Syringe **filter**

APPLICATIONS

- **Small sample volume preparation**
- **High value sample preparation**
- **HPLC sample preparation**
- **Biological sample preparation**

CHM® SCA syringe filter **for quick and efficient filtration**

CHM®SCA syringe filters are designed for the quick and efficient filtration up to 100 ml of liquid.
Ready-to-use units, offering high flow rates at low inlet pressures, make rapid sterile filtration possible. A filter fitted on a standard dosing syringe makes a very convenient system for simultaneous dosing and sterilization.

Order Information

CHM®SCA 0.2 µm 25mm

a) pack of 50, sterile, individually packed
SCA020025K-S with luer lock outlet
b) pack of 500, non sterile bulk packed:
SCA020025Q with luer lock outlet

CHM®SCA 0.2 µm 25mm
with male luer lock outlet

a) pack of 50, sterile, individually packed
SCA020025K-SML with male luer lock outlet
b) pack of 500, non sterile bulk packed:
SCA020025Q-ML with male luer lock outlet

Technical Specifications *for 0.2 µm CHM®SCA*

Adsorption	Values determined for the cellulose acetate membrane, 0.8-3 µg per cm² with BSA, 8-12 µg per cm² with gamma-globulin. Adsorption of syringe filters units varies due to prefilter
Colour coding	Blue
Connectors	Female Luer Lock inlet and male Luer Lock outlet. Alternatively, for standard syringe filters only, male Luer outlet
Endotoxines	Endotoxin release is below 0.06 EU/ml (detection limit of test)
Filter diameter	26 mm
Filtration area	5.3 cm²
Flow rates	Typical value for water at 1 bar (100 kPa) differential pressure, 60 ml/min
Hold-up volume	0.1 ml
Limits for use	Max. recommended operating pressure, 4.5 bar (450 kPa). Housing resists bursting up to at least 6 bar (600 kPa). Max. temperature, 50°C
Materials	Cellulose acetate membrane filter. Cyrolite (CY/RO Industries trademarked MBS-copolymer) housing

High Flow Rate CHM® SCA syringe filter **for particle removal, ultracleaning and prefiltration**

CHM®SCA High Flow Rate.
Ready-to-use filter units with 0.45 µm, 0.8 µm, 1.2 µm or 5 µm pore size membrane filters fulfil your filtration requirements for clarifying/ultracleaning volumes of up to 100 ml. They can also be used as prefilters in combination with a 0.2 µm CHM®SCA, increasing the total filterable volume.

The high flow rates of these units result from the large filter area and the very low flow resistance of the filter support, which is demonstrated by the relatively constant increase in the flow rate with increasing pore size.

These flow rates contribute to user comfort by lowering the pressure required for filtration. **CHM®SGF** contains a glass fibre filter with a retention efficiency of 98 % for 0.7 µm spherical particles. It is very useful when relatively dirty solutions are to be clarified, or as a prefilter on a 0.2 µm or 0.45 µm **CHM®SCA**.

Technical Specifications

Colour coding	Yellow (0.45 µm), green (0.8 µm), red (1.2 µmm), brown (5µmm), opaque (SGF)
Connectors	emale Luer lock inlet, male Luer lock outlet (the 0.45 µm unit is also available with a male Luer outlet)
Filter diameter	26 mm
Filtration area	5.3 cm²
Flow rates	Typical values for water at differential pressure = 1 bar (100 kPa), 180 ml/min (0.45 µm), 350 ml/min (0.8 µm), 400 ml/min (1.2 µm), 500 ml/min (5 µm), 600 ml/min (SGF)
Hold-up volume	0.1 ml
Limits for use	Max. recommended operating pressure, 4.5 bar (450 kPa). Housing resists bursting up to at least 6 bar (600 kPa). Max. temperature, 50°C
Materials	Cellulose acetate membrane (except SGF). Glass fibre filter SGF). Cyrolite (CY/RO Industries trademarked MBS copolymer) housing

Order Information

Standard 0.45 µm to 5 µm CHM®SCA

a) pack of 50, sterile, individually packed:
SCA045025K-S 0.45 µm with luer lock outlet
SCA080025K-S 0.8 µm with luer lock outlet
SCA120025K-S 1.2 µm with luer lock outlet
SCA500025K-S 5 µm with luer lock outlet

b) pack of 500, non sterile bulk packed:
SCA045025Q 0.45 µm with luer lock outlet
SCA080025Q 0.8 µm with luer lock outlet
SCA120025Q 1.2 µm with luer lock outlet
SCA500025Q 5 µm with luer lock outlet

CHM®SGF units non sterile bulk packed

SGF025K luer lock outlet (pack of 50)
SGF025Q luer lock outlet (pack of 500)

CHM® SNY syringe filter **with Nylon** membrane filter

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 in volume. These units can be autoclaved.

Order Information

CHM® SNY 0.2 µm 25mm
SNY020025H pack of 100 units **SNY020025Q** pack of 500 units
CHM® SNY 0.45 µm 25mm
SNY045025H pack of 100 units **SNY045025Q** pack of 500 units

Technical Specifications

Pore	0.20 µm	0,45 µm
Bubble point	3.4 bar	2.0 bar
Filtration area	4.8 cm^2	
Flow rates	Typical values for water at differential pressure = 1 bar (100 kPa), 110 ml/min (0.45 µm), 65 ml/min (0.2 µm)	
Hold-up volume	0.15 ml	
Limits for use	Max. recommended operating pressure 6 bar (600 kPa). Max. temperature, 21°C/30min	
Materials	Nylon membrane. Polypropylene housing	
Inlet	Luer Lock	
Outlet	Luer Slip	

CHM® SVT Venting syringe filter

CHM® SVT venting syringe filters are reusable units that contain a reinforced PTFE membrane with polypropylene gauze, in a polypropylene housing. These units are lightweight, approx. 20 grams, and easily connected to fermenters or containers and could work at higher pressure. The large filtering surface (20 cm^2) makes it possible to work at high air flow rates even with a low pressure differential.
The units are autoclavable at temperatures up to 121ºC (at least 20 times) or up to 134ºC.

Technical Specifications

Pore	0.20 µm	0,45 µm
Temperature	max. 134ºC	max. 134ºC
Bubble point	1.4 bar (with isopropanol)	
Membrane	Reinforced PTFE	
Housing	Polypropylene	
Area	20 cm^2	
Hold-up volume	0,5 ml	
Maximum pressure	3 bar	
Air flow (p 1 bar)	1,1 l/min (Δp 0,02 bar)	2,9 l/min (Δp 0,05 bar)
Connectors	6-12 mm or 1/8" NTP	6-12 mm or 1/8" NTP

Order Information

CHM® SVT 62mm
SVT045062D-S 0.45 µm pack of 12 units sterile **SVT020062D-S** 0.20 µm pack of 12 units sterile

CHM® STF syringe filter **with PTFE membranes**

CHM® STF Ready-to-use units for simple, rapid and reliable ultracleaning of smallvolume samples for HPLC or GC analysis, where higher chemical resistance is required than offered by CHM® SRC, e.g. for aggressive solvents.

The choice of diameter depends on the volume to be filtered:
vol. <1 ml - Ø 4 mm
vol. <5 ml - Ø 15 mm
vol. <100 ml - Ø 25 mm

Order Information

CHM® STF 4mm

STF045004H with 0.45 µm membrane, pack of 100
STF045004Q with 0.45 µm membrane, pack of 500

CHM® STF 15mm

STF020015H with 0.2 µm membrane, pack of 100
STF020015Q with 0.2 µm membrane, pack of 500
STF045015H with 0.45 µm membrane, pack of 100
STF045015Q with 0.45 µm membrane, pack of 500

CHM®STF 25mm

STF020025H with 0.2 µm membrane, pack of 100
STF020025H-S with 0.2 µm membrane, pack of 100, sterile, individually packed
STF020025Q with 0.2 µm membrane, pack of 500
STF045025H with 0.45 µm membrane, pack of 100
STF045025Q with 0.45 µm membrane, pack of 500

Technical Specifications

Bubble point	Isopropanol wetted, 0.9 bar (0.45 µm), 1.4 bar
Connectors	Female luer lock inlet, male luer slip outlet (STF-015 is also available with a small spike outlet)
Diameter	4 mm (STF-004), 15 mm (STF-015), 25 mm (STF-025)
Filter area	0.07 cm^2(STF-004), 1.7 cm^2(STF-015), 4.8cm^2 (STF-025)
Flow rates	Typical values at differential pressure = 1 bar (100 kPa)

a) for ethanol	*0.45 µm*	*0.2 µm*
STF-004	2.0 ml/min	
STF-015	65 ml/min	25 ml/min
STF-025	130 ml/min	70 ml/min
b) for methanol	*0.45 µm*	*0.2 µm*
STF-004	4.5 ml/min	
STF-015	150 ml/min	55 ml/min
STF-025	260 ml/min	160 ml/min
c) for air	*0.45 µm*	*0.2 µm*
STF-004	0.06 l/min	
STF-015	1.1 l/min	0.5 l/min
STF-025	2.2 l/min	1.7 l/min

Hold-up	Hold-up volumes: 1 µl (STF-004), 10 µl (STF-015), 100 µl (STF-025)
Limits	Max. operating pressure and min. housing burst pressure, 6.0 bar (600 kPa). Max temperature, 121°C (autoclave).
Materials	PTFE membrane filter. Polypropylene housing.
Wetting	Water penetration pressure, 3.0 bar (300 kPa) for 0.45 µm, 4 bar (400 kPa) for 0.2 µm

CHM® SRC syringe filter **resistant Regenerated Cellulose membranes**

CHM® SRC units outperform competitive hydrophilic units in terms of compatibility with aqueous solutions and solvent mixtures.
These CHM Ready-to-use syringe filter units for simple, rapid and reliable ultracleaning of small-volume samples for HPLC or GC analysis.
These units can be autoclaved.
These syringes find numerous applications: sterilization of samples for HPLC is the most useful.

Technical Specifications

Connectors	Female luer lock inlet, male luer slip outlet
Diameters	4 mm (SRC-004), 15 mm (SRC-015), 25 mm (SRC-025)
Filter area	0.07 cm^2 (SRC-004). 1.7 cm^2 SRC-015). 4.8 cm^2 (SRC-025)
Flow rates	Typical values at differential pressure = 1 bar (100 kPa)

a) for hexane	*0.45 µm*	*0.2 µm*
SRC-004	10 ml/min	5 ml/min
SRC-015	280 ml/min	140 ml/min
SRC-025	430 ml/min	230 ml/min
b) for methanol	*0.45 µm*	*0.2 µm*
SRC-004	3.0ml/min	1.5 ml/min
SRC-015	105 ml/min	55 ml/min
SRC-025	325 ml/min	160 ml/min
c) for water	*0.45 µm*	*0.2 µm*
SRC-004	2.0 ml/min	1.0 ml/min
SRC-015	30 ml/min	10 ml/min
SRC-025	100 ml/min	40 ml/min

Limits	Max. operating pressure and min. housing burst pressure, 6.0 bar (600 kPa). Max temperature, 121°C (autoclave).
Materials	Regenerated cellulose membrane. Polypropylene housing
Volume	Priming/holding-up volumes: 0.17 ml/ 5 µl (SRC-004), 0.2 ml/10 µl (SRC-015). Approx. 0.95 ml/ 150 µl (SRC-025)

Compatibility:

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

The choice of diameter depends on the volume to be filtered:
vol. <1 ml - ø 4 mm
vol. <5 ml - ø 15 mm
vol. <100 ml - ø 25 mm

Order Information

CHM® SRC 4mm

SRC020004H with 0.2 µm membrane, pack of 100
SRC020004Q with 0.2 µm membrane, pack of 500
SRC045004H with 0.45 µm membrane, pack of 100
SRC045004Q with 0.45 µm membrane, pack of 500

CHM® SRC 15mm

SCR020015H with 0.2 µm membrane, pack of 100
SRC020015Q with 0.2 µm membrane, pack of 500
SRC045015H with 0.45 µm membrane, pack of 100
SRC045015Q with 0.45 µm membrane, pack of 500

CHM® SRC 25mm

SRC020025H with 0.2 µm membrane, pack of 100
SRC020025Q with 0.2 µm membrane, pack of 500
SRC045025H with 0.45 µm membrane, pack of 100
SRC045025Q with 0.45 µm membrane, pack of 500

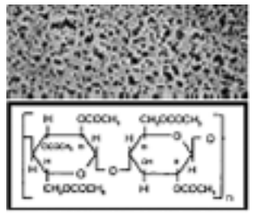
Membrane **Filters**

CHM® MCA Cellulose Acetate **Membrane Low adsorption**

Cellulose Acetate membranes, type MCA, for the filtration of aqueous solutions.

These membranes combine high flow rates and thermal stability with very low adsorption characteristics, making the 0.2 µm pore size excellently suited for use in disc filter holders to sterilize aqueous solutions, buffers, sera and media. They are also low in extractables and can be repeatedly autoclaved.

Typical applications include cytology, aqueous solution filtration and filtration of enzyme solutions to minimise protein loss.



Technical Specifications

- Extractables with water less than 1%
- Autoclaving at 121°C or 134°C
- Bubble Point minimum value for 0.2 µm = 3.5 bar (350 kPa), (wetted with water) for 0.45 µm = 2.0 bar (200 kPa), for 0.65 µm = 1.3 bar (130 kPa), for 0.8 µm = 0.8 bar (80 kPa)
- Chemical compatibility resistant to aqueous solutions, pH 4–8, against most alcohols, hydrocarbons and oils
- Thickness average value 135 µm
- Flow rate for water average value per cm^2 area at Δp = 1 bar (100 kPa): 22 ml/min for 0.2 µm, 69 ml/min for 0.45 µm, 130 ml/min for 0.65 µm, 200 ml/min for 0.8 µm pore size
- Material cellulose acetate
- Sterilizing filtration filters with 0.2 µm pore sizes are validated by Bacteria Challenge Tests.
- Sterilization by autoclaving, with - radiation, or ethylene oxide
- Thermal stability max. 180°C

Order Information

13 mm diameter

MCA080013H 0.8 µm, pack of 100
MCA045013H 0.45 µm, pack of 100
MCA020013H 0.2 µm, pack of 100

25 mm diameter

MCA080025H 0.8 µm, pack of 100
MCA065025H 0.65 µm, pack of 100
MCA045025H 0.45 µm, pack of 100
MCA020025H 0.2 µm, pack of 100

47 mm diameter

MCA080047H 0.8 µm, pack of 100
MCA065047H 0.65 µm, pack of 100
MCA045047H 0.45 µm, pack of 100
MCA020047H 0.2 µm, pack of 100

90 mm diameter

MCA080090T 0.8 µm, pack of 25
MCA065090T 0.65 µm, pack of 25
MCA045090T 0.45 µm, pack of 25
MCA020090T 0.2 µm, pack of 25

142 mm diameter

MCA080142T 0.8 µm, pack of 25
MCA065142T 0.65 µm, pack of 25
MCA045142T 0.45 µm, pack of 25
MCA020142T 0.2 µm, pack of 25

293 mm diameter

MCA080293T 0.8 µm, pack of 25
MCA065293T 0.65 µm, pack of 25
MCA045293T 0.45 µm, pack of 25
MCA020293T 0.2 µm, pack of 25

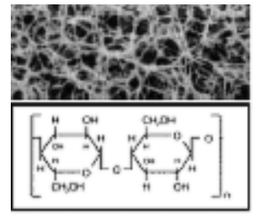
CHM® MRC Regenerated Cellulose Membrane Chemical Resistance

CHM® MRC - Regenerated Cellulose membranes for the filtration of organic solvents. These solvent-resistant, hydrophilic membrane filters are excellently suited for their major application, particle removal from solvents.

The 50 mm diameter, 0.45 µm pore size filter, for example, is standardly used ultraclean and de-gas solvents and mobile phases for HPLC, in combination with the All-glass holder. Regenerated cellulose membranes also feature low non-specific adsorption.

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



Order Information

13 mm diameter

MRC045013H 0.45 µm (pack of 100)
MRC020013H 0.2 µm (pack of 100)

25 mm diameter

MRC045025H 0.45 µm (pack of 100)
MRC020025H 0.2 µm (pack of 100)

47 mm diameter

MRC045047H 0.45 µm (pack of 100)
MRC020047H 0.2 µm (pack of 100)

142 mm diameter

MRC045142T 0.42 µm (pack of 25)
MRC020142T 0.2 µm (pack of 25)

293 mm diameter

MRC045293T 0,45 µm (pack of 25)
MRC020293T 0,2 µm (pack of 25)

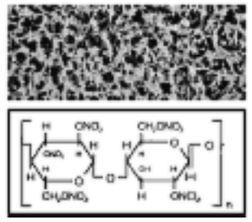
Other pore sizes and diameters are available under request

Technical Specifications

- Adsorption Ca.24 µg/cm^2 for 0.2 µm pore size, 18 µg/cm^2 for 0.45 µm pore size
- Extractables With water, less than 1%
- Bubble-Point Min. values, wetted with water, 4.7 bar (470 kPa) for 0.2 µm, 3.0 bar (300 kPa) for 0.45 µm
- Chemical compatibility Resistant to almost all solvents (see table below left) and aqueous solutions in the pH-range 3–12.
- Thickness average value 160 µm
- Flow rate Average value per cm^2 area for water at 1 bar (100 kPa) pressure, 20 ml/min for 0.2 µm, 47 ml/min for 0.45 µm pore size
- Material Regenerated cellulose, reinforced with non-woven cellulose
- Sterilization By autoclaving (at 121°C or 134°C), Dry heat (180°C), and gamma radiation (25 kGy) or with ethylene oxide
- Validation The correlation of the bubble point values of the membranes of 0.2 µm pore size to the reliability of sterilizing filtration has been validated by standard Bacteria Challenge Tests.

CHM® MCN Cellulose Nitrate Membrane High Adsorption

Cellulose Nitrate membranes, type MCN, for sample pretreatment, particle testing and chemotaxis



Technical Specifications

Extractables with water less than 1%
Sterilization by autoclaving, at 121°C
Bubble Point wetted with water, minimum values: 0.3 bar (30 kPa) for 8 µm pore size 0.5 bar (50 kPa) for 5 µm pore size 0.6 bar (60 kPa) for 3 µm pore size 1.0 bar (100 kPa) for 1.2 µm pore size 1.4 bar (140 kPa) for 0.8 µm pore size 2.0 bar (200 kPa) for 0.65 µm pore size 2.5 bar (250 kPa) for 0.45 µm pore size
Chemical compatibility resistant to aqueous solutions in the pH-range 4–8, to hydrocarbons and to some solvents
Thickness between 90 µm (0.1 µm) and 140 µm (8 µm), according to pore size
Flow rate for water average values per cm^2 area at Δp = 1 bar (100 kPa): 750 ml/min for 8 µm pore size 570 ml/min for 5 µm pore size 430 ml/min for 3 µm pore size 320 ml/min for 1.2 µm pore size 200 ml/min for 0.8 µm pore size 130 ml/min for 0.65 µm pore size 69 ml/min for 0.45 µm pore size
Material cellulose nitrate
Sterilization by autoclaving, - radiation (25 kGy) or with ethylene oxide
Thermal stability max. 130°C

Sterile, individually packed membrane filters have long become standard for routine microbiological quality control because of the user benefits they offer. They are ready-to-use and save preparatory time, they avoid the possibility of contamination of remaining filters in opened packs and are TLP conform, having filter identification and lot number printed on each individual envelope.

All of the gridded membranes are made of cellulose nitrate, a material which assures excellent retention and optimum colony growth. The grid size is 3.1 x 3.1 mm. The various colours allow the selection of the type which gives the best contrast to the colonies which are to be counted.
Hydrophobic edge membranes are used mainly in the sterility testing of solutions containing antibiotics.

Order Information

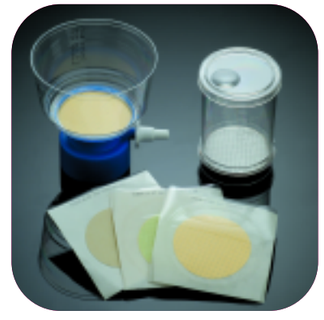
13 mm diameter	25 mm diameter	47 mm diameter
MCN800013H 8 µm, pack of 100 **MCN500013H** 5 µm, pack of 100 **MCN300013H** 3 µm, pack of 100 **MCN080013H** 0.8 µm, pack of 100 **MCN045013H** 0.45 µm, pack of 100	**MCN800025H** 8 µm, pack of 100 **MCN500025H** 5 µm, pack of 100 **MCN300025H** 3 µm, pack of 100 **MCN120025H** 1.2 µm, pack of 100 **MCN080025H** 0.8 µm, pack of 100 **MCN065025H** 0.65 µm, pack of 100 **MCN045025H** 0.45 µm, pack of 100	**MCN800047H** 8 µm, pack of 100 **MCN500047H** 5 µm, pack of 100 **MCN300047H** 3 µm, pack of 100 **MCN120047H** 1.2 µm, pack of 100 **MCN080047H** 0.8 µm, pack of 100 **MCN065047H** 0.65 µm, pack of 100 **MCN045047H** 0.45 µm, pack of 100
90 mm diameter	142 mm diameter	293 mm diameter
MCN500090T 5 µm, pack of 25 **MCN120090T** 1.2 µm, pack of 25 **MCN080090T** 0.8 µm, pack of 25 **MCN045090T** 0.45 µm, pack of 25	**MCN500142T** 5 µm, pack of 25 **MCN120142T** 1.2 µm, pack of 25 **MCN080142T** 0.8 µm, pack of 25 **MCN045142H** 0.45 µm, pack of 25	**MCN500293T** 5 µm, pack of 25 **MCN120293T** 1.2 µm, pack of 25 **MCN080293T** 0.8 µm, pack of 25 **MCN045293** 0.45 µm, pack of 25

Order Information

47 mm and 50 mm filters are, in some pore sizes available, sterile, individually packed, in packs of 100.

47 mm diameter

MCN800047H-S 8 µm
MCN300047H-S 3 µm
MCN120047H-S 1.2 µm
MCN080047H-S 0.8 µm
MCN065047H-S 0.65 µm
MCN045047H-S 0.45 µ m



CHM® CN Cellulose Nitrate Gridded Membrane filters

Cellulose Nitrate Gridded Membranes, sterile and individually packed, for colony counts Sterile, individually packed membrane filters have long become standard for routine microbiological quality control because of the user benefits they offer. They are ready-to-use and save preparatory time, they avoid the possibility of contamination of remaining filters in opened packs and are GLP conform, having filter identification and lot number printed on each individual envelope.

All of the gridded membranes are made of cellulose nitrate, a material which assures excellent retention and optimum colony growth. The grid size is 3.1 x 3.1 mm. The various colours allow the selection of the type which gives the best contrast to the colonies which are to be counted.
Hydrophobic edge membranes are used mainly in the sterility testing of solutions containing antibiotics.

Order Information *for sterile, individually packed membrane filters*

1. Type MNW, white with black grid, for colony counts

47 mm diameter discs:

a) In packs of 100
MNW120047H-SG 1.2 µm
MNW080047H-SG 0.8 µm
MNW065047H-SG 0.65 µm
MNW045047H-SG 0.45 µm
MNW020047H-SG 0.2 µm

b) In packs of 1000
MNW120047M-SG 1.2 µm
MNW080047M-SG 0.8 µm
MNW045047M-SG 0.45 µm

50 mm diameter discs

a) In packs of 100
MNW080050H-SG 0.8 µm
MNW065050H-SG 0.65 µm
MNW045050H-SG 0.45 µm
MNW020050H-SG 0.2 ≤µm

b) In packs of 1000
MNW045050M-SG 0.45 µm

2. Type MNB, gray (black when wet) with white grid, for the detection of yeasts and moulds

47 mm diameter discs

a) In packs of 100
MNB080047H-SW 0.8 µm
MNB065047H-SW 0.65 µm
MNB045047H-SW 0.45 µm

b) In packs of 1000
MNB080047M-SW 0.8 µm
MNB045047M-SW 0.45 µm

50 mm diameter discs

a) In packs of 100
MNB080050H-SW 0.8 µm
MNB065050H-SW 0.65 µm
MNB045050H-SW 0.45 µm

b) In packs of 1000
MNB065050M-SW 0.65 µm
MNB045050M-SW 0.45 µm

Order Information *for sterile, individually packed membrane filters*

3. Type MNG, green with dark green grid, for colony counts

47 mm diameter discs	50 mm diameter discs
MNG045047H-SV 0.45 µm (pack of 100) **MNG045047M-SV** 0.45 µm (pack of 1000)	**MNG045050H-SV** 0.45 µm (pack of 100) **MNG045050M-SV** 0.45 µm (pack of 1000)

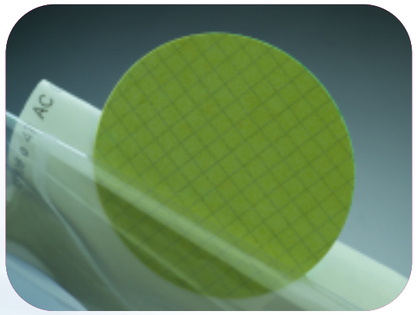
4. Type MNW, white with green grid, for E. coli and coliforms

47 mm diameter discs	50 mm diameter discs
a) In packs of 100: **MNW045047H-SV** 0.45 µm *b) In packs of 1000:* **MNW045047M-SV** 0.45 µm	*a) In packs of 100:* **MNW045050H-SV** 0.45 µm *b) In packs of 1000:* **MNW045050M-SV** 0.45 µm

5. Type MNW, white with black grid and pink-coloured hydrophobic edge, for sterility testing

47 mm diameter discs, in packs of 100	50 mm diameter discs in packs of 100
MNW045047H-SGP3 0.45 µm **MNW020047H-SGP3** 0.2 µm	**MNW045050H-SGP3** 0.45 µm **MNW020050H-SGP3** 0.2 µm

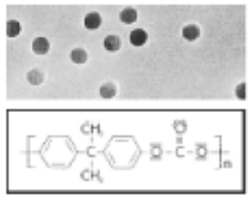
With 3 mm hydrophobic edge (also available with 6mm hydrophobic edge)



CHM® MPC Polycarbonate Membrane filters

CHM®MPC Polycarbonate Membranes are manufactured from high grade polycarbonate film using track-etch technology. They retain particles on their surfaces. Their capillary pore structure is uniform and precise, with a narrow pore size distribution.
Track-etch membranes are an excellent choice for accurate fractionation of particulates because of their precise pore size. In addition, their smooth, flat surface results in high particulate visibility.

Track-etch technology offers the user distinct performance advantages when excellent surface capture and high
sample visibility are required. Applications: Particulate analysis, epifluorescence microscopy, fluid clarification, cytology, cell biology, bioassays, water microbiology, environmental analysis.



Order Information

25 mm diameter

MPC100025H 1.0 µm, pack of 100, diameter 25 mm
MPC080025H 0.8 µm, pack of 100, diameter 25 mm
MPC060025H 0.6 µm, pack of 100, diameter 25 mm
MPC045025H 0.45 µm, pack of 100, diameter 25 mm
MPC040025H 0.4 µm, pack of 100, diameter 25 mm
MPC020025H 0.2 µm, pack of 100, diameter 25 mm
MPC010025H 0.1 µm, pack of 100, diameter 25 mm

47 mm diameter

MPC100047H 1.0 µm, pack of 100, diameter 47 mm
MPC080047H 0.8 µm, pack of 100, diameter 47 mm
MPC060047H 0.6 µm, pack of 100, diameter 47 mm
MPC045047H 0.45 µm, pack of 100, diameter 47 mm
MPC040047H 0.4 µm, pack of 100, diameter 47 mm
MPC020047H 0.2 µm, pack of 100, diameter 47 mm
MPC010047H 0.1 µm, pack of 100, diameter 47 mm

Other pore sizes (3 µm, 5 µm, 8 µm)
and diameters are available under request

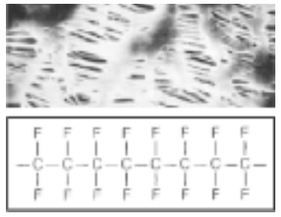
Technical Specifications

Low extractables
Autoclaving, at 121°C
Thermal stability max. temperature 140°C
Bubble Point minimum value for 0.2 µm = 4.8 bar, (wetted with water) for 0.4 µm 2.5 bar
Chemical compatibility see table
Thickness 6 –11 µm
Flow rate for water 20 ml/min/cm² for 0.2 µm, 70 ml/min/cm² for 0.4 µm
Porosity <15 %
Material polycarbonate
Sterilization by autoclaving

CHM® MTF PTFE Membrane - Hydrophobic

CHM® MTF - PTFE membranes.
The main application of this membrane filter type is air/gas filtration. 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.

PTFE membrane filters have an excellent chemical compatibility, so 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.



Order Information

13 mm diameter	50 mm diameter
MTF120013H 1.2 µm, pack of 100 **MTF045013H** 0.45 µm, pack of 100 **MTF020013H** 0.2 µm, pack of 100	**MTF500050H** 5 µm, pack of 100 **MTF120050H** 1.2 µm, pack of 100 **MTF045050H** 0.45 µm, pack of 100 **MTF020050H** 0.2 µm, pack of 100
25 mm diameter	142 mm diameter
MTF500025H 5 µm, pack of 100 **MTF120025H** 1.2 µm, pack of 100 **MTF045025H** 0.45 µm, pack of 100 **MTF020025H** 0.2 µm, pack of 100	**MTF500142T** 5 µm, pack of 25 **MTF120142T** 1.2 µm, pack of 25 **MTF045142T** 0.45 µm, pack of 25 **MTF020142T** 0.2 µm, pack of 25
47 mm diameter	293 mm diameter
MTF500047H 5 µm, pack of 100 **MTF120047H** 1.2 µm, pack of 100 **MTF045047H** 0.45 µm, pack of 100 **MTF020047H** 0.2 µm, pack of 100	**MTF045293T** 0.45 µm, pack of 25 **MTF020293T** 0.2 µm, pack of 25 *Other pore sizes and diameters are available under request*

Technical Specifications

- Adsorption 8 µg/cm² for gamma-globulin (0.2 µm pore size)
- Extractables with water none detectable
- Autoclaving at 121°C or 134°C
- Bubble Point minimum value for 0.2 µm = 1.2 bar (120 kPa), (wetted with iso-propanol) for 0.45 µm = 0.8 bar (80 kPa). Average value for 1.2 µm = 0.45 bar (45 kPa), for 5 µm = 0.1 bar (10 kPa)
- Chemical compatibility resistant to almost all chemicals
- Thickness average values, 65 µm for 0.2 µm and 100 µm for 5 µm pore size
- Flow rate for air average values per cm² area at Δp = 0.05 bar (5 kPa): 0.2 l/min for 0.2 µm, 0.3 l/min for 0.45 µm, 1.6 l/min for 1.2 µm and 4 l/min for 5 µm pore size
- Material Polytetrafluoroethylene
- Sterilization capacity filters with 0.2 µm pore size are validated with the Bacteria Challenge Test.
- Sterilization by autoclaving or with ethylene oxide

CHM® MNY Nylon Membrane filters

Nylon membranes, type CHM®MNY.
These solvent-resistant, hydrophilic membrane filters are excellently suited for their major application, particle removal from solvents.
CHM® nylon membrane filters are membranes of hydrophilic nature, 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 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.

Order Information

13 mm diameter
MNY045013H 0.45 µm, pack of 100 **MNY020013H** 0.2 µm, pack of 100
25 mm diameter
MNY045025H 0.45 µm, pack of 100 **MNY020025H** 0.2 µm, pack of 100
47 mm diameter
MNY045047H 0.45 µm, pack of 100 **MNY020047H** 0.2 µm, pack of 100
90 mm diameter
MNY045090T 0.45 µm, pack of 25 **MNY020090T** 0.2 µm, pack of 25
142 mm diameter
MNY045142T 0.45 µm, pack of 25 **MNY020142T** 0.2 µm, pack of 25
293 mm diameter
MNY045293T 0.45 µm, pack of 25 **MNY020293T** 0.2 µm, pack of 25

Technical Specifications

- Flow rate value for 0.2 µm = 23ml/min, for 0.45 µm 46ml/min
- Thermal stability max. temperature 140°C
- Bubble Point minimum value for 0.2 µm = 3.4 bar, (wetted with water) for 0.45 µm 2.2 bar
- Chemical compatibility see table
- Thickness 125 µm
- Material nylon

Chemical compatibility

Filter materials

SOLVENTS	CA	CN	RC	TF	GF	PC
Acetone	—	—	□	□	□	?
Acetonitrile	?	?	□	□	?	?
Gasoline	□	□	□	□	□	□
Benzene	□	□	□	□	□	?
Benzyl alcohol	X	X	□	□	□	?
n-Butyl acetate	X	—	□	□	□	□
n-Butanol	□	□	□	□	□	□
Cellosolve	□	—	□	□	□	—
Chloroform	—	□	□	□	□	—
Cycloexane	X	X	□	□	□	□
Cycloexanone	—	—	□	□	□	□
Diethylacetamide	—	—	□	□	□	?
Diethyl ether	□	—	□	□	□	□
Dimethyl formamide	—	—	X	□	X	—
Dimethylsulfoxide	—	—	□	□	□	—
Dioxane	—	—	□	□	□	—
Ethanol, 98%	□	X	□	□	□	□
Ethyl acetate	—	—	□	□	□	?
Ethylene glycol	□	X	□	□	□	□
Formamide	?	?	?	□	□	—
Glycerin	□	□	□	□	□	□
n-Heptane	□	□	□	□	□	?
n-Hexane	□	□	□	□	□	□
Isobutanol	X	X	□	□	□	□
Isopropanol	□	X	□	□	□	□
Isopropyl acetate	X	—	□	□	□	?
Methanol, 98%	□	—	□	□	□	□
Methyl acetate	—	—	□	□	□	?
Methylene chloride	—	X	□	□	□	—
Methyl ethyl ketone	—	—	□	□	□	?
Methyl isobutyl ketone	□	—	□	□	□	?
Monochlorobenzene	□	□	□	□	□	—
Nitrobenzene	□	X	□	□	□	—
n-Pentane	□	□	□	□	□	□
Perchlorethylene	□	□	□	□	□	□
Pyridine	—	—	□	□	□	—
Carbon tetrachloride	X	□	□	□	□	?
Tetrahydrofuran	—	—	□	□	□	—
Toluol	□	□	□	□	□	?

Chemical compatibility

Filter materials

SOLVENTS	CA	CN	RC	TF	GF	PC
Trichlorethane	X	□	□	□	□	?
Trichlorethylene	□	□	□	□	□	—
Xylene	□	□	□	□	□	□
ACIDS	**CA**	**CN**	**RC**	**TF**	**GF**	**PC**
Acetic acid, 25%	□	□	□	□	?	?
Acetic acid, 96%	—	—	□	□	?	?
Hydrofluoric acid, 25%	—	X	X	□	?	?
Hydrofluoric acid, 50%	—	—	—	□	?	?
Perchloric acid, 25%	—	X	X	□	?	?
Phosphoric acid, 25%	□	X	X	□	?	?
Phosphoric acid, 85%	X	X	X	□	?	?
Nitric acid, 25%	—	X	—	□	?	?
Nitric acid, 65%	—	—	—	□	?	?
Hydrochloric acid, 25%	—	X	—	□	?	?
Hydrochloric acid, 37%	—	—	—	□	?	?
Sulfuric acid, 25%	—	X	X	□	□	□
Sulfuric acid, 98%	—	—	—	□	?	?
Trichloroacetic acid, 25%	—	X	□	□	?	?
BASES	**CA**	**CN**	**RC**	**TF**	**GF**	**PC**
Ammonium, 1N	□	□	X	□	□	□
Ammonium hydroxide,25%	—	X	—	X	□	X
Potassium hydroxide, 32%	—	—	X	□	□	X
Sodium hydroxide, 32%	—	—	X	□	□	X
Sodium, 1N	X	—	X	□	□	□
AQUEOUS SOLUTIONS	**CA**	**CN**	**RC**	**TF**	**GF**	**PC**
Formalin, 30%	X	□	X	□	□	□
Sodium hypochlorite, 5%	□	X	□	□	□	?
Hydrogen peroxide, 35%	□	□	X	□	?	?

Key to symbols

□ = compatible
X = limited compatibility
— = not compatible
? = not tested

Contact time: 24 hours at 20ÅãC

Chemical compatibilities can be influenced by various factors.

Therefore, we recommend that you confirm compatibility with the liquid you wish to filter by performing a trial filtration run before you begin with actual filtration.

Membrane hardware

3- and 6-branch CHM®FR manifold

CHM®FR manifolds allow independent usage of any one port with a stopcock. FR manifods are made of stainless steel and are available with 3 and 6 filtration funnels. (can be of 100 ml and 500 ml capacity). The stainless steel frits ensure homogeneous distribution of bacteria or particles retained on the filter surface.

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 connnector
Membrane filter	50 mm diameter (or 47 mm, but for regular use of this diameter, replace the frits supplied with frits for 47 mm filters)
Sterilization	By autoclaving (121°C or 134°C) or dry heat (180°C). Sanitization with by flaming

Order Information

FR3x100 3-branch manifold system with 100 ml funnels
FR6x100 6-branch manifold system with 100 ml funnels
FR3x500 3-branch manifold system with 500 ml funnels
FR6x500 6-branch manifold system with 500 ml funnels

Order Information Vacuum pumps

Order Nbr.	Pump Head	Diaphragm	Valves
VP022AN18	Aluminium	CR	Stainless Steel
VP022AT18	Aluminium	PTFE-coated	Stainless Steel
VP086KN18	PPS	EPDM	FPM
VP086KT18	PPS	PTFE-coated	FFPM

Filters Vacuum holders

CHM®VF This versatile vacuum filter holder is available in two versions, with a glass frit filter support (ensures uniform distribution of retained particles on the filter surface and is therefore recommended for colony counting and for collection of suspended solids), or with an easy-to-clean PTFE-coated stainless screen support (preferable when the filtrate is required, e.g. for particle removing or sterilizing filtration, and for particle collection from viscous liquids such as oils.

Order Information

FS047300T Glass Filtration System for 47mm (or 50mm) membranes with stopper
FS047300S Glass Filtration System for 47mm (or 50mm) membranes without stopper

Re-usable CHM® syringe filter holders (up to about 100ml) Stainless Steel HIN and Polycarbonate HPC

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. As a result, the heat-resistance is extremely good, and the chemical compatibility depends only on the inserted filter type.

The top part can easily be mounted on the bottom part using the tightening tool supplied. Filter supports in the top and bottom bottom parts allow filtration in either direction.

CHM® HPC - Polycarbonate Holder for aqueous solutions This inexpensive filter holder is made of clear, autoclavable polycarbonate. The silicone gasket enables a leak free filtration at pressures of up to 7 bar simply by manually screwing together. Filter supports in the top and bottom parts allow filtration in either direction.

Order Information

CHM® HIN 25mm
HIN025001 (pack of 1 unit)

CHM® HPC 25mm
HPC025012 (pack of 12)

Technical Specifications *for the 25 mm Polycarbonate HPC Filter Holder*

Connectors female luer lock inlet, luer slip outlet
Chemical compatibility as for polycarbonate and silicone
Flow rate for water at Δp = 1 bar (100 kPa), ca. 70 ml/min with 0.2 µm membrane filter, ca. 110 ml/min with 0.45 µm membrane filter
Filtration area 3 cm^2
Materials polycarbonate top and bottom parts, silicone gasket 20.5 x 26.5 mm
Max. operating pressure 7 bar (700 kPa)
Membrane filter diameter 25 mm Sterilization by autoclaving at 121°C Hold-up volume less than 0.3 ml after overcoming the bubble point (0.6 ml before)

Technical Specifications *for the 25 mm Stainless Steel HIN Filter Holder*

Connectors female luer lock inlet, luer slip outlet (the 0.45 µm unit is also available with a male luer slip outlet)
Chemical compatibility as for stainless steel and PTFE Flow rate for water at Δp = 1 bar (100 kPa), ca. 45 ml/min with 0.2 µm Membrane filter ca. 80 ml/min with 0.45 µm Membrane filter
Filtration area 3 cm^2
Materials stainless steel (materials no. 1.4305) top and bottom parts. PTFE-coated sealing area in top part. Luran
Max. operating pressure 7 bar (700 kPa)
Membrane filter diameter 25 mm
Sterilization by autoclaving (max. 134°C) or by dry heat (max. 180°C)
Hold-up volume less than 0.1 ml after overcoming the bubble point (0.3 ml before)

Re-usable CHM® syringe filter holders (up to about 10ml) Polycarbonate HPC and Teflon HTF

CHM® HTF - PTFE Holder for solvents and chemicals. Made completely of PTFE, this holder is unaffected by chemicals and contains no trace elements which could be released into the liquid being filtered.

It is therefore extremely well suited for particle removal from samples and reagents for analytical methods, such as NMR samples. Another benefit in this application is the low hold-up volume, the ease of cleaning and ability to dry at a temperature of 180°C.
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.

CHM® HPC - Polycarbonate Holder for aqueous solutions

This inexpensive filter holder is made of clear, autoclavable polycarbonate and contains a silicone gasket for leak proof sealing. It can be used at pressures of up to 7 bar, simply by manually screwing together.
Filter supports in the top and bottom parts allow filtration in either direction.

Technical Specifications

for the 13 mm Polycarbonate HPC filter holder

Connectors female luer lock inlet, luer slip outlet
Chemical compatibility as for polycarbonate and silicone
Flow rate for water at Δp = 1 bar (100 kPa), ca. 18 ml/min with 0.2 µm membrane filter ca. 35 ml/min with 0.45 µm membrane filter
Filtration area 0.5 cm^2
Materials polycarbonate top and bottom part, silicone gasket 10 x 14.9 mm
Max. operating pressure 7 bar (700 kPa)
Membrane filter diameter 13 mm
Sterilization by autoclaving at 121°C
Hold-up volume less than 0.2 ml after overcoming the bubble point (0.3 ml before)

Order Information

CHM® HTF-PTFE Holder
HTF013001 (pack of 1 unit)

CHM® HPC-Polycarbonate Holder
HPC013012 (pack of 12)

Technical Specifications

for the 13 mm PTFE HTF filter holder

Connectors female luer lock inlet, luer slip outlet
Chemical compatibility as for PTFE
Flow rate for water at Δp = 1 bar (100 kPa), a) with 0.2 µm membrane filter, ca. 10 ml/min b) with 0.45 µm membrane filter ca. 18 ml/min
Max. operating pressure, 5 bar (500 kPa)
Membrane filter diameter 13 mm
Sterilization by autoclaving (max. 134°C) or by dry heat (max. 180°C)
Hold-up volume less than 0.03 ml after overcoming the bubble point (0.3 ml before)

6 CHROMATOGRAPHY

TLC chambers

TLC Plates

TLC Sheets

HPLC Columns

CHM® TLC Chambers

TLC (Thin Layer Chromatography) is like all chromatographic techniques, based on a multistage distribution process. This process involves a suitable adsorvent (the stationary phase), solvents or solvent mixtures (the mobile phase), and the sample molecules. For Thin Layer Chromatography the adsorvent is coated as a thin layer onto a suitable support (e.g. glass plate, polyester or aluminium sheet). On this layer the substance mixture is separated by elution with a suitable solvent.

The most frequently used separation technique is ascending TLC in a glass chamber (standard method, linear development). Usually is applied as single development. However multiple development, with or without change of mobile phase can improve separation results.

For these reason, CHEMITON, S.L. is offering a wide range of glass tanks as well as plates and sheets.

CHM TLC Developing Chambers (Tanks)

Are manufactured from sturdy molded glass bricks that will withstand regular use for many years. The clear sides allow unobstructed visual inspection of TLC plates up to 20 x 20 cm in size. The top of the tanks has been ground to a uniform flatness for perfect lid and the edges have been beveled to remove any sharp edges. The bottoms are ground to provide a flat, level surface. A raised ridge along the inside bottom allows the simultaneous development of five 20 x 20 cm (ref. TT2020M)

TT2020S

Body manufactured in templed glass, with a flat base and smooth, polished upper edges. Lid with handle, with smooth and polished base, forming a perfectly airtight closure with the body of the tank.

TT2020M

Is a thick-walled clear glass tank grooved to accept up to five 200x200 mm TLC plates. Grooves are at either end, and plated fit vertically into them. This tank is particulary used for quantitative analysis, serving also to store plates in a protected environment.

TT1010S

Its features are similar to those TT2020S tank, but it is used for 100x100 mm plates.

TT2010S

Body manufactured in templed glass, cylindrically blown with a flat base. Hat type lid. Should be used for 200x100 mm plates. Paper chromatography work may also be performed.

TSDEV

Complete Spray Device comprosing (Headpiece, container for reagent and propellent gas (contains no CFC's)

TSGAS

Propellent gas for TSDEV (contains no CFC's) 12 units.

Order Information

Product Code	Internal Size (mm)	Description	Plate Qty	Quantity /Box
TT2020S	200x200	Rectangular TLC Tank with lid for 200 x 200mm Plates	1	1
TT2020M	200x200	Rectangular TLC Tank with lid for 200 x 200mm Plates	5	1
TT1010S	100x100	Rectangular TLC Tank with lid for 100 x 100mm Plates		1
TT2010S	200x100	Cylindrical TLC Tank with lid for 200 x 100mm Plates	1	1
TSDEV		Complete Spray Device. (Headpiece, container for reagent and propellent gas (contains no CFC's)		1
TSCAP		Plastic headpiece for the TSDEV		1
TSGAS		Propellent gas for TSDEV		12
TSCON		Plastic Container for TSDEV		12

TLC Tanks

T _ _ _ _ _ _

one digit
S Single (hold 1 plate)
M Multiple (hold 5 plates)

three to four digits
_ _ _ _ Length x Width

for the spray products
DEV Complete Spray Device
CAP Headpiece
GAS Propellent gas
CON Plastic Container

one digit
T Tank
S Spray

one digit
T TLC products

CHM®TLC Plates

The CHM TLC glass plates and precoated sheets meet The following criteria: homogeneous coating, homogeneous thickness of layer, high packing density, firmly adherent layers and consistent chromatographic properties. The standard silica coating is one of the most frequently used ready-to-use layers for TLC. For these plates we use silica 60 with a mean pore diameter of 60 Å, a specific surface (BET) of about 500 m 2 /g, a specific pore volume of 0.75 ml/g and a particle size of 5 to 17 µm.

As fluorescent indicators we use manganese activated zinc silicate for short-wave UV light (254 nm) and a special inorganic fluorescent pigment for long wave UV light (366 nm). As binder highly polymeric products are used, which are stable in almost all organic solvents and resistant towards aggressive visualisation reagents. The binder systems used for our Polyester precoated sheets are also completely stable in purely aqueous eluents.

TLC Plates

T

one digit	
F	Fluorescent Indicator UV254
_	NO Fluorescent Indicator UV254
two digits	
GS	Glass+Silicagel
PS	Polyester+Silicagel
AS	Aluminium+Silicagel
four digits	
_ _ _ _	Length x Width
one digit	
P	Plate
one digit	
T	TLC products

Order Information

Product Code	Description	Plate Size (cm)	Thickness	Fluorescent Indicator UV254	Qty/Pack
TP1020GS	Glass TLC silica 60	10 x 20	0,25 mm		50
TP2020GS	Glass TLC silica 60	20 x 20	0,25 mm		25
TP1020GSF	Glass TLC silica 60	10 x 20	0,25 mm	Yes	50
TP2020GSF	Glass TLC silica 60	20 x 20	0,25 mm	Yes	25
TP2020PS	Polyester TLC with silica 60	20 x 20	0,20 mm		25
TP4020PS	Polyester TLC with silica 60	40 x 20	0,20 mm		25
TP2020PSF	Polyester TLC with silica 60	20 x 20	0,20 mm	Yes	25
TP4020PSF	Polyester TLC with silica 60	40 x 20	0,20 mm	Yes	25
TP1020AS	Aluminium TLC with silica 60	10 x 20	0,20 mm		20
TP2020AS	Aluminium TLC with silica 60	20 x 20	0,20 mm		25
TP1020ASF	Aluminium TLC with silica 60	10 x 20	0,20 mm	Yes	20
TP2020ASF	Aluminium TLC with silica 60	20 x 20	0,20 mm	Yes	25

CHM®TLC Sheets

CHEMITON offers a complete line of high quality papers for chromatography, electrophoresis and transfer to be used in chromatography application techniques and gel transfer applications

CHM chromatography papers are manufactured with cotton linters with a high content of cellulose alpha of around 95%. The most important features in chromatography papers are their basis weight, thickness and capillary absorption. High weight and thickness of the paper allow a greater load of solutes, obtaining better resolutions in papers with low capillary absorption levels. The applications are very broad, particularly in the biochemistry and organic chemistry field. In the inorganic analysis, its most interesting application consists of the separation and identification of ions of very similar properties and those difficult to separate by classic methods, such as the separation of the positive ions of the platinum, beryl, aluminium, lanthanide, alkaline-ferrous groups…

GRADE C3001
The world standard paper for chromatography. One of the thinnest papers, with medium flow rate which provides optimum resolution. Smooth surface. Suitable for general analytical separations.

GRADE C3002
Thin paper with a flow rate slower than C3001, for higher resolution applications. Smooth surface. Particularly recommended for optical or radiometric scanning.

GRADE C3003
This medium thickness paper are normaly recommended for general applications with medium-heavy solute loadings. Gives compact spot. Frequently used for separation of inorganics and for electrophoresis

GRADE C3003M
Relatively thick paper with medium wet strength. Smooth surface. Used extensively for both electrophoresis and for general chromatography. Most widely used blotting paper. After C3001, the most widely used chromatography paper grade.

GRADE C3004
This relatively thin paper with a flow rate faster than C3001 is recommended for the most common chromatography tests when loadings are relatively low. It is also adequated when speed is an important factor and quality control general applications where high resolution is not required.

GRADE C3017
This paper is one of the thickness of this CHM line which converts C3017 a suitable paper for heavy loadings. Offers a very high flow rate and is highly absorvent. Suitable for preparative paper chromatography and electrophoresis.

GRADE C3031
This paper of a medium thickness offers an extremely high flow rate and it is recommended for electrophoresis of large molecules. CHM C3031 has a soft surface and uniform.

CHM®HPLC Columns

Chemiton HPLC Columns are designed and manufactured to offer excellent and reproducible performance for the benign to the most difficult types of samples. Chemiton makes available a standard selection of Kromasil, Nucleosil and LiChrospher column configurations for your analytical and preparative needs. They are specifically designed for compatibility with all HPLC instrumentation.

Kromasil

Kromasil is a spherical, totally porous silica-based chromatographic packing material. The combination of high resolution, high loadability and mechanical stability makes Kromasil an ideal choice of packing material for both analytical and preparative HPLC. In addition to the native silica, Kromasil is available in C8 and C18 bonded phases.

Kromasil Specifications

Surface area	340 – 550 m^2/g
Particle size	3.5 – 10 um
Pore volume	0.9- 1.2 ml/g
Pore diameter	100Å - 60Å

Kromasil Properties

- purity (low metal content Na, Al, Fe)
- chemically inert (free silanols content)
- stability to PH (1.5 to 9,5)
- attenuates the peak tailing
- no need of ion pair reagent (mostly)

Nucleosil

Nucleosil is a silica based totally porous spherical packing medium with a particularly narrow pore size distribution
It is available with 100Å - 120Å pore diameters, resulting in surface areas from 200m^2/g to 350m^2/g. Nucleosil exhibits a high degree of mechanical stability and easily copes with the high pressures involved in HPLC. Nucleosil is available in particle diameters of three, five, seven and ten micron.

Nucleosil Specifications

Particle Diameters	3, 5, 7 and 10um
Pore sizes	100Å, 120Å
Pore volume	0.65-1.0 ml/g
Surface area	350 - 200m^2/g

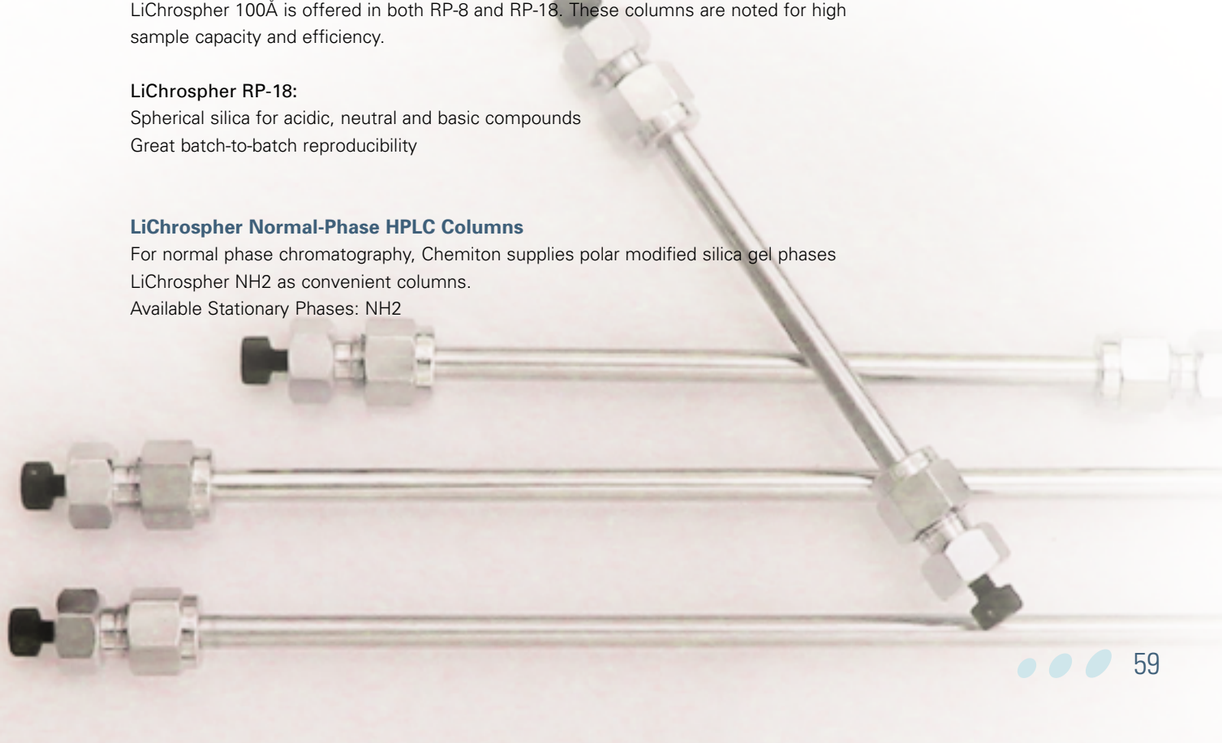
LiChrospher Reversed-Phase HPLC Columns

Applications: Pharmaceuticals, aromatics
Availability: 5um particle size
Available Stationary Phases: RP-18, RP-8
LiChrospher silica columns are made with spherical, `sil' type porous silica particles. LiChrospher 100Å is offered in both RP-8 and RP-18. These columns are noted for high sample capacity and efficiency.

LiChrospher RP-18:
Spherical silica for acidic, neutral and basic compounds
Great batch-to-batch reproducibility

LiChrospher Normal-Phase HPLC Columns

For normal phase chromatography, Chemiton supplies polar modified silica gel phases LiChrospher NH2 as convenient columns.
Available Stationary Phases: NH2



HPLC Columns

	Carbon Load %	End Capping	Particle Size µm	Specific Surface Area m^2/g	Pore Volume ml/g	Pore Size Å	pH stability	USP (*) equivalence
KROMASIL 100								
KROMASIL 100 5 C8	12	YES	5	340	0,9	100	1.5 - 9.5	L7
KROMASIL 100 10 C8	12	YES	10	340	0,9	100	1.5 - 9.5	L7
KROMASIL 100 3.5 C18	19	YES	3,5	340	0,9	100	1.5 - 9.5	L1
KROMASIL 100 5 C18	19	YES	5	340	0,9	100	1.5 - 9.5	L1
KROMASIL 100 10 C18	15	YES	10	340	0,9	100	1.5 - 9.5	L1
KROMASIL 100 5 NH2	3,5	YES	5	340	0,9	100	1.5 - 9.5	L18
KROMASIL 100 5 SIL			5	340	0,9		1.5 - 9.5	L3
KROMASIL 60								
KROMASIL 60 5 CN	12		5	550	1,2	60	1.5 - 9.5	L10
KROMASIL 60 5 SIL			5	550	1,1	60	1.5 - 9.5	L3
NUCLEOSIL 100								
NUCLEOSIL 100 5 C8	8,8	NON	5 ±1.5	350	1	100	1 - 9	L7
NUCLEOSIL 100 10 C8	8,5	NON	10 ±1.5	350	1	100	1 - 9	L7
NUCLEOSIL 100 3 C18	15	YES	3 -4	350	1	100	1 - 9	L1
NUCLEOSIL 100 5 C18	15	YES	5 ±1.5	350	1	100	1 - 9	L1
NUCLEOSIL 100 7 C18	15	YES	7 ±1.5	350	1	100	1 - 9	L1
NUCLEOSIL 100 10 C18	15	YES	10 ±1.5	350	1	100	1 - 9	L1
NUCLEOSIL 100 5 NH2	3,5		5 ±1.5	350	1	100	1 - 9	L18
NUCLEOSIL 100 5 CN	5		5 ±1.5	350	1	100	1 - 9	L10
NUCLEOSIL 100 5 SIL			5 ±1.5	200	1		1 - 9	L3
NUCLEOSIL 120								
NUCLEOSIL 120 3 C8	6,5	NON	3 - 4	200	0,65	120	1 - 9	L7
NUCLEOSIL 120 5 C8	6,5	NON	5 ±1.5	200	0,65	120	1 - 9	L7
NUCLEOSIL 120 10 C8	11	NON	10 ±1.5	200	0,65	120	1 - 9	L7
NUCLEOSIL 120 3 C18	11	YES	3 - 4	200	0,65	120	1 - 9	L1
NUCLEOSIL 120 5 C18	11	YES	5 ±1.5	200	0,65	120	1 - 9	L1
NUCLEOSIL 120 7 C18	11	YES	7 ±1.5	200	0,65	120	1 - 9	L1
NUCLEOSIL 120 10 C18	11	YES	10 ±1.5	200	0,65	120	1 - 9	L1
NUCLEOSIL 120 5 SIL			5 ±1.5	200	0,65	120	1 - 9	L3
LICHROSPHER 100								
LICHROSPHER 100 5 RP8	12,5	YES	5	350	1,25	100		L7
LICHROSPHER 100 5 RP18	21	YES	5	350	1,25	100		L1
LICHROSPHER 100 5 NH2	4,6		5	350	1,25	100		L18

(*) The US Pharmacopeia (USP) is a standard source for many pharmaceutical methods. Listed below are the recommended CHM® HPLC column L-numbers.