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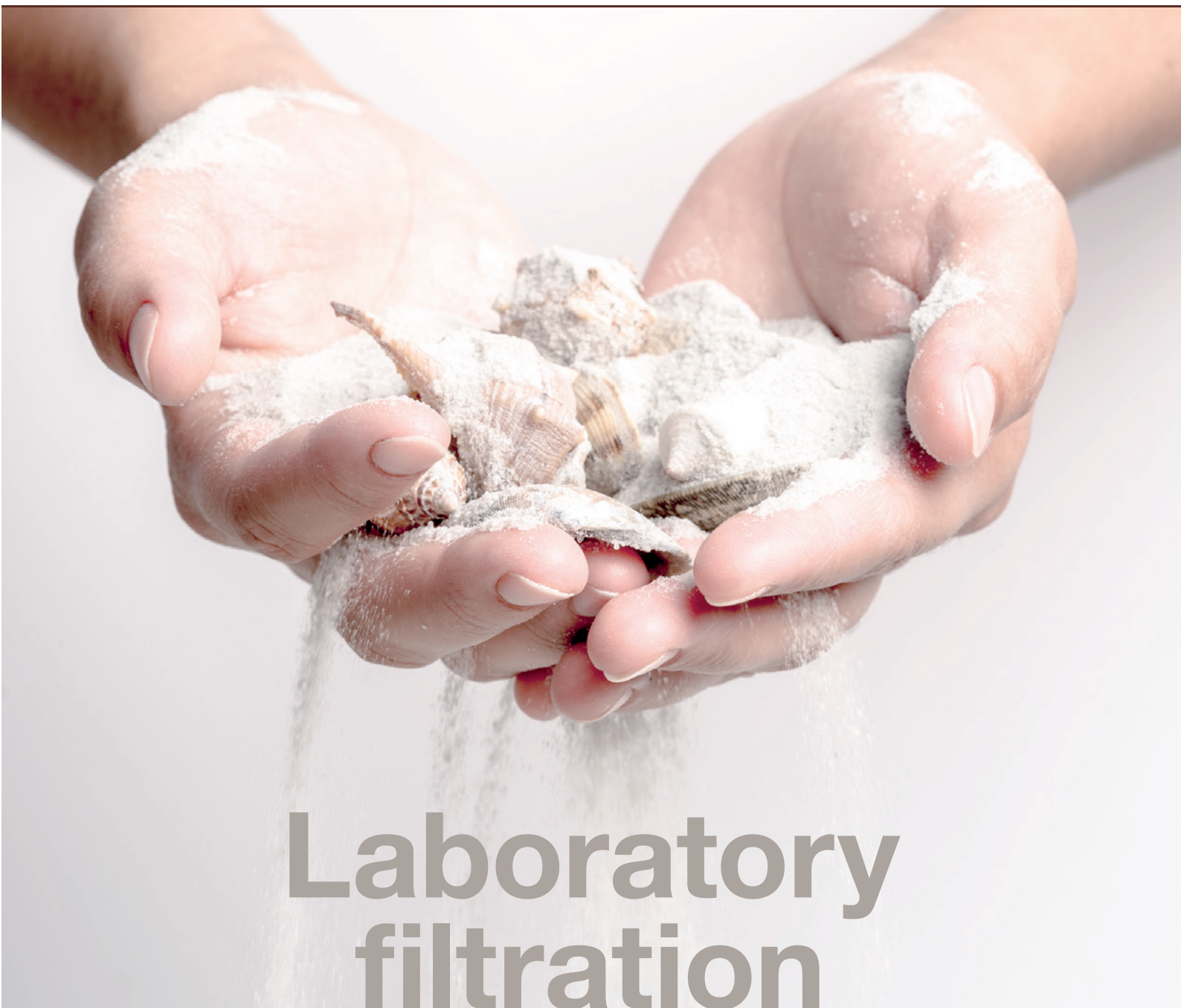
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Laboratory filtration

Quantitative and qualitative filter papers, reams, extraction thimbles,
quartz microfiber and glass microfiber filters,
syringe filters, membrane filters for mobile phase
and membrane filters for microbiology

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Filtration is a common technique in laboratories and widely used in many analytical processes. In areas such as the food and beverage industry, pharmaceutical industry, chemical industry, environmental monitoring, water monitoring and research, filtration plays an important role.

The Scharlau range of laboratory filters consists of high quality products using only the best raw materials. Our line of filters is comprised of laboratory quantitative and qualitative filter papers, reams, extraction thimbles, quartz microfiber filters and glass microfiber filters, syringe filters, membrane filters for mobile phase and membrane filters for microbiology. The lot number is detailed on the boxes containing our filters. The certificate of conformity is available on request.

We also offer all the necessary material to perform filtration techniques: glassware, filtration systems, microbiological manifolds, analytic monitors and funnels, vacuum equipment, pumps, solvent extractors, etc.

Laboratory filter papers

Below is a guide to the filtration rates of our filter papers.

		Filtration speed									
Type of paper		Very-slow filtration		Slow filtration		Medium filtration		Fast filtration		Very-fast filtration	
Quantitative	Quantitative ashless	WAT		WAS	WAP	WAM		WAG	WAF	WAE	
	Quantitative ashless hardened			WASH		WAMH		WAFH			
Qualitative	Qualitative analytical grade	LAS		LAP	LAT	LAM		LAG	LAF		
	Qualitative general use					STAM				STAE	STAR
	Qualitative general use creped									STAF	

Quantitative ashless filter papers

Recommended for analysis requiring high purity quantitative and gravimetric analysis. Acid washed and made of pure cellulose with a content of α -cellulose virtually 100%. Ash content is less than 0.01%.

Hardened filters offer better chemical resistance to acids and a higher wet strength, so they are suitable for pressure or vacuum filtration with Büchner funnels. *Ordering Information on page 9.*



	Grade	Basis weight (g/m ²)	Typical retention (µm)	Thickness (mm)	Filtration speed	Applications
Quantitative ashless	WAE	85	25-35	0.22	Extra fast	Filtration of samples with bulky and thick precipitates; photometric analysis in juice samples
	WAF	85	25-30	0.20	Very fast	Filtration of samples with bulky and thick precipitates such as iron or aluminum hydroxides; determination of silica in iron and steel; gravimetric analysis in air particles
	WAG	85	20-25	0.20	Fast	Filtration of thick precipitates such as lead, silver and iron; soil analysis; heavy metals in water; food analysis
	WAM	85	14-18	0.20	Medium	Filtration of slim precipitates such as calcium oxaloacetate, magnesium phosphate and similar; Blaine test; determination of the magnesium content in waters; food analysis
	WAP	70	7-9	0.16	Medium slow	Reinforced concrete component analysis; oil determination in water samples; determination of milk's deposit content
	WAS	85	2-4	0.17	Slow	Filtration of very slim precipitates such as barium sulphate; particle retention in calcium carbonate samples; analysis of insoluble particles in oil
	WAT	100	1-3	0.20	Very slow	Filtration of extra Slim precipitates
Quantitative hardened ashless	WAFH	85	25-30	0.20	Very fast	Gravimetric analysis of dense samples, creams, animal fat, some minerals and chemical products
	WAMH	85	15-17	0.20	Medium	Analysis of metal samples slightly acid or alkaline
	WASH	85	2-4	0.17	Slow	Metal determination



Qualitative filter papers

For qualitative analysis and routine analysis, as a separation technique to determine and identify materials. High purity filters made of pure cotton linters with an α -cellulose content of approximately 100% and an ashes content of <0.1%. *Ordering Information on page 10.*

	Grade	Basis weight (g/m ²)	Typical retention (μm)	Thickness (mm)	Filtration speed	Applications
Qualitative analytical grade	LAF	77	25-30	0.20	Very fast	Filtration of samples with thick and bulky precipitates as iron and aluminum hydroxide; determination of silica in iron and steel; grape juice analysis
	LAG	88	20-25	0.18	Fast	Filtration of thick precipitates such as silver or arsenic sulfides among others; determination of fat contents; soil analysis
	LAM	87	10-15	0.18	Medium	Analysis of beer and malt according to EBC; fertilizer analysis; filtration of hydrocarbon and medium precipitates samples such as calcium oxalate
	LAP	80	2-4	0.16	Slow	Degasification and analysis of turbidity in drink samples; sample preparation before membrane filtration; filtration of very slim precipitates such as sulfides
	LAS	100	1-3	0.19	Very slow	Filtration of very slim precipitates; thin filtration of wine samples, water analysis
	LAT	200	5-7	0.36	Medium slow	Transport of biological samples; electrophoresis; determination of sulfur, sulfate and other acid properties

Qualitative filter papers for general use

For general filtration work, routine filtration and clarification of liquids. Manufactured from pulp with a high α -cellulose content. The ash content is from 0.3%. Also available in crepe finish for an increased filtration rate. *Ordering Information on page 10.*

	Grade	Basis weight (g/m ²)	Typical retention (μm)	Thickness (mm)	Surface	Filtration speed	Filtration properties
Qualitative filter papers for general use	STAR	160	60-68	0.47	Plain	Extra fast	Filtration of viscous liquids and dense oils; filtration of high precipitate content liquids
	STAE	80	43-48	0.18	Plain	Very fast	Routine filtrations, determination of saccharose content; pre-filtrations; quality control in zinc fabrications
	STAM	85	14-22	0.18	Plain	Medium fast	Routine filtrations with higher retention in grade STAE
	STAF	64	34-42	0.16	Creped	Very fast	Determination of the saccharose content in sugar cane through the method of adding lead acetate

Reams

Sheets for surface protection, which help to soak up possible splatters and reduce the effects of eventual spills. One of the two faces of the reams of the RMPE grade is a PE foil to guarantee a total impermeability. *Ordering Information on page 10.*

	Grade	Basis weight (g/m ²)	Thickness (mm)	Dimensions (mm)	Applications
Reams	RM	60 / 75	150 / 175	420 x 520	Surface protection, liquid spill contention and prevention against splatters
	RMPE	125 / 210	0.250 / 0.420	420 x 520	For containment of spills and splashes and ensure total impermeability

Chromatography filter paper

Made of pure cotton, with an α -cellulose content >98%. *Ordering Information on page 10.*

	Grade	Basis weight (g/m ²)	Thickness (mm)	Capillary speed mm/30min	Properties
Chromato- graphy filter paper	CR 1	90	0.19	145	Fast absorption
	CR 2	125	0.24	145	Fast absorption
	CR 3	280	0.55	170	Very fast absorption
	CR 4	320	0.90	240	Very fast absorption
	CR 5	700	1.30	170	Very fast absorption

Extraction thimbles

Cellulose extraction thimbles

The cellulose extraction thimbles are made of high quality α -cellulose and have excellent retention and resistance properties. Typically used with the Soxhlet extraction technique for extraction of lipid compounds from semi-solid samples using solvents. *Ordering Information on page 11.*

Glass microfiber thimbles

Made of 100% borosilicate glass microfiber and chemically resistant to most solvents and reagents. Resistant to high temperatures (500°C). Suitable for solvents that are incompatible with cellulose thimbles. Used for the analysis of particles of dust and aerosols in gas streams. *Ordering Information on page 11.*

Grade	Wall thickness	Thimble height	Temperature (°C)
MGT	2.0mm±0.5mm	±1mm	500 max.

Quartz microfiber thimbles

Made from extremely pure quartz microfiber without binding agents and a very low content of heavy metals. Resists temperatures up to 900°C. These thimbles are used for testing emissions in high ambient temperatures and for the analysis of acid gases. *Ordering Information on page 11.*

Grade	Wall thickness	Thimble height	Temperature (°C)
TMQ	2.0mm±0.5mm	±1mm	900 max.

Glass Soxhlet extractors

Within our range of laboratory glassware we offer complete Soxhlet extractors containing all the basic components for solid-liquid extraction including extractor body, condenser and flask with extraction capabilities from 50ml to 2 liters. *Ordering Information on page 11.*



Glass and quartz microfiber filters

Glass microfiber filters

Made of high purity borosilicate glass microfiber without binding agents. Resistant to high temperatures (500°C) and most solvents and reagents with the exception of highly concentrated acids and alkalis. Glass microfiber without binders provide high efficiency: faster flow speed, excellent retention of submicron particles and a high capacity. Suitable for analytical and gravimetric analysis, analysis of solids suspended in water (EN 872, STM 2540-D), filtration of particles in water, algae and bacteria cultures, food and beverage analysis, pre-filtration, clarification and protein solutions. *Ordering Information on page 11.*



	Grade	Basis weight (g/m ²)	Thickness (mm)	Loss of pressure (mbar)	Typical retention (µm)	Applications
Glass microfiber filters binder-free	GMFA	52	0.23	38	1.6	General laboratory filtration, clarification, monitoring of contaminants in air and water, quantitative determination of certain types of algae and bacterial cultures, food analysis
	GMFB	143	0.70	95	1	Filtration of solids suspended in water, prefiltrations
	GMFC	52	0.24	55	1.2	Filtration for wastewater control and generally determining suspended matter in water, hydrocarbon analysis, cell culture filtration, filter scintillation counting
	GMFD	120	0.53	140	2.7	Prefiltrations for routine analysis
	GMFF	75	0.45	120	0.7	Clarification of protein solutions, HPLC filtration
	GMFG	65	0.28	30	1.5	Filtration and water monitoring



Quartz microfiber filters

Manufactured from pure quartz microfiber without binder or the addition of fiberglass. These filters are suitable for controlling emissions of hot gases at temperatures up to 900°C, analysis of acid gases or when high purity is required with minimal trace metals and minerals. *Ordering Information on page 11.*



	Grade	Basis weight (g/m ²)	Pressure fall (mbar)	Penetration	Retention of particles (µm)	Applications
Quartz microfiber filters	MFQT	85	51.5	< 0.05	1.6	Control of emissions in industrial chimneys at very high temperatures; analysis of acid gases (except HF)

Concentration of trace metals (mg/kg)

Al	As	Cd	Co	Cr	Cu	Fe	Hg	Mg	Mn	Na	Ni	Pb	Sb	Sn	Ti	V	Zn
50	0.75	1.5	1	5	1.25	30	< 0.05	25	1.25	40	2	0.75	1.25	0.5	2.5	0.5	5
Aluminum	Arsenic	Cadmium	Cobalt	Chromium	Copper	Iron	Mercury	Magnesium	Manganese	Sodium	Nickel	Lead	Antimony	Tin	Titanium	Vanadium	Zinc

Membrane filters

Membrane filters

Widely used in quality control microbiology, these are individually wrapped sterile filters ready to use avoiding contamination. Scharlab provides a high quality cellulose nitrate filtration membrane 47mm Ø. 0.45m, with a grid to facilitate counting.

Ordering Information on page 11.

Nitrate cellulose membranes are manufactured according to ISO 7704. Black membranes, with white grid, are suitable for counting white or clear colonies.

Polycarbonate membranes for the Legionella analysis according to ISO 11731:2017 are available. These membranes are sterile and single packed, in order to save time. There are polyethersulfone membranes as well for the same standard.



Membrane filters for mobile phase filtration

Nylon membranes are recommended as the standard to filter chromatography eluants due to their broad chemical compatibility. Due to the hydrophilic nature of nylon, they are suitable for filtering aqueous solutions as well as most of the organic solvents used in HPLC. These membranes have a uniform pore size and consistent flows with very low extractables. They may be subjected to 180°C without being affected. The pH range is from 3 to 12.



Cellulose mixed esters membranes are composed of a mixture of inert cellulose nitrate and cellulose acetate. The uniform microporous structure confers the greatest yields in membrane filters. Their hydrophilic nature makes them ideal for the **filtration of aqueous solutions including buffers**. They are autoclavable at 121 °C, for 20min. The pH range is from 4 to 10.

Ordering Information on page 11.

Laboratory glassware

Within our range of lab glassware, we can provide borosilicate glass filtration assemblies for 25 and 47mm diameter filters, filtering flasks with or without ground joint, from 100ml to 2 liters, water jet pumps with or without non-return valve, filter funnels with sintered glass discs and pipeline filters. *Ordering Information on page 12.*



Vacuum pumps

Chemically resistant diaphragm pumps are used in a wide range of laboratory applications. Being 100% oil-free, they transfer and pump without contamination and are maintenance free. These pumps are compact and quiet. *Ordering Information on page 12.*



Syringe filters

Syringe filters are primarily used to remove particles from the sample prior to injection into the chromatograph, thus avoiding possible damage to the columns.

The housing of the Scharlau filter is composed of pure polypropylene which, along with the filtration membranes are of very high quality, resulting in syringe filters with excellent performance, meeting the needs of the most demanding chromatographers.

Ordering Information on page 12.



Scharlab has filters made of the following materials:

Nylon: Nylon syringe filters have become standard due to their wide chemical compatibility and their hydrophilic nature. They can be used to filter aqueous samples as well as most solvents. Premium nylon filters are subjected to a double quality control for the most demanding applications.

Regenerated cellulose: Regenerated cellulose syringe filters show a lower retention of proteins than nylon and less extractables than PVDF. Ideal for aqueous solutions.

PVDF: Polyvinylidene fluoride syringe filters are indicated for the filtration of aqueous samples, such as water soluble polymers and proteins, as they show low protein binding.

PTFE: Their hydrophobic nature makes them especially suitable for the filtration of organic-based samples and solvents. They show a very high chemical resistance, which makes them ideal for the filtration of strong acids and aggressive solutions. Available with hydrophilic membrane.

PES: These filters are widely used in molecular biology and cell/tissue culture media filtration, as they show very low protein binding and high throughput with low extractables, allowing maximum sample recovery.

PP: PP (polypropylene) hydrophobic filters, provide high resistance to solvents, very low protein binding and good thermal compatibility. Generally used for filtering biological samples, solvents, deionized water. Often used for UHPLC. Also available with hydrophilic membrane.

Chemical compatibility of the filters

	Nylon	CR	PVDF	PTFE	PES	PP
Acetic acid, 25%	R	R	R	R	R	R
Acetone	R	R	NR	R	NR	R
Acetonitrile	R	R	R	R	SR	R
Ammonia, 25%	R	SR	SR	R	R	R
Amyl alcohol	R	R	R	R	ND	R
Benzene	R	R	R	R	ND	NR
Benzyl alcohol	R	R	R	R	NR	R
Boric acid	SR	R	R	R	NR	R
Carbon tetrachloride	R	R	R	R	NR	NR
Chlorobenzene	R	R	R	R	SR	R
Chloroform	R	R	R	R	NR	SR
Citric acid	SR	R	R	R	R	R
Cresol	NR	R	NR	R	ND	NR
Cyclohexane	SR	R	R	R	NR	NR
Cyclohexanone	R	R	NR	R	NR	R
Dichloromethane	NR	R	R	R	NR	SR
Diethyl ether	R	R	R	R	R	NR
Diethylacetamide	R	R	NR	R	ND	R
Dioxane	R	R	SR	R	NR	R
DMF	SR	SR	NR	R	NR	R
DMSO	R	SR	NR	R	NR	R
Ethanol	R	R	R	R	R	R
Ethyl acetate	R	R	R	R	NR	SR
Etilenglicol	R	R	R	R	R	R
Formaldehyde	R	SR	R	R	R	SR
Formic acid, 25%	NR	SR	R	R	R	R
Formic acid, conc.	NR	SR	R	R	NR	R
Freon TF	NR	R	R	R	SR	R
Glacial acetic acid	SR	NR	R	R	R	R
Glycerol	R	R	R	R	R	R
Hexane	R	R	R	R	NR	NR
Hydrochloric acid, 25%	NR	NR	R	R	R	R
Hydrochloric acid, conc.	NR	NR	R	R	R	SR
Hydrofluoric acid	NR	NR	R	R	R	R
Methanol	R	R	R	R	R	R
Methyl ethyl acetone	R	R	NR	R	NR	SR
Nitric acid, 25%	NR	NR	R	R	R	R
Nitric acid, conc.	NR	NR	R	R	NR	R
Nitrobenzene	SR	R	R	R	NR	R
Pentane	R	R	R	R	SR	NR
Petroleum ether	R	R	R	R	ND	NR
Phenol, 5%	NR	R	R	R	NR	R
Phosphoric acid, 25%	NR	SR	SR	R	R	R
Potassium hydroxide, 1N	R	SR	SR	R	R	R

	Nylon	CR	PVDF	PTFE	PES	PP
2-Propanol	R	R	R	R	R	R
Propilenglicol	R	R	R	R	R	R
Pyridine	SR	R	NR	R	NR	NR
Sodium hydroxide, 1N	R	SR	R	R	R	R
Sodium hydroxide, 5N	R	SR	NR	SR	R	R
Sulfuric acid, 25%	NR	SR	R	R	R	R
Sulfuric acid, conc.	NR	NR	NR	R	NR	R
Tetrahydrofuran	R	R	SR	R	NR	R
Toluene	R	R	R	R	SR	NR
Trichloroacetic acid, 5%	NR	R	R	R	ND	R
Trichloroethane	SR	R	R	R	R	SR
Trichloroethylene	NR	R	R	R	NR	SR
Triethanolamine	R	R	NR	R	ND	NR
Xylene	R	R	R	R	NR	NR

CR: Regenerated cellulose **PVDF:** Polyvinylidene fluoride **PTFE:** Polytetrafluoroethylene **PP:** Polypropylene
R: Resistant **SR:** Semi resistant **NR:** Not resistant

Ordering information

Quantitative hardened ashless filter papers - flat

Ø (mm)	WAFH Fast filtration	WAMH Medium-slow f.	WASH Slow f.	Pack (u.)
47	CFIWAFH047	CFIWAMH047	CFIWASH047	100
50	CFIWAFH050	CFIWAMH050	CFIWASH050	100
55	CFIWAFH055	CFIWAMH055	CFIWASH055	100
70	CFIWAFH070	CFIWAMH070	CFIWASH070	100
90	CFIWAFH090	CFIWAMH090	CFIWASH090	100
110	CFIWAFH110	CFIWAMH110	CFIWASH110	100
125	CFIWAFH125	CFIWAMH125	CFIWASH125	100
150	CFIWAFH150	CFIWAMH150	CFIWASH150	100
185	CFIWAFH185	CFIWAMH185	CFIWASH185	100
240	CFIWAFH240	CFIWAMH240	CFIWASH240	100

Quantitative hardened ashless filter papers - pleated

Ø (mm)	WAFH Fast filtration	WAMH Medium-slow f.	WASH Slow f.	Pack (u.)
110	CF2WAFH110	CF2WAMH110	CF2WASH110	100
125	CF2WAFH125	CF2WAMH125	CF2WASH125	100
150	CF2WAFH150	CF2WAMH150	CF2WASH150	100
185	CF2WAFH185	CF2WAMH185	CF2WASH185	100
240	CF2WAFH240	CF2WAMH240	CF2WASH240	100
270	CF2WAFH270	CF2WAMH270	CF2WASH270	100

Quantitative ashless filter papers - flat

Ø (mm)	WAE Fast f.	WAF Fast f.	WAG Medium f.	WAM Medium f.	WAP Slow f.	WAS Slow f.	WAT Slow f.	Pack (u.)
47	CFIWAE0047	CFIWAF0047	CFIWAG0047	CFIWAM0047	CFIWAP0047	CFIWAS0047	CFIWAT0047	100
50	CFIWAE0050	CFIWAF0050	CFIWAG0050	CFIWAM0050	CFIWAP0050	CFIWAS0050	CFIWAT0050	100
55	CFIWAE0055	CFIWAF0055	CFIWAG0055	CFIWAM0055	CFIWAP0055	CFIWAS0055	CFIWAT0055	100
70	CFIWAE0070	CFIWAF0070	CFIWAG0070	CFIWAM0070	CFIWAP0070	CFIWAS0070	CFIWAT0070	100
90	CFIWAE0090	CFIWAF0090	CFIWAG0090	CFIWAM0090	CFIWAP0090	CFIWAS0090	CFIWAT0090	100
110	CFIWAE0110	CFIWAF0110	CFIWAG0110	CFIWAM0110	CFIWAP0110	CFIWAS0110	CFIWAT0110	100
125	CFIWAE0125	CFIWAF0125	CFIWAG0125	CFIWAM0125	CFIWAP0125	CFIWAS0125	CFIWAT0125	100
150	CFIWAE0150	CFIWAF0150	CFIWAG0150	CFIWAM0150	CFIWAP0150	CFIWAS0150	CFIWAT0150	100
185	CFIWAE0185	CFIWAF0185	CFIWAG0185	CFIWAM0185	CFIWAP0185	CFIWAS0185	CFIWAT0185	100
240	CFIWAE0240	CFIWAF0240	CFIWAG0240	CFIWAM0240	CFIWAP0240	CFIWAS0240	CFIWAT0240	100

Quantitative ashless filter papers - pleated

Ø (mm)	WAE Fast f.	WAF Fast f.	WAG Medium f.	WAM Medium f.	WAP Slow f.	WAS Slow f.	WAT Slow f.	Pack (u.)
110	CF2WAE0110	CF2WAF0110	CF2WAG0110	CF2WAM0110	CF2WAP0110	CF2WAS0110	CF2WAT0110	100
125	CF2WAE0125	CF2WAF0125	CF2WAG0125	CF2WAM0125	CF2WAP0125	CF2WAS0125	CF2WAT0125	100
150	CF2WAE0150	CF2WAF0150	CF2WAG0150	CF2WAM0150	CF2WAP0150	CF2WAS0150	CF2WAT0150	100
185	CF2WAE0185	CF2WAF0185	CF2WAG0185	CF2WAM0185	CF2WAP0185	CF2WAS0185	CF2WAT0185	100
240	CF2WAE0240	CF2WAF0240	CF2WAG0240	CF2WAM0240	CF2WAP0240	CF2WAS0240	CF2WAT0240	100
270	CF2WAE0270	CF2WAF0270	CF2WAG0270	CF2WAM0270	CF2WAP0270	CF2WAS0270	CF2WAT0270	100

Ordering information

Qualitative filter papers - flat

Ø (mm)	LAF Fast f.	LAG Fast f.	LAM Medium f.	LAP Medium f.	LAS Slow f.	LAT Slow f.	Pack (u.)
47	CFILAF0047	CFILAG0047	CFILAM0047	CFILAP0047	CFILAS0047	CFILAT0047	100
50	–	–	CFILAM0050	CFILAP0050	CFILAS0050	CFILAT0050	100
55	CFILAF0055	CFILAG0055	CFILAM0055	CFILAP0055	CFILAS0055	CFILAT0055	100
70	CFILAF0070	CFILAG0070	CFILAM0070	CFILAP0070	CFILAS0070	CFILAT0070	100
90	CFILAF0090	CFILAG0090	CFILAM0090	CFILAP0090	CFILAS0090	CFILAT0090	100
110	CFILAF0110	CFILAG0110	CFILAM0110	CFILAP0110	CFILAS0110	CFILAT0110	100
125	CFILAF0125	CFILAG0125	CFILAM0125	CFILAP0125	CFILAS0125	CFILAT0125	100
150	CFILAF0150	CFILAG0150	CFILAM0150	CFILAP0150	CFILAS0150	CFILAT0150	100
185	CFILAF0185	CFILAG0185	CFILAM0185	CFILAP0185	CFILAS0185	CFILAT0185	100
240	CFILAF0240	CFILAG0240	CFILAM0240	CFILAP0240	CFILAS0240	CFILAT0240	100

Qualitative filter papers - pleated

Ø (mm)	LAF Fast f.	LAG Fast f.	LAM Medium f.	LAP Medium f.	LAS Slow f.	Pack (u.)
90	–	CF2LAG0090	CF2LAM0090	CF2LAP0090	CF2LAS0090	100
110	–	CF2LAG0110	CF2LAM0110	CF2LAP0110	CF2LAS0110	100
125	CF2LAF0125	CF2LAG0125	CF2LAM0125	CF2LAP0125	CF2LAS0125	100
150	CF2LAF0150	CF2LAG0150	CF2LAM0150	CF2LAP0150	CF2LAS0150	100
185	CF2LAF0185	CF2LAG0185	CF2LAM0185	CF2LAP0185	CF2LAS0185	100
240	CF2LAF0240	CF2LAG0240	CF2LAM0240	CF2LAP0240	CF2LAS0240	100
320	CF2LAF0320	CF2LAG0320	CF2LAM0320	CF2LAP0320	CF2LAS0320	100

General use qualitative filter papers - flat

Ø (mm)	STAR Slow f.	STAE Extra fast f.	STAM Medium f.	STAF Fast f.	Pack (u.)
90	CFISTAR090	CFISTAE090	CFISTAM090	CFISTAF090	100
110	CFISTAR110	CFISTAE110	CFISTAM110	CFISTAF110	100
125	CFISTAR125	CFISTAE125	CFISTAM125	CFISTAF125	100
130	CFISTAR130	CFISTAE130	CFISTAM130	–	100
150	CFISTAR150	CFISTAE150	CFISTAM150	CFISTAF150	100
185	CFISTAR185	–	CFISTAM185	CFISTAF185	100
200	–	CFISTAE200	–	–	100
240	CFISTAR240	–	CFISTAM240	CFISTAF240	100
270	CFISTAR270	–	CFISTAM270	CFISTAF270	100
320	CFISTAR320	–	CFISTAM320	CFISTAF320	100

General use qualitative filter papers - pleated

Ø (mm)	STAR Slow f.	STAE Extra fast f.	STAM Medium f.	STAF Fast f.	Pack (u.)
90	CF2STAR090	CF2STAE090	CF2STAM090	CF2STAF090	100
110	CF2STAR110	CF2STAE110	CF2STAM110	CF2STAF110	100
125	CF2STAR125	–	CF2STAM125	CF2STAF125	100
130	–	CF2STAE130	–	–	100
150	CF2STAR150	CF2STAE150	CF2STAM150	CF2STAF150	100
185	CF2STAR185	CF2STAE185	CF2STAM185	CF2STAF185	100
200	–	CF2STAE200	–	–	100
240	CF2STAR240	–	CF2STAM240	CF2STAF240	100
250	–	CF2STAE250	–	–	100
270	CF2STAR270	–	CF2STAM270	CF2STAF270	100
320	CF2STAR320	–	CF2STAM320	CF2STAF320	100

Reams

Art. No.	Grade	Type	Dim. W x H (mm)	Weight (g/m ²)	Pack (u.)
RM42520060	RM	Cellulose	420 x 520	60	500
RM42520075	RM	Cellulose	420 x 520	75	500
RMPE125100	RMPE	Cellulose + PE	420 x 520	125	100
RMPE125500	RMPE	Cellulose + PE	420 x 520	125	500
RMPE210100	RMPE	Cellulose + PE	420 x 520	210	100
RMPE210500	RMPE	Cellulose + PE	420 x 520	210	500

Chromatography filter paper

Sheets (mm)	CR 1	CR 2	CR 3	CR 4	CR 5
580x600	CR0-195860	CR0-225860	CR0-555860	CR0-905860	CR01305860

Ordering information

Cellulose extraction thimbles

Ø int. x h. (mm)	CT	Pack (u.)
10 x 50	CT32510X50	25
19 x 90	CT32519X90	25
20 x 80	CT32520X80	25
22 x 100	CT32522100	25
25 x 60	CT32525X60	25
25 x 80	CT32525X80	25
26 x 100	CT32526100	25
26 x 60	CT32526X60	25
28 x 100	CT32528100	25
28 x 120	CT32528120	25
30 x 100	CT32530100	25
30 x 80	CT32530X80	25
30 x 95	CT32530X95	25
33 x 100	CT32533100	25
33 x 118	CT32533118	25
35 x 120	CT32535120	25
33 x 150	CT32535150	25
40 x 150	CT32540150	25
48 x 145	CT32548145	25

Glass microfiber thimbles

Ø int. x h. (mm)	MGT	Pack (u.)
10 x 50	MGT3210X50	25
16 x 50	MGT3216X50	25
22 x 80	MGT3222X80	25
25 x 100	MGT3225100	25
25 x 60	MGT3225X60	25
26 x 60	MGT3226X60	25
28 x 100	MGT3228100	25
28 x 60	MGT3228X60	25
30 x 100	MGT3230100	25
30 x 70	MGT3230X70	25
30 x 77	MGT3230X77	25
33 x 94	MGT3233X94	25
35 x 150	MGT3235150	25
40 x 150	MGT3240150	25
43 x 123	MGT3243123	25
53 x 145	MGT3253145	25

Quartz microfiber thimbles

Ø int. x h. (mm)	TMQ	Pack (u.)
16 x 50	TMQ3216X50	25
22 x 80	TMQ3222X80	25
25 x 100	TMQ3225100	25
25 x 60	TMQ3225X60	25
26 x 60	TMQ3226X60	25
28 x 100	TMQ3228100	25
28 x 60	TMQ3228X60	25
30 x 100	TMQ3230100	25
30 x 70	TMQ3230X70	25
30 x 77	TMQ3230X77	25
33 x 94	TMQ3233X94	25
35 x 150	TMQ3235150	25
40 x 150	TMQ3240150	25
43 x 123	TMQ3243123	25
53 x 145	TMQ3253145	25

Glass Soxhlet extractors

Art. No.	Description	Pack (u.)
073-000729	Soxhlet extractor 125ml, complete (cellulose extraction thimble recommended: CT32533118)	1
073-000731	Soxhlet extractor 250ml, complete (cellulose extraction thimble recommended: CT32540150)	1

Glass microfiber filters

Ø (mm)	GMFA	GMFB	GMFC	GMFD	GMFF	GMFG	Pack (u.)
24	GMFA-50024	GMFB143024	GMFC-52024	GMFD120024	GMFF-75024	GMFG-65024	100
35	GMFA-50035	-	GMFC-52035	-	GMFF-75037	GMFG-65037	100
47	GMFA-50047	GMFB143047	GMFC-52047	GMFD120047	GMFF-75047	GMFG-65047	100
90	GMFA-50090	GMFB143090	GMFC-52090	GMFD120090	GMFF-75090	GMFG-65090	100
150	GMFA-50150	GMFB143150	GMFC-52150	GMFD120150	GMFF-75150	GMFG-65150	100

Quartz microfiber filters

Ø (mm)	MFQT	Pack (u.)
37	MFQ-85T037	50
47	MFQ-85T047	50
90	MFQ-85T090	50
150	MFQ-85T150	50

Membrane filters

Art. No.	Material	Ø (mm)	Pore size (µm)	Sterile	Grid	Color	Pack (u.)
ES47020100	Cellulose nitrate	47	0.20	Yes	Black	White	100
ES4702010N	Cellulose nitrate	47	0.20	Yes	White	Black	100
ES47045100	Cellulose nitrate	47	0.45	Yes	Black	White	100
PC47020100	Polycarbonate	47	0.20	Yes	-	White	100
PES4702000	Polyethersulfone	47	0.20	No	-	White	100
PES4702001	Polyethersulfone	47	0.20	Si	-	White	100

Membrane filters for filtering the mobile phase

Art. No.	Material	Ø (mm)	Pore size (µm)	Sterile	Grid	Color	Pack (u.)
NY47020100	Nylon	47	0.22	No	No	White	100
NY47045100	Nylon	47	0.45	No	No	White	100
EM47020100	EMC	47	0.22	No	No	White	100
EM47045100	EMC	47	0.45	No	No	White	100

Ordering information

Glass laboratory material

Art. No.	Description	Pack (u.)
073-001123	Universal borosilicate glass filtration system for Ø 47mm filters, complete with 300ml funnel and 1 liter flask	1
079-001119	Simple filtration system for Ø 47mm, filter complete with 300ml funnel and 1 liter kitasato flask	1

Vacuum pumps

Art. No.	Description	I.D. tube (mm)	Suction (L/min)	Final vacuum (mbar abs.)	Pack (u.)
130N86KN18	Membrane pump for aqueous solutions	4	6	100	1
130N86KT18	Membrane pump for gases and slightly aggressive or corrosive vapors	4	5,5	160	1
N81612KT18	Membrane pump for gases and slightly aggressive or corrosive vapors	6	30	160	1
3110515-15	Silicone tubing for vacuum I.D. 5mm	–	–	–	15m
3110717-15	Silicone tubing for vacuum I.D. 7 mm	–	–	–	15m

Nylon Premium syringe filters

Ø (mm)	Pore size (µm)	Pack (u.)	Art. No.
13	0.22	500	NY13020500
13	0.22	1000	NY13021000
13	0.45	200	NY13045200
13	0.45	1000	NY13041000
25	0.22	200	NY25020200
25	0.22	1000	NY25021000
25	0.45	200	NY25045200
25	0.45	1000	NY25041000

Nylon syringe filters

Ø (mm)	Pore size (µm)	Pack (u.)	Art. No.
13	0.22	200	NYL1320200
13	0.22	1000	NYL1321000
13	0.45	200	NYL1345200
13	0.45	1000	NYL1341000
25	0.22	200	NYL2520200
25	0.22	1000	NYL2521000
25	0.45	200	NYL2545200
25	0.45	1000	NYL2541000

Regenerated cellulose syringe filters

Ø (mm)	Pore size (µm)	Pack (u.)	Art. No.
13	0.22	1000	CR13021000
13	0.45	200	CR13041000
25	0.22	200	CR25020200
25	0.22	1000	CR25021000
25	0.45	200	CR25045200
25	0.45	1000	CR25041000

PVDF syringe filters

Ø (mm)	Pore size (µm)	Pack (u.)	Art. No.
13	0.22	1000	PVD1321000
13	0.45	1000	PVD1341000
25	0.22	1000	PVD2521000
25	0.45	1000	PVD2541000

PTFE / Hydrophilic PTFE syringe filters

Ø (mm)	Pore size (µm)	Pack (u.)	Art. No.
13	0.22	1000	PTF1321000
13	0.45	1000	PTF1341000
25	0.22	1000	PTF2521000
25	0.45	1000	PTF2541000
13	0.22	200	PTH1320200
13	0.45	200	PTH1345200
25	0.22	200	PTH2520200
25	0.45	200	PTH2545200

PES syringe filters

Ø (mm)	Pore size (µm)	Pack (u.)	Art. No.
13	0.22	200	PES1320200
13	0.45	200	PES1345200
25	0.22	200	PES2520200
25	0.45	200	PES2545200

PP / Hydrophilic PP syringe filters

Ø (mm)	Pore size (µm)	Pack (u.)	Art. No.
13	0.22	1000	PPL1321000
13	0.45	1000	PPL1341000
25	0.22	1000	PPL2521000
25	0.45	1000	PPL2541000
13	0.22	200	PPH1320200
13	0.45	200	PPH1345200
25	0.22	200	PPH2520200
25	0.45	200	PPH2545200

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