compatibility	As for PTFE
Sterilization	By autoclaving (max 134 °C) or by dry heat (max 180 °C)
Connectors	Female Luer Lock inlet, Luer slip outlet

ORDER INFORMATION			
ORDER NUMBER	**MATERIAL**	**DIAMETER (mm)**	**QUANTITY/PACK**
HTF013001	PTFE	13	1

2.8 STERILE DISPOSABLE VACUUM FILTRATION UNITS

CHM® VacFILSeries sterile disposable vacuum filtration units

CHM® VacFILSeries are single-use vacuum filtration units for sterile and vacuum filtration, mainly used for filtering and storing cell culture, tissue culture media, biological fluids and other aqueous solutions. The units contain a high quality membranes (PES, MCE, Cellulose Acetate, Nylon and Hydrophilic PVDF) and combine highest flow-rates and throughput with extremely low protein binding and extractable. The new system consists of a polystyrene receiver bottle and filter funnel with a variety of membrane filter choices. Also includes a polyethylene neck adaptor with hose connector for vacuum filtration of your valuable laboratory samples.

Features:

- Available in 5 different membranes: PES, MCE, Cellulose Acetate, Nylon and Hydrophilic PVDF
- Two membrane pore sizes: 0.22 µm and 0.45 µm
- Two funnel volumes: 250 and 500 ml
- Three receiver bottle volumes: 250, 500 and 1000 ml
- Membrane diameter: 50 and 90 mm
- Light weight and heavy wall construction
- Non-pyrogenic
- Detergent-free
- Sterile, individually packed

Membranes:

- PES (Polyethersulfone) with low protein binding and low extractable are the best choice for sterile filtration of cell culture media, serum, additives and buffers. Substantially faster flow rates than PVDF.
- MCE (Mixed Cellulose Ester) for sterile filtration, prefiltration or clarification of buffers and other aqueous solutions when protein binding trace is not a concern.
- CA (Cellulose Acetate). Fast flow rates and low protein binding are good for filtering cell culture media.
- Nylon. Provides a broad range of chemical compatibility for the filtration of either aqueous or organic solvents; hydrophilic; it can be used in a broad pH range. Surfactant-free and offer the lowest extractable.
- PVDF (Polyvinylidene fluoride). Extremely low protein-binding. For filtration of non-aggressive aqueous and mild organic solutions, or were maximizing protein recovery is important.

ORDER INFORMATION					
ORDER NUMBER	**FUNNEL CAPACITY**	**DIAMETER (mm)**	**PORE SIZE (µm)**	**MEMBRANE MATERIAL**	**QUANTITY/BOX**
VF02250PE022T-S	Funnel capacity: 250 ml Receiver capacity: 250 ml	50	0.22	PES	24
VF02250CN022T-S		50		MCE	24
VF02250CA022T-S		50		CA	24
VF02250NY022T-S		50		NYLON	24
VF02250PV022T-S		50		PVDF	24
VF02250PE045T-S		50	0.45	PES	24
VF02250CN045T-S		50		MCE	24
VF02250CA045-T-S		50		CA	24
VF02250NY045T-S		50		NYLON	24
VF02250PV045T-S		50		PVDF	24
VF05250PE022T-S	Funnel capacity: 250 ml Receiver capacity: 500 ml	50	0.22	PES	24
VF05250CN022T-S		50		MCE	24
VF05250CA022T-S		50		CA	24
VF05250NY022T-S		50		NYLON	24
VF05250PV022T-2		50		PVDF	24
VF05250PE045T-S		50	0.45	PES	24
VF05250CN045T-S		50		MCE	24
VF05250CA045T-S		50		CA	24
VF05250NY045T-S		50		NYLON	24
VF05250PV045T-S		50		PVDF	24
VF05500PE022T-S	Funnel capacity: 500 ml Receiver capacity: 500 ml	90	0.22	PES	24
VF05500CN022T-S		90		MCE	24
VF05500CA022T-S		90		CA	24
VF0550NY022T-S		90		NYLON	24
VF05500PV022T-S		90		PVDF	24
VF05500PE045T-S		90	0.45	PES	24
VF05500CN045T-S		90		MCE	24
VF05500CA045T-S		90		CA	24
VF05500NY045T-S		90		NYLON	24
VF05500PV045T-S		90		PVDF	24
VF10500PE022T-S	Funnel capacity: 500 ml Receiver capacity: 1000 ml	90	0.22	PES	24
VF10500CN022T-S		90		MCE	24
VF10500CA022T-S		90		CA	24
VF10500NY022T-S		90		NYLON	24
VF10500PW022T-S		90		PVDF	24
VF10500PE045T-S		90	0.45	PES	24
VF10500CN045T-S		90		MCE	24
VF10500CA045T-S		90		CA	24
VF10500NY045T-S		90		NYLON	24
VF10500PV045T-S		90		PVDF	24