



Product Catalogue

Rapid Tests, Filtration, Membranes,
Extraction Thimbles and Syringe Filters



Johnson Test Papers...

**The leading paper impregnation
and converting specialists**



The use of rapid tests play a very important role when analysing solutions, be it for education, research and development, healthcare or other specialist industries. With ready-to-use test systems from Johnson Test Papers, you can trust the results, as Johnson Test Papers has been manufacturing easy to use rapid tests since 1938 .

Our broad range of products cover everything from simple pH testing, water analysis, production processes and measurements of special food parameters. We have also included a broad range of filter papers including glass microfibre and membrane filters as well as syringe filters and plastic labware.

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pH indicator strips and papers

Effortless pH determination

Measuring pH without the use of any instruments, it is easy to use Johnson Test Papers pH indicator strips and papers.

The pH tests are suitable for environmental analysis, industrial in-process controls and within the education setting.



Our broad range of pH papers offer a solution for every application

Advantages of Johnson Test Papers pH tests

- Intense colour development
- Precise results because of our differentiated colour graduations
- Quick, on the spot results
- Calibration and quality assurance by NIST certified pH buffer solutions

pH Indicator Papers

Our pH papers are manufactured using high quality papers which are impregnated with mixed indicator solutions, dried and then cut to size. In general our pH papers are supplied in rolls or books which are both convenient but also protect against external effects such as moisture, light and ambient gases, resulting in a prolonged shelf life.

pH Indicator Strips - non-bleeding

Our non-bleeding pH Indicator Strips are manufactured with special indicator dyes which are bound to the reagent paper. This special method of manufacturing gives certain advantages over the pH Indicator Papers; the indicators do not bleed and the indicator strips can be left in solution for a prolonged time without contaminating the test solution.



Shelf life and storage

Our indicator papers and strips can be stored for 3 years at room temperature, protected from light in a dry atmosphere. For best results, the package should be closed immediately after removing each paper or strips.

Quality Assurance

Johnson Test Papers calibrate and test all of its pH products using certified pH buffer solutions. These buffer solutions can be traced back directly to primary reference materials originating from NIST. This helps us maintain a consistently high quality for our products.

pH indicator strips and papers

pH indicator papers

Product	pH range	Graduation	Presentation	Product Code
Universal Indicator Paper	pH 1 - 11	1-2-3-4-5-6-7-8-9-10-11	10 books of 20 strips	004.1
			1 reel (5m x 7mm)	004.5
			3 reel refill pack*	004.5R
			100 strips per pack	004.33C
Universal Indicator Paper	pH 1- 14	1-2-3-4-5-6-7-8-9-10-12-14	10 books of 20 strips	046.1
			1 reel (5m x 7mm)	046.5
			3 reel refill pack*	046.5R
			100 strips per pack	046.33C
Comparator Paper	pH 1.0 - 3.5	1.0-1.5-2.0-2.5-3.0-3.5	10 books of 20 strips	005.1
			1 reel (5m x 7mm)	005.5
			200 strips per pack	005.33
Comparator Paper	pH 3.6 - 5.1	3.6-3.9-4.2-4.5-4.8-5.1	10 books of 20 strips	006.1
			1 reel (5m x 7mm)	006.5
			200 strips per pack	006.33
Comparator Paper	pH 5.2 - 6.7	5.2-5.5-5.8-6.1-6.4-6.7	10 books of 20 strips	007.1
			1 reel (5m x 7mm)	007.5
			200 strips per pack	007.33
Comparator Paper	pH 6.8 - 8.3	6.8-7.1-7.4-7.7-8.0-8.3	10 books of 20 strips	008.1
			1 reel (5m x 7mm)	008.5
			200 strips per pack	008.33
Comparator Paper	pH 8.4 - 10.0	8.4-8.7-9.0-9.3-9.6-10.0	10 books of 20 strips	009.1
			1 reel (5m x 7mm)	009.5
			200 strips per pack	009.33
Comparator Paper	pH 4.0 - 8.0	4.0-4.5-5.0-5.5-6.0-6.5-7.0-7.5-8.0	10 books of 20 strips	022.1
			1 reel (5m x 7mm)	022.5
			200 strips per pack	022.33
Comparator Paper	pH 4.0 - 5.6	4.0-4.2-4.4-4.6-4.8-5.0-5.2-5.4-5.6	10 books of 20 strips	023.1
			1 reel (5m x 7mm)	023.5
			200 strips per pack	023.33
Comparator Paper	pH 6.2 - 7.8	6.2-6.4-6.6-6.8-7.0-7.2-7.4-7.6-7.8	10 books of 20 strips	044.1
			1 reel (5m x 7mm)	044.5
			200 strips per pack	044.33
Comparator Paper	pH 0.5 - 5.5	0.5-1.0-1.5-2.0-2.5-3.0-3.5-4.0-4.5-5.0-5.5	1 reel (5m x 7mm)	050.5
Comparator Paper	pH 3.8 - 5.8	<3.8-3.8-4.1-4.3-4.5-4.7-4.9-5.2-5.5-5.8->5.8	1 reel (5m x 7mm)	051.5
Comparator Paper	pH 4.0 - 7.0	4.0-4.3-4.6-4.9-5.2-5.5-5.8-6.1-6.4-6.7-7.0	1 reel (5m x 7mm)	052.5
Comparator Paper	pH 5.4 - 7.0	<5.4-5.4-5.7-6.0-6.2-6.4-6.7-7.0->7.0	1 reel (5m x 7mm)	053.5
Comparator Paper	pH 5.5 - 9.0	5.5-6.0-6.5-7.0-7.5-8.0-8.5-9.0	1 reel (5m x 7mm)	054.5
Comparator Paper	pH 6.4 - 8.0	<9.4-6.4-6.6-6.8-7.0-7.2-7.4-7.6-7.8-8.0->8.0	1 reel (5m x 7mm)	055.5
Comparator Paper	pH 7.2 - 9.7	<7.2-7.2-7.5-7.8-8.1-8.4-8.7-9.0-9.3-9.7->9.7	1 reel (5m x 7mm)	056.5
Comparator Paper	pH 8.0 - 10.0	8.0-8.2-8.4-8.7-9.0-9.2-9.6-10.0	1 reel (5m x 7mm)	057.5
Comparator Paper	pH 9.0 - 13.0	9.0-9.5-10.0-10.5-11.0-11.5-12.0-12.5-13.0	1 reel (5m x 7mm)	058.5
Comparator Paper	pH 12.0 - 14.0	12.0-12.5-13.0-13.5-14.0	1 reel (5m x 7mm)	059.5

pH indicator strips and papers

pH indicator papers with no colour charts

Product	pH range	Graduation in pH units	Presentation	Product Code
Litmus Blue Paper	pH < 7 red / > 7 blue	-	10 books of 20 strips	001.1
			1 reel (5m x 7mm)	001.5
			100 strips per pack	001.33C
Litmus Neutral Paper	pH < 7 red / > 7 blue	-	10 books of 20 strips	002.1
			1 reel (5m x 7mm)	002.5
			100 strips per pack	002.33C
Litmus Red Paper	pH < 7 red / > 7 blue	-	10 books of 20 strips	003.1
			1 reel (5m x 7mm)	003.5
			100 strips per pack	003.33C
Congo Red Paper	pH < 3 blue-violet / pH > 5 red-orange	-	10 books of 20 strips	010.1
Turmeric Paper	pH < 6.8 yellow / pH > 8.6 red	-	10 books of 20 strips	011.1
Clayton Yellow Paper	pH < 12.0 yellow / pH > 13.0 red	-	10 books of 20 strips	014.1
Brilliant Yellow Paper	pH < 6.6 yellow / pH > 8.4 red	-	10 books of 20 strips	027.1
Phenolphthalein Paper	pH < 8.4 white / pH > 9.6 red	-	10 books of 20 strips	029.1
Methyl Orange Paper	pH < 3.0 red / pH > 4.4 yellow	-	10 books of 20 strips	045.1

* Refill packs are without colour chart

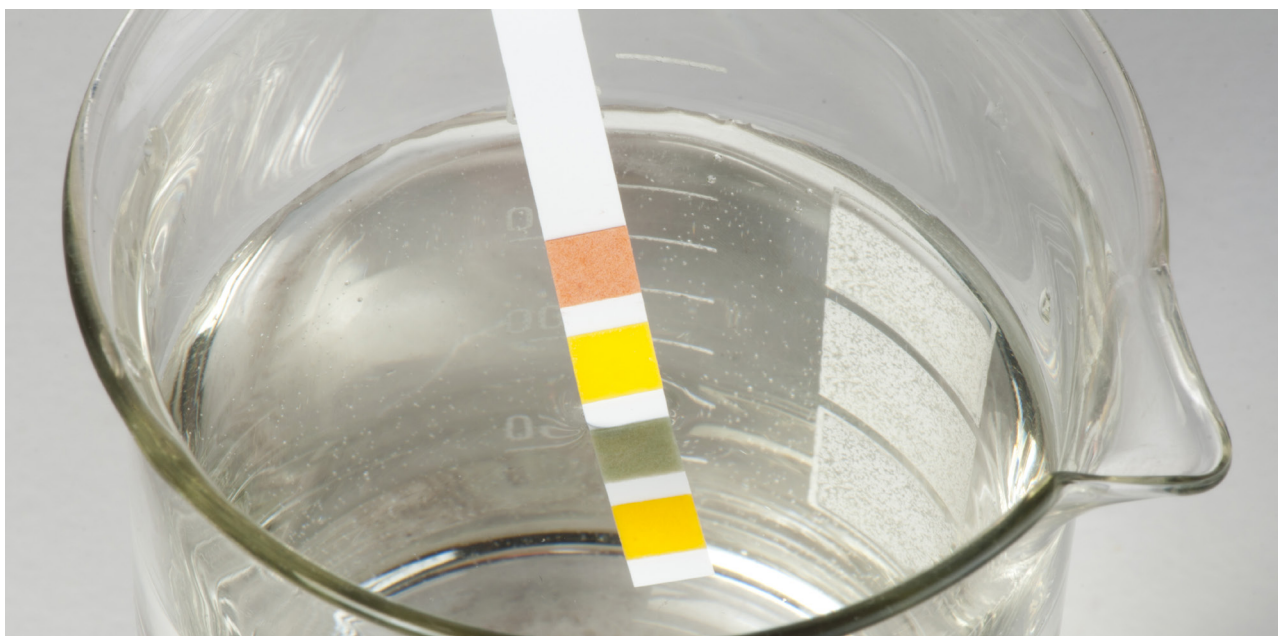
We are also able to supply pH indicator papers as special orders in other presentations and dimensions upon request



pH indicator strips and papers

pH indicator strips (non-bleeding)

Product	pH range	Graduation	Presentation	Product Code
Universal Indicator Strips	pH 0 - 14	0-1-2-3-4-5-6-7-8-9-10-11-12-13-14	100 strips/pk	140.4
pH indicator strips	pH 0 - 6.0	0-0.5-1.0-1.5-2.0-2.5-3.0-3.5-4.0-4.5-5.0-5.5-6.0	100 strips/pk	103.3C
pH indicator strips	pH 4.0 - 10.0	4.0-4.5-5.0-5.5-6.0-6.5-7.0-7.5-8.0-8.5-9.0-9.5-10.0	100 strips/pk	106.3C
pH indicator strips	pH 7.0 - 14.0	7.0-7.5-8.0-8.5-9.0-9.5-10.0-10.5-11.0-11.5-12.0-12.5-13.0-13.5-14.0	100 strips/pk	109.3C
pH indicator strips	pH 2.0 - 9.0	2.0-2.5-3.0-3.5-4.0-4.5-5.0-5.5-6.0-6.5-7.0-7.5-8.0-8.5-9.0	100 strips/pk	113.3C
pH indicator strips	pH 0 - 1.5	0-0.3-0.5-0.8-1.0-1.5	100 strips/pk	121.2C
pH indicator strips	pH 0 - 2.5	0-0.5-1.0-1.3-1.6-1.9-2.2-2.5	100 strips/pk	122.2C
pH indicator strips	pH 2.5 - 4.5	2.5-3.0-3.3-3.6-3.9-4.2-4.5	100 strips/pk	114.2C
pH indicator strips	pH 4.0 - 7.5	4.0-4.3-4.6-4.9-5.2-5.5-5.8-6.1-6.4-6.7-7.0-7.5	100 strips/pk	125.2C
pH indicator strips	pH 5.0 - 9.0	5.0-5.5-6.0-6.5-7.0-7.5-8.0-8.5-9.0	100 strips/pk	126.2C
pH indicator strips	pH 6.5 - 10.0	6.5-6.8-7.1-7.4-7.7-7.9-8.1-8.3-8.5-8.7-9.0-9.5-10.0	100 strips/pk	127.2C
pH indicator strips	pH 11.0 - 13.0	11.0-11.5-11.8-12.1-12.3-12.5-12.8-13.0	100 strips/pk	110.3C



pH indicator strips and papers

pH indicator strips

Product	pH range	Graduation	Presentation	Product Code
Comparator strips				
Comparator Strips pH 1.0 - 3.5	pH 1.0 - 3.5	1.0-1.5-2.0-2.5-3.0-3.5	100 strips/pk	005.3
Comparator Strips pH 3.6 - 5.1	pH 3.6 - 5.1	3.6-3.9-4.2-4.5-4.8-5.1	100 strips/pk	006.3
Comparator Strips pH 4.0 - 8.0	pH 4.0 - 8.0	4.0-4.5-5.0-5.5-6.0-6.5-7.0-7.5-8.0	100 strips/pk	022.3
Comparator Strips pH 5.2 - 6.7	pH 5.2 - 6.7	5.2-5.5-5.8-6.1-6.4-6.7	100 strips/pk	007.3
Comparator Strips pH 6.8 - 8.3	pH 6.8 - 8.3	6.8-7.1-7.4-7.7-8.0-8.3	100 strips/pk	008.3
Comparator Strips pH 8.4 - 10.0	pH 8.4 - 10.0	8.4-8.7-9.0-9.3-9.6-10.0	100 strips/pk	009.3
Comparator Strips pH 4.0 - 5.6	pH 4.0 - 5.6	4.0-4.2-4.4-4.6-4.8-5.0-5.2-5.4-5.6	100 strips/pk	023.3
Comparator Strips pH 6.2 - 7.8	pH 6.2 - 7.8	6.2-6.4-6.6-6.8-7.0-7.2-7.4-7.6-7.8	100 strips/pk	044.3

Wine and Beer pH strips

Wine pH Strips	pH 2.8 - 4.4	2.8-3.2-3.6-4.0-4.4	50 strips/pk	181.1
Beer pH Strips	pH 4.6 - 6.2	4.6-5.0-5.4-5.8-6.2	50 strips/pk	182.1

For professional use

pH indicator strips, CE certified for in-vitro testing of pH in human gastric aspirate	pH 2.0 - 9.0	2.0-2.5-3.0-3.5-4.0-4.5-5.0-5.5-6.0-6.5-7.0-7.5-8.0-8.5-9.0	100 strips/pk	113.3CE
pH indicator strips, CE certified for in-vitro testing of pH in human gastric aspirate	pH 0 - 6.0	0-0.5-1.0-1.5-2.0-2.5-3.0-3.5-4.0-4.5-5.0-5.5-6.0	100 strips/pk	103.3CE
pH indicator paper, CE certified for in-vitro testing of pH in human gastric aspirate	pH 1-11	1-2-3-4-5-6-7-8-9-10-11	10 books of 20 strips	004.1CE

pH indicator strips

Our pH indicator strips are available in bulk, individually sealed or in various lengths and widths and can be used for product promotion and differentiation

J-QUANT[®] test strips

Fast, simple and reliable results

J-QUANT[®] test strips are actually a high-tech product, each one being a laboratory in your pocket allowing you to take them wherever you go. J-QUANT test strips are ideal for the semi-quantitative determination of ions and compounds.

As a screening tool, they allow the user to carry out a quick test on the contents of their sample saving many time-consuming and cost-intensive analytical procedures. Manufactured with environmentally friendly plastics and low reagent contents, the test strips are easy and safe to dispose of.

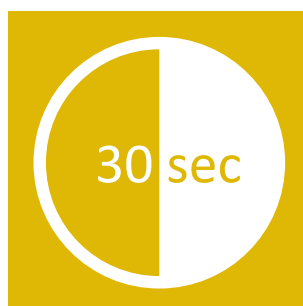


Advantages of J-QUANT® test strips

- Fast and easy results
- Easy to handle for on the spot results
- Wide range of tests
- Ideal for an indication - saving time and cost



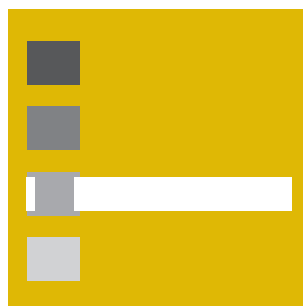
1. Quick and simple to use. Simply immerse the strip in the test sample for the stated number of seconds.



3. Wait for the reaction to take place. No other equipment is necessary. Results can be read from as quick as 2 seconds.



2. Shake the strip to remove any excess solution. In some tests this step may not be necessary.



4. Simply compare the colour produced on the test strip with the colour chart on the label. The result is determined from the corresponding colour.

Shelf life and storage

When stored cool and dry, the test strips can be used up to their expiry date printed on the pack. The vial must be closed immediately after the removal of each strip to ensure they remain protected.

Quality Assurance

Johnson Test Papers calibrate and test all of its tests using certified standard solutions. These standard solutions can be traced back directly to primary reference materials originating from NIST. This helps us maintain consistently high quality products.

J-QUANT® test strips

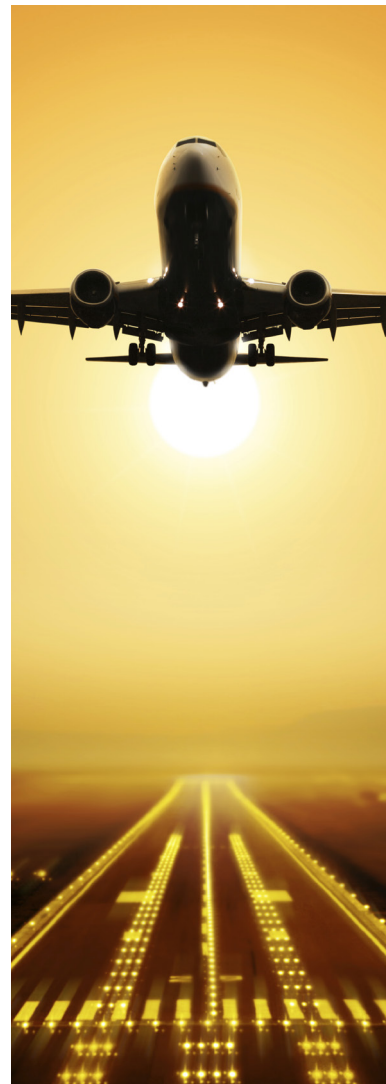
Parameter	Graduation	Presentation	Product Code
J-QUANT® Ammonium 400	0 - 10 - 25 - 50 - 100 - 200 - 400 mg/L NH ⁴⁺	100 strips/pk	210.1
J-QUANT® Ascorbic Acid 2000	0 - 50 - 100 - 200 - 300 - 500 - 700 - 1000 - 2000 mg/L	100 strips/pk	212.1
J-QUANT® Carbonate Hardness	0 - 5 - 10 - 15 - 20 - 30 °d	100 strips/pk	214.1
★ J-QUANT® Chlorine 5	0 - 0.5 - 1 - 3 - 5 mg/L	100 strips/pk	161.1C
★ J-QUANT® Chlorine 20	0 - 0.5 - 1 - 3 - 5 - 10 - 20 mg/L	100 strips/pk	216.1
J-QUANT® Chlorine 300	0 - 25 - 50 - 100 - 200 - 300 mg/L	100 strips/pk	163.1C
J-QUANT® Chlorine 1000	0 - 50 - 100 - 250 - 500 - 1000 mg/L	100 strips/pk	164.1C
J-QUANT® Fluoride 100	0 - 10 - 25 - 50 - 100 mg/L	100 strips/pk	173.5C
J-QUANT® Glucose 500	0 - 10 - 25 - 50 - 100 - 250 - 500 mg/L	100 strips/pk	230.1
J-QUANT® Glucose 2000	0 - 100 - 250 - 500 - 1000 - 2000 mg/dL	100 strips/pk	238.1
★ J-QUANT® Iodine 225	0 - 50 - 75 - 150 - 225 mg/L	100 strips/pk	236.1
★ J-QUANT® Nitrate 500	0 - 10 - 25 - 50 - 250 - 500 mg/L	100 strips/pk	176.5C
★ J-QUANT® Nitrite 25	0 - 0.5 - 1 - 5 - 10 - 25 mg/L	100 strips/pk	175.5C
J-QUANT® Nitrite 80	0 - 2 - 5 - 10 - 20 - 40 - 80 mg/L	100 strips/pk	218.1
J-QUANT® Peracetic Acid 50	0 - 5 - 10 - 20 - 30 - 50 mg/L	100 strips/pk	167.5C
★ J-QUANT® Peracetic Acid 500	0 - 100 - 150 - 200 - 250 - 300 - 400 - 500 mg/L	100 strips/pk	168.5C
J-QUANT® Peracetic Acid 2000	0 - 500 - 1000 - 1500 - 2000 mg/L	100 strips/pk	228.1
J-QUANT® Peroxide 25	0 - 0.5 - 2 - 5 - 10 - 25 mg/L	100 strips/pk	220.1
J-QUANT® Peroxide 100	0 - 1 - 3 - 10 - 30 - 100 mg/L	100 strips/pk	165.5C
★ J-QUANT® Peroxide 1000	0 - 100 - 200 - 400 - 600 - 800 - 1000 mg/L	100 strips/pk	222.1
J-QUANT® Phosphate 500	0 - 3 - 10 - 25 - 50 - 100 - 250 - 500 mg/L	100 strips/pk	224.1
J-QUANT® QAC 400R	0 - 100 - 200 - 300 - 400 mg/L Benzalkonium chloride	5m reel	160.5
★ J-QUANT® QAC 400	0 - 100 - 200 - 300 - 400 mg/L Benzalkonium chloride	100 strips/pk	160.1
★ J-QUANT® QAC 25-1000	0 - 25 - 50 - 100 - 250 - 500 - 1000 mg/L Benzalkonium chloride	100 strips/pk	160.2
J-QUANT® QAC 200-1000	0 - 200 - 400 - 600 - 800 - 1000 mg/L Benzalkonium chloride	100 strips/pk	160.3
★ J-QUANT® Silver 10	0 - 1 - 1.75 - 2.75 - 3.5 - 5 - 7 - 10 g/L	10 books of 20 strips	012.1
J-QUANT® Sulphite 500	0 - 10 - 25 - 50 - 100 - 250 - 500 mg/L	100 strips/pk	172.5C
J-QUANT® Total Chlorine 200	0 - 10 - 25 - 50 - 100 - 200 mg/L	5m reel	020.5
J-QUANT® Water Hardness 500	0 - 50 - 125 - 250 - 500 mg/L CaCO ₃	100 strips/pk	185.1C
J-QUANT® Water Hardness 21	3 - 4 - 7 - 14 - 21 °d CaCO ₃	100 strips/pk	226.1
★ J-QUANT® Water Hardness 25	0 - 5 - 10 - 15 - 20 - 25 °d CaCO ₃	100 strips/pk	240.1
★ Swimming Pool Test 5 in 1		50 strips/pk	232.1
Total Hardness	0 - 100 - 250 - 500 - 1000 mg/L CaCO ₃		
Free Chlorine	0 - 0.5 - 1 - 3 - 5 - 10 mg/L Cl ₂		
Total Chlorine	0 - 1 - 3 - 5 - 10 mg/L Cl ₂		
Alkalinity	0 - 80 - 120 - 180 - 240 mg/L CaCO ₃		
pH	pH 6.4 - 6.8 - 7.2 - 7.6 - 8.4		
★ Swimming Pool Test 3 in 1		50 strips/pk	234.1
Free Chlorine	0 - 0.5 - 1 - 3 - 5 - 10 mg/L Cl ₂		
Alkalinity	0 - 80 - 120 - 180 - 240 mg/L CaCO ₃		
pH	pH 6.4 - 6.8 - 7.2 - 7.6 - 8.4		

Swimming Pool Test 5 in 1Swimming Pool Test 3 in 1[illegible]

Test papers

Fast, simple qualitative results

Test Papers are used for the qualitative determination of ions and compounds. With the help of these test papers, the presence of an ion or compound can be indicated with a simple interpretation of the result. A colour change is seen if the concentration of the test ion or compound is above the specific minimum detection limit.





Product	For the detection of	Presentation	Product Code
Backing Paper		500 strips	033.10
Cadmium Sulphide Paper	Gold plating efficiency	500 strips	012.10
Cobalt Chloride Paper	Humidity in air	10 books of 20 strips	015.1
Humidity Indicator Paper	Humidity in air 45%-55% (Relative)	100 strips	016.95
Moisture Indicator Paper (Cobalt chloride free)	Humidity in air	10 books of 20 strips	026.1
Lead Acetate Paper	Hydrogen Sulphide	10 books of 20 strips	017.1
		5m reel	017.5
Mercuric Chloride Paper	Arsenic (toxic)	100 strips	021.9
Nioxime Paper	Porosity of gold, palladium and rhodium	500 strips	013.10
Starch Paper	Iodine	10 books of 20 strips	018.1
		5m reel	018.5
		3 reel refill	018.5R
		10 books of 20 strips	019.1
Starch & Potassium Iodide Paper	Oxidising Agents	5m reel	019.5
		3 reel refill	019.5R
Water Coolant (EC64) Paper	pH of Anti-Freeze	100 strips	025.10
Water Finder Paper	Water in Oil	200 strips	036.10

Test Papers

Our test papers are available in bulk or in various lengths and widths or even packaged to your own needs.

Filter papers - Qualitative

Standard Qualitative Filter Papers

Our qualitative filter papers are recommended for use in general analytical methods which determine or identify particular constituents of a mixture regardless of the amount present. Qualitative filter papers are often used in routine separation work that still requires high purity and consistent performance with an average ash content of 0.04%.

Grade	Properties	Thickness (mm)	Pore Size (μm)	Weight (g/m ²)
301 = No. 5	Slow	0.2	2 - 3	100
302 = No. 3	Medium	0.37	4 - 7	160
303 = No. 2	Medium	0.2	6 - 10	100
304 = No. 1	Fast	0.2	10 - 12	85
305 = No. 4	Very fast	0.22	20 - 25	95

Filter circles, 100 pcs/box

mm	301	302	303	304	305
55	301055	302055	303055	304055	305055
70	301070	302070	303070	304070	305070
90	301090	302090	303090	304090	305090
110	301110	302110	303110	304110	305110
125	301125	302125	303125	304125	305125
150	301150	302150	303150	304150	305150
185	301185	302185	303185	304185	305185
240	301240	302240	303240	304240	305240
300	301300	302300	303300	304300	305300
320	301320	302320	303320	304320	305320

Filter papers - Qualitative

Wet-strengthened Qualitative Filter Papers

Wet-strengthened filter papers are manufactured from a majority of alpha-cellulose. The smooth surface allow a fibre free filtration. They feature a high wet strength and can also be used in the filtration of strong alkaline or acid solutions. Due to their high mechanical strength, they are suited to applications where the residue is removed from the filter, for example with a spatula or jet of water.

Grade	Properties	Thickness (mm)	Pore Size (µm)	Weight (g/m²)
321 = No. 93	Medium	0.19	4 - 7	74
322 = No. 93	Fast	0.17	7 - 10	65
323 = No. 91	Creped	0.09	8 - 10	75
324 = No. 113	Fast, creped	0.43	20	130
325 = No. 114	Fast, smooth	0.2	25	75

Filter circles, 100 pcs/box

mm	321	322	323	324	325
55	321055	322055	323055	324055	325055
70	321070	322070	323070	324070	325070
90	321090	322090	323090	324090	325090
110	321110	322110	323110	324110	325110
125	321125	322125	323125	324125	325125
150	321150	322150	323150	324150	325150
185	321185	322185	323185	324185	325185
240	321240	322240	323240	324240	325240
300	321300	322300	323300	324300	325300
320	321320	322320	323320	324320	325320



Filter papers - Quantitative

Ashless Filter Papers

Ashless filter papers are particularly useful for quantitative routine analysis and manufactured from refined pulp. They are acid-washed and have an extremely low ash content of <0.01%.

Grade	Properties	Thickness (mm)	Pore Size (μM)	Weight (g/m ²)
351 = No. 42	Slow	0.29	7 - 9	80
352 = No. 40	Medium	0.27	8 - 12	80
353 = No. 43	Medium/Fast	0.25	10 - 15	80
354 = No. 41	Fast	0.25	12 - 16	80

Filter circles, 100 pcs/box

mm	351	352	353	354
55	351055	352055	353055	354055
70	351070	352070	353070	354070
90	351090	352090	353090	354090
110	351110	352110	353110	354110
125	351125	352125	353125	354125
150	351150	352150	353150	354150
185	351185	352185	353185	354185
240	351240	352240	353240	354240
300	351300	352300	353300	354300
320	351320	352320	353320	354320

Filter papers - Quantitative

Wet-strengthened Quantitative Filter Papers

Wet-strengthened filter papers are manufactured from refined pulp and have a low ash content of <0.01%. They are often used for quantitative routine procedures and for analytical gravimetric applications. Due to their high mechanical strength in wet condition they are particularly suited for applications where the residue is removed from the filter, for example with a spatula or jet of water.

Grade	Properties	Thickness (mm)	Pore Size (μm)	Weight (g/m ²)
371 = No. 50	Slow	0.25	7 - 9	80
372 = No. 52	Medium	0.27	8 - 12	80
373 = No. 54	Fast	0.29	12 - 16	80

Filter circles, 100 pcs/box

mm	371	372	373
55	371055	372055	373055
70	371070	372070	373070
90	371090	372090	373090
110	371110	372110	373110
125	371125	372125	373125
150	371150	372150	373150
185	371185	372185	373185
240	371240	372240	373240
300	371300	372300	373300
320	371320	372320	373320



Glass Fibre Filters

Glass fibre filters allow a fast filtration and a very high particle retention. They are manufactured from 100% borosilicate glass and are chemically resistant towards most organic and inorganic solvents. Applications include environmental analysis for water, wastewater, process biotechnology and gravimetric analysis involving ignition of samples.

Grade	Properties	Thickness (mm)	Pore Size (µM)	Weight (g/m²)
50A = No. GFA	Fast, high loading	0.26	1.6	52
50B = No. GFB	Medium/Fast, very high loading	0.70	1.0	143
50C = No. GFC	Medium/Fast, high loading	0.26	1.2	52
50D = No. GFD	Slow, very high loading	0.53	2.7	120
506 = No. GF6	Fast, very high loading	0.48	1.1	75
508 = No. GF8	Medium, high loading	0.60	3.1	68

Filter circles, 100 pcs/box

mm	50A	50B	50C	50D	506	508
21	50A021	50B021	50C021	50D021	506021	508021
24	50A024	50B024	50C024	50D024	506024	508024
25	50A025	50B025	50C025	50D025	506025	508025
47	50A047	50B047	50C047	50D047	506047	508047
55	50A055	50B055	50C055	50D055	506055	508055
90	50A090	50B090	50C090	50D090	506090	508090
110	50A110	50B110	50C110	50D110	506110	508110
125	50A125	50B125	50C125	50D125	506125	508125

Also available as a box of 50 sterile individually packed filters (50C047S / 506047S)

Quartz Fibre Filters

Quartz fibre filters are recommended for atmospheric pollution control and for particle determination at high temperatures. The filters are made from pure quartz microfibre, free of binding additives and have extremely low content of alkali earth metals. These filters can be used for applications requiring a maximum filter purity with a low metal content and no carbon traces. They are suitable for both acid and alkaline gases and of solvents.

Grade	mm	Pack of 25
QF889	25	QF88925
QF889	37	QF88937
QF889	47	QF88947
QF889	150	QF889150

Chromatography and Blotting Papers

Recommended for chromatographic analysis and preparations and blotting techniques with gels. The papers are made from pure cotton linters without the addition of additives resulting in a smooth homogenous surface. The papers have a high performance resolution and wet-strength. These papers are available in sheet sizes of either 460mm x 570mm or 580mm x 600mm in packs of 100 sheets. These papers are also available in other sheets sizes or circles. Please contact the sales team for more information.

Application	Weight (g/m ²)	Pore Size (μm)	Size	Pack of 100
Chromatography	95	215	460mm x 570mm	7104657
Chromatography	95	215	580mm x 600mm	7125860
Blotting	190	190	460mm x 570mm	7204657
Blotting	190	190	580mm x 600mm	7205860
Blotting	700	400	460mm x 570mm	7224657
Blotting	700	400	580mm x 600mm	7225860

Cellulose Extraction Thimbles

Extraction thimbles are used for holding solid materials from which certain substances are to be eluted/extracted with a suitable solvent. They may also be used in the field for gas and waste air analysis for collecting solid particles (dust). Our extraction thimbles are made from pure cellulose and suitable for Soxhlet-type or similar devices.



Dimensions Ø x H	Pack of 25
Ø 16 x 100 mm	816100
Ø 19 x 90 mm	81990
Ø 20 x 80 mm	82080
Ø 20 x 100 mm	820100
Ø 22 x 60 mm	82260
Ø 22 x 80 mm	82280
Ø 22 x 85 mm	82285
Ø 22 x 100 mm	822100
Ø 22 x 120 mm	822120
Ø 23 x 80 mm	82380
Ø 23 x 100 mm	823100
Ø 25 x 60 mm	82560
Ø 25 x 70 mm	82570
Ø 25 x 80 mm	82580
Ø 25 x 100 mm	825100
Ø 25 x 150 mm	825150
Ø 26 x 50 mm	82650
Ø 26 x 60 mm	82660
Ø 26 x 80 mm	82680
Ø 26 x 100 mm	826100
Ø 27 x 80 mm	82780
Ø 27 x 100 mm	827100
Ø 28 x 80 mm	82880

Dimensions Ø x H	Pack of 25
Ø 28 x 100 mm	828100
Ø 28 x 120 mm	828120
Ø 30 x 60 mm	83060
Ø 30 x 77 mm	83077
Ø 30 x 80 mm	83080
Ø 30 x 90 mm	83090
Ø 30 x 95 mm	83095
Ø 30 x 100 mm	830100
Ø 30 x 150 mm	830150
Ø 33 x 60 mm	83360
Ø 33 x 80 mm	83380
Ø 33 x 94 mm	83394
Ø 33 x 100 mm	833100
Ø 33 x 118 mm	833118
Ø 33 x 150 mm	833150
Ø 33 x 205 mm	833205
Ø 34 x 130 mm	834130
Ø 35 x 150 mm	835150
Ø 37 x 130 mm	837130
Ø 40 x 85 mm	84085
Ø 41 x 123 mm	841123
Ø 43 x 123 mm	843123
Ø 43 x 125 mm	843125

Glass Fibre Extraction Thimbles

Glass Fibre thimbles are recommended for the analysis of particles and aerosols in gases and air. Our thimbles are made from 100% borosilicate fibres without any binding elements. These thimbles are ideal for high loading capacity and are also highly permeable to air. Glass fibre thimbles are recommended for hot, moist and acidic gases.

Dimensions Ø x H	Pack of 25
Ø 16 x 50 mm	91650
Ø 19 x 90 mm	91990
Ø 22 x 80 mm	92280
Ø 25 x 80 mm	92580
Ø 30 x 77 mm	93077
Ø 30 x 95 mm	93095
Ø 30 x 100 mm	930100
Ø 33 x 80 mm	93380
Ø 33 x 94 mm	93394
Ø 35 x 150 mm	935150
Ø 43 x 123 mm	943123



Micro Filtration Membranes

Membrane Type	Diameter (mm)	Gridded	Pore Size (μM)	Pack of 100
Sterile Membranes				
Cellulose Nitrate	47	Yes	0.20	CNM047020S
Cellulose Nitrate	47	Yes	0.45	CNM047045S
Non-Sterile Membranes				
Cellulose Acetate (CA)	47	No	0.20	CAM047020
Cellulose Acetate (CA)	47	No	0.45	CAM047045
Cellulose Nitrate (CN)	47	No	0.20	CNM047020
Cellulose Nitrate (CN)	47	No	0.45	CNM047045
Mixed Cellulose Esters (MCE)	47	No	0.20	MCM047020
Mixed Cellulose Esters (MCE)	47	No	0.45	MCM047045
Nylon	47	No	0.20	NM047020
Nylon	47	No	0.45	NM047045
PP	47	No	0.20	PPM047020
PP	47	No	0.45	PPM047045
PTFE	47	No	0.20	PTFEM047020
PTFE	47	No	0.45	PTFEM047045
PES	47	No	0.20	PESM047020
PES	47	No	0.45	PESM047045
PVDF	47	No	0.20	PVDFM047020
PVDF	47	No	0.45	PVDFM047045
Regenerated Cellulose (RC)	47	No	0.20	RCM047020
Regenerated Cellulose (RC)	47	No	0.45	RCM047045

Other pore sizes up to 5.0μM and diameters, from 25mm to 293mm are available. Please contact your sales representative for more information.

Membrane filtration offer a very convenient, fast and economical separation method. They are often used as a neutral sample support for further analysis.

Membrane Type	Description	Chemical Compatibility	Maximum Operating Temperature	Sterilisation
Cellulose Acetate	Low protein-binding, well suited for sterile filtration and clarification of aqueous solutions, nutrient media, buffers and sera. These hydrophilic membranes offer excellent flow rates (22ml/min)	Stable within pH 4-8 and resistant against most alcohols, hydrocarbons and oils	90°C	Gamma irradiation or Ethylene Oxide (EtO)
Cellulose Nitrate	Sterile or non-sterile. Gridded or non-gridded and individually packed. Used in the analysis of bacteria and colony counting. Can be supplied in other sizes	Thermally stable in the dry. Excellent resistance to solvents and acids	125°C	Autoclaving at 121°C
Mixed Cellulose Esters (MCE)	Suitable for filtration of organic solvents. Hydrophilic. Light adsorption rate (< 24micrograms/cm ²)	Resistant to aqueous solutions between pH 3-12.	90°C	Gamma irradiation or Ethylene Oxide (EtO)
Nylon	Membranes are hydrophilic and widely used in both aqueous and organic solvent filtration applications. Ideal for sterilisation and clarification of buffers and nutrient media with a low level of extractables	Resistant to many solvents and alkaline solutions between pH 3-12	150°C	Gamma irradiation or Ethylene Oxide (EtO)
PP	Best suited for industrial processes such as gas filtration, chemical processes and photo-resist production.	Resistant to solvents, acids and bases	100°C	Gamma irradiation or Ethylene Oxide (EtO)
PTFE	Hydrophobic membrane suitable for air and gas filtration. Can be used to filter particulates from both liquid and gas samples	Extremely resistant to solvents, acids and bases	125°C	Gamma irradiation or Ethylene Oxide (EtO)
PES	Have a uniform pore structure with high mechanical stability and chemically inert. Offer excellent flow rates for critical throughout and the lowest protein adsorption. Ideal for biological and pharmaceutical specimens.	Resistant to some solvents and aggressive, aqueous solution between pH 1-13	100°C	Gamma irradiation or Ethylene Oxide (EtO)
PVDF	Hydrophilic membrane suitable for chemical filtration applications and a cost effect alternative to PTFE.	Resistant to solvents, acids and bases	121°C	Gamma irradiation or Ethylene Oxide (EtO)
RC	Hydrophilic membrane ideal for removing particulates from HPLC samples prior to injection. Also exhibit low, non-specific adsorption.	Extremely chemically resistant, suitable for aqueous (pH 3-12) and organic media	110°C	Gamma irradiation or Ethylene Oxide (EtO)

Syringe Filters

Johnson Test Papers syringe filters are excellent in rapid purification and particle removal. These filters are stable and economical and they are used for filtering liquid samples and suspended materials in gas. Our syringe filters are available as both sterile and non-sterile. All filter housings are sealed with ultrasonic waves giving the possibility of using them under pressure.

Ordering codes

SFM					25		P		020		S	
										Sterilisation		
										S - Sterile	N - None	
										Pore size		
										020 - 0.2 µm	045 - 0.45 µm	
										Housing material		
										P - Polypropylene		
										Dimension		
										25 - Ø25 mm	13 - Ø13 mm	
Membrane material												
SFM - MCE			SFP - PES			SFC - CA			SFN - Nylon			
SFV - PVDF (Hydrophilic)			SFW - PVDF-D (Hydrophobic)			SFH - PTFE-H (Hydrophilic)			SFD - PTFE-D (Hydrophobic)			



MCE (Mixed Cellulose Ester)

Features

- Hydrophilic
- Mixture of Cellulose Aceate and Nitro Cellulose
- Filtration of HPLC samples
- For filtration of general aqueous type liquids
- Used for sterile filtration of small volumes and fine particles
- Excellent strength and adsorption
- Stable for pH 3.5-8
- Sterile and non-sterile

Specification

Material of membrane	Mixed Cellulose Ester
Material of housing	Polypropylene
Pore size	0.20 µm, 0.45 µm
Effective filtration area	13 mm – 0.8 cm ² , 25 mm – 4.0 cm ²
Process volume	13 mm ≤ 10 mL, 25 mm ≤ 100 mL
Maximum inlet pressure	5.1 bar (5.3 kg / cm ²)
pH range	3.5 – 8

Model No.	Pore Size	Dimension	Sterilisation	Qty / Pack
SFM13P020S	0.20 µm	Ø13 mm	With	100
SFM13P045S	0.45 µm			
SFM25P020S	0.20 µm	Ø25 mm	With	50
SFM25P045S	0.45 µm			
SFM13P020N	0.20 µm	Ø13 mm	Without	100
SFM13P045N	0.45 µm			
SFM25P020N	0.20 µm	Ø25 mm	Without	50 / 100
SFM25P045N	0.45 µm			

PES (Polyethersulfone)

Features

- Hydrophilic
- Rapid filtration of aqueous solutions such as culture medium of tissues, additives and buffers
- Excellent thermal resistance and chemical resistance
- Mild organic solvents
- Filtration of general aqueous type liquid
- Used for purification of solutions containing protein
- Stable for pH 1-14
- Sterile and non-sterile

Specification

Material of membrane	Polyethersulfone
Material of housing	Polypropylene
Pore size	0.20 µm, 0.45 µm
Effective filtration area	13 mm – 0.8 cm ² , 25 mm – 4.0 cm ²
Process volume	13 mm ≤ 10 mL, 25 mm ≤ 100 mL
Maximum inlet pressure	5.1 bar (5.3 kg / cm ²)
pH range	1 – 14

Model No.	Pore Size	Dimension	Sterilisation	Qty / Pack
SFP13P020S	0.20 µm	Ø13 mm	With	100
SFP13P045S	0.45 µm			
SFP25P020S	0.20 µm	Ø25 mm	With	50
SFP25P045S	0.45 µm			
SFP13P020N	0.20 µm	Ø13 mm	Without	100
SFP13P045N	0.45 µm			
SFP25P020N	0.20 µm	Ø25 mm	Without	50 / 100
SFP25P045N	0.45 µm			

CA (Cellulose Acetate)

Features

- Hydrophilic
- For filtration of biological macromolecules
- Low binding capacity for proteins
- Stable for pH 1-14
- Sterile and non-sterile

Specification

Material of membrane	Cellulose Acetate
Material of housing	Polypropylene
Pore size	0.20 µm, 0.45 µm
Effective filtration area	13 mm – 0.8 cm ² , 25 mm – 4.0 cm ²
Process volume	13 mm ≤ 10 mL, 25 mm ≤ 100 mL
Maximum inlet pressure	5.1 bar (5.3 kg / cm ²)
pH range	1 – 14

Model No.	Pore Size	Dimension	Sterilisation	Qty / Pack
SFC13P020S	0.20 µm	Ø13 mm	With	100
SFC13P045S	0.45 µm			
SFC25P020S	0.20 µm	Ø25 mm	With	50
SFC25P045S	0.45 µm			
SFC13P020N	0.20 µm	Ø13 mm	Without	100
SFC13P045N	0.45 µm			
SFC25P020N	0.20 µm	Ø25 mm	Without	50 / 100
SFC25P045N	0.45 µm			

Nylon (Polyamide)

Features

- Hydrophilic
- Excellent mechanical strength and high adsorption
- Used for most organic solvents
- Available for mid-polar liquids
- Stable for pH 6-13

Specification

Material of membrane	Nylon
Material of housing	Polypropylene
Pore size	0.20 µm, 0.45 µm
Effective filtration area	13 mm – 0.8 cm ² , 25 mm – 4.0 cm ²
Process volume	13 mm ≤ 10 mL, 25 mm ≤ 100 mL
Maximum inlet pressure	5.1 bar (5.3 kg / cm ²)
pH range	6 – 13

Model No.	Pore Size	Dimension	Sterilisation	Qty / Pack
SFN13P020N	0.20 µm	Ø13 mm	Without	100
SFN13P045N	0.45 µm			
SFN25P020N	0.20 µm	Ø25 mm	Without	50 / 100
SFN25P045N	0.45 µm			

PVDF (Polyvinylidene Fluoride)

Features

- Hydrophilic
- Extremely Low protein binding
- Available for both organic solvents and aqueous solvents
- Removal of fine particle
- Filtration of biological solutions

Specification

Material of membrane	Hydrophilic Polyvinylidene Fluoride
Material of housing	Polypropylene
Pore size	0.20 µm, 0.45 µm
Effective filtration area	13 mm – 0.8 cm ² , 25 mm – 4.0 cm ²
Process volume	13 mm ≤ 10 mL, 25 mm ≤ 100 mL
Maximum inlet pressure	5.1 bar (5.3 kg / cm ²)
pH range	3.5 – 8

Model No.	Pore Size	Dimension	Sterilisation	Qty / Pack
SFV13P020N	0.20 µm	Ø13 mm	Without	100
SFV13P045N	0.45 µm			
SFV25P020N	0.20 µm	Ø25 mm	Without	50 / 100
SFV25P045N	0.45 µm			

PVDF-D (Polyvinylidene Fluoride)

Features

- Hydrophobic
- Excellent thermal resistance and chemical resistance
- Filtration of gas
- Filtration of corrosive solutions
- Stable for pH 1-13

Specification

Material of membrane	Hydrophobic Polyvinylidene Fluoride
Material of housing	Polypropylene
Pore size	0.20 µm, 0.45 µm
Effective filtration area	13 mm – 0.8 cm ² , 25 mm – 4.0 cm ²
Process volume	13 mm ≤ 10 mL, 25 mm ≤ 100 mL
Maximum inlet pressure	5.1 bar (5.3 kg / cm ²)
pH range	1 – 13

Model No.	Pore Size	Dimension	Sterilisation	Qty / Pack
SFW13P020N	0.20 µm	Ø13 mm	Without	100
SFW13P045N	0.45 µm			
SFW25P020N	0.20 µm	Ø25 mm	Without	50 / 100
SFW25P045N	0.45 µm			

Hydrophobic PVDF has water repellency. When filtering aqueous solutions, soak PTFE Syringe filter in a suitable solvent (isopropyl alcohol or ethylene alcohol) before filtration.

PTFE-H (Polytetrafluoroethylene)

Features

- Hydrophilic
- Polypropylene supported membrane
- Excellent resistance to organic, acid and alkali solvents
- Suitable for pre-filtration of mixed solvents used in HPLC
- Suitable for mixed solvents of aqueous type and organic solvents

Specification

Material of membrane	Hydrophilic Polytetrafluoroethylene
Material of housing	Polypropylene
Pore size	0.20 µm, 0.45 µm
Effective filtration area	13 mm – 0.8 cm ² , 25 mm – 4.0 cm ²
Process volume	13 mm ≤ 10 mL, 25 mm ≤ 100 mL
Maximum inlet pressure	5.1 bar (5.3 kg / cm ²)

Model No.	Pore Size	Dimension	Sterilisation	Qty / Pack
SFH13P020N	0.20 µm	Ø13 mm	Without	100
SFH13P045N	0.45 µm			
SFH25P020N	0.20 µm	Ø25 mm	Without	50 / 100
SFH25P045N	0.45 µm			

PTFE-D (Polytetrafluoroethylene)

Features

- Hydrophobic
- Polypropylene Supported Membrane Filter
- Air and gas filtration
- Available for air vent
- Suitable for HPLC and organic solvent
- Excellent chemical resistance, unaffected by ultraviolet rays

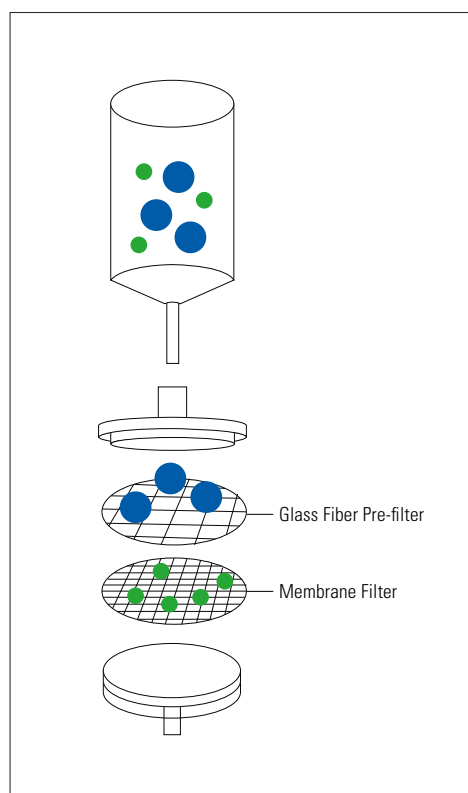
Specification

Material of membrane	Hydrophobic Polytetrafluoroethylene
Material of housing	Polypropylene
Pore size	0.20 µm, 0.45 µm
Effective filtration area	13 mm – 0.8 cm ² , 25 mm – 4.0 cm ²
Process volume	13 mm ≤ 10 mL, 25 mm ≤ 100 mL
Maximum inlet pressure	5.1 bar (5.3 kg / cm ²)

Model No.	Pore Size	Dimension	Sterilization	Qty / Pack
SFD13P020N	0.20 µm	Ø13 mm	Without	100
SFD13P045N	0.45 µm			
SFD25P020N	0.20 µm	Ø25 mm	Without	50 / 100
SFD25P045N	0.45 µm			

Hydrophobic PVDF has water repellency. When filtering aqueous solutions, soak PTFE Syringe filter in a suitable solvent (isopropyl alcohol or ethylene alcohol) before filtration.

Combi Syringe Filter



Features

- Combi syringe filters with a coarse glass fiber prefilter and a small pore membrane as main filter
- Filtration for solutions with a high load of particulate matter
- Two to four times greater throughput than syringe filters without prefilters
- Glass fiber prefilter (1.6 µm) to remove larger particles and membrane filters for fine filtration
- For highly contaminated samples
- Two to five times greater filtration efficiency depending on solvents

Specification

Material of membrane	Glass Fiber Pre filter 1.6 µm Membrane Filter 0.20 µm or 0.45 µm
Material of housing	Polypropylene
Effective filtration area	25 mm – 4.0 cm ²
Process volume	25 mm ≤ 100 mL
Maximum inlet pressure	5.1 bar (5.3 kg / cm ²)

Materials	Model No.	Pore Size	Dimension	Sterilisation	Qty / Pack
MCE (For hydrophilic)	SFM25P020G	1.6 / 0.20 µm	Ø25 mm	Without	50 / 100
GF + Mixed cellulose Ester	SFM25P045G	1.6 / 0.45 µm			
PES (Hydrophilic / Mild organic solvents)	SFP25P020G	1.6 / 0.20 µm	Ø25 mm	Without	50 / 100
GF + Polyethersulfone	SFP25P045G	1.6 / 0.45 µm			
CA (Hydrophilic / Alcohol)	SFC25P020G	1.6 / 0.20 µm	Ø25 mm	Without	50 / 100
GF + Cellulose Acetate	SFC25P045G	1.6 / 0.45 µm			
PVDF (Hydrophilic / Mild organic solvents)	SFV25P020G	1.6 / 0.20 µm	Ø25 mm	Without	50 / 100
GF + Polyvinylidene Fluoride	SFV25P045G	1.6 / 0.45 µm			
Nylon (Hydrophilic / Mild organic solvents)	SFN25P020G	1.6 / 0.20 µm	Ø25 mm	Without	50 / 100
GF + Polyamide	SFN25P045G	1.6 / 0.45 µm			
PTFE-D (For organic solvents)	SFD25P020G	1.6 / 0.20 µm	Ø25 mm	Without	50 / 100
GF + Polytetrafluoroethylene	SFD25P045G	1.6 / 0.45 µm			
PTFE-H (Hydrophilic / Organic solvents)	SFH25P020G	1.6 / 0.20 µm	Ø25 mm	Without	50 / 100
GF + Polytetrafluoroethylene	SFH25P045G	1.6 / 0.45 µm			

Service

Custom Order and Product Development

Johnson Test Papers is recognised worldwide as one of the leading OEM manufacturers of rapid tests and filter papers. Our technical staff can work with your research and development departments or help to determine the best solutions for your specific product. Products in this catalogue represent those most commonly used in the scientific market however, most of our products can be supplied in special sizes or presentation including sheets, rolls or die-cut. To obtain more information please contact our sales team at sales@jtp.uk.com

Technical Information

This catalogue provides current and detailed technical information. However for those unusual requests we have a team of competent specialists who can answer your questions immediately or forward them to our specialists in product development.

Samples

Product samples are available to help determine the products most suited to your application. Please contact our customer services team at sales@jtp.uk.com for more information.

Distribution

Johnson Test Papers products are available from a worldwide distributor network. Our representatives can provide you with a comprehensive product range and technical expertise to help provide you with the best assistance you may require.

Satisfaction Guaranteed

If you are dissatisfied with any of our products, we will be happy to work with you to attempt in solving your problem. If there is a quality issue within 3 months of purchase and we fail to provide a solution, we will offer a replacement or provide full credit.

Quality

Johnson Test Papers continued commitment is supported through registered adherence to ISO 9001 standards.



Standard Terms & Conditions of Sale

1. Definitions

In these terms and conditions, the following words shall have the following meanings:-

“the company” shall mean Johnson Test Papers Ltd.

“the Goods” shall mean the products or articles which are manufactured or sold by the company.

“the Buyer” shall mean the purchaser of the goods from the Company.

2. The Contract

2.1 All orders are accepted under these Terms & Conditions alone.

2.2 These Terms & Conditions exclude any other Terms & Conditions inconsistent therewith which a buyer might seek to impose even though such other terms and conditions may be submitted in a later document and/or purport to exclude or supersede any Terms & Conditions inconsistent with them or may be contained in any offer acceptance or counter-offer made by the Buyer.

2.3 No variations of these Terms & Conditions is permitted unless expressly accepted by a Director of the Company in writing.

2.4 All verbal orders must be confirmed to the Company in writing by email, fax or by post.

3. Cancellation

3.1 No cancellation by the Buyer is permitted except where expressly agreed by the Company.

3.2 The Buyer will in the event of agreed cancellation by the Buyer indemnify the Company fully against all expenses incurred up to the time of such cancellation.

4. Price

4.1 All prices charged are those ruling at the date of acceptance of the order from the Buyer unless otherwise stated.

4.2 Unless otherwise stated the prices charged are net ex works exclusive of Value Added Tax.

4.3 The Company reserves the right at any time prior to delivery of the Goods to adjust the price to take account of any increase in the cost of raw materials, labour or services, taxes or duties or any currency fluctuations affecting the cost of imported materials.

5. Terms of Payment

5.1 The Buyer shall make payment net cash with the Buyer's order except where the Company has agreed to open a credit account. In the case, the Buyer shall make payment net cash against every invoice from the Company within 30 days of the date of such invoice.

5.2 Time for payment shall be of the essence.

5.3 The Company reserves the right to charge interest at 2% per month on all overdue accounts., such interest being deemed to accrue on a day to day basis from the due date for payment under clause 5.1.

5.4 The Buyer shall have no right of set off, statutory or otherwise.

5.5 If the Buyer (being a company) has a petition presented for its winding-up or for an administration order under the Insolvency Act 1986 or passes a resolution for voluntary winding-up otherwise than for the purpose of a bona fide amalgamation or reconstruction or compounds with its creditors or has a receiver appointed of all or any part of its assets or (being an individual) becomes bankrupt or insolvent or enters into any arrangement with its creditors or commits a material or serious breach of this Agreement (and in the case of such a breach being remediable fails to remedy it within 7 days of receiving notice to do so), he will be deemed to have repudiated the Contract.

5.6 The Company reserves the right at any time at its discretion to demand security for payment before continuing with or delivering any Order.

6. Delivery

6.1 All items quoted for delivery shall be delivered to the Buyers address or, if different, as specified on the Buyer's order.

6.2 The Company shall be responsible for the delivery of Goods to the delivery address, but the cost of such delivery, packing and insurance may be charge to the Buyer.

6.3 Time of delivery is not of the essence.

6.4 The Company shall not be liable for any loss whatsoever or howsoever arising caused by its non-delivery.

6.5 The Company reserves the right to make delivery by instalments and to tender a separate invoice in respect of each instalment.

6.6 When delivery is to be by instalment or the Company exercises its right to delivery by instalments under clauses 6.5 hereof or if there be any delay in the delivery of any one or more instalments for whatever reason this will not entitle the Buyer to treat the contract as repudiated or to damages.

6.7 Deviations in quantity of the Goods delivered (representing not more than 10 per cent by value) from that stated in the Buyer's order shall not give the Buyer any right to reject the Goods or to claim damages and the Buyer shall be obliged to accept and pay at the contract rate for the quantity of the Goods delivered.

7. Risk and the Passing of Property

7.1 Risk in the Goods shall be pass the Buyer when the Goods are delivered to, or collected by, the Buyer or his agent.

7.2 Notwithstanding risk in the goods passing in accordance with clause 7.1 hereof, title in the goods shall not pass to the Buyer until payment has been received by the Company for the Goods and no other amounts are then outstanding from the Buyer to the Company in respect of other Goods supplied by the Company.

7.3 The Buyer is licensed by the Company to use or agree to sell the Goods delivered to the Buyer subject to the provisions of clauses 7.4 and 7.5.

7.4 Until title to the Goods passes:-

7.4.1 The Buyer will hold the Goods as fiduciary agent and bailee for the Company;

7.4.2 The Goods shall be kept separate and distinct from all other property of the Buyer and of third parties and in good and substantial repair and condition and be stored in such a way as to be clearly identifiable as belonging to the Company;

7.4.3 The Company may at any time revoke the power of sale and use of the Goods by notice to the Buyer if the Buyer is in default for longer than 14 days in the payment of any sum whatsoever due to the Company (whether in respect of the Goods or any other goods supplied at any time by it to the Buyer) or if the Company has bona fide doubts as to the solvency of the Buyer);

7.4.4 The Buyer's power of sale and use shall automatically cease if the Buyer has a petition presented for its winding-up or for an administration order under the Insolvency Act 1986 or passes a resolution for voluntary winding-up otherwise than for the purposes of a bona fide amalgamation or reconstruction or compounds with its creditors or has a receiver appointed of all or any part of its assets or becomes bankrupt or insolvent or enters into any arrangements with creditors or takes or suffers any similar action in consequence of debts or carries out or undergoes any analogous act or proceedings under foreign law;

7.4.5 Upon determination of the Buyer's power of sale and use the Buyer shall place any of the Goods, in its possession or under its control, at the disposal of the Company and the Company shall be entitled to enter the premises of the Buyer for the purpose of removing the Goods.

7.5 The Company shall at any time be entitled to appropriate any payment made by the Buyer in respect of any Goods in settlement of such invoices or accounts in respect of such goods as the Company may in its absolute discretion think fit notwithstanding any purported appropriated to the contrary by the Buyer.

8. Lien and Stoppage

Until such time as the title in the Goods has passed to the Buyer the Company has the right to withhold delivery if the Buyer (being a company) has a petition presented for its winding-up or for an administration order under the Insolvency Act 1986 or passes a resolution for voluntary winding-up otherwise than for the purpose of a bona fide amalgamation or reconstruction or compounds with its creditors or has a receiver appointed of all or part of its assets or (being an individual) becomes bankrupt or insolvent or enters into any arrangements with creditors or takes or suffers any similar action in consequence of debts or carries out or undergoes any analogous act or proceedings under the foreign law.

9. Inspection/Shortage

9.1 The Buyer is under a duty whenever possible to inspect the Goods on delivery or on collection as the case may be.

9.2 Where the Goods cannot be examined the carriers note or such other note as appropriate shall be marked "not examined".

9.3 The Company shall be under no liability for any damage or shortages that would be apparent on careful inspection if the terms of this clause are not complied with and, in any event will be under no

liability if a written complaint is not delivered to the Company within 10 days of delivery detailing the alleged damage or shortage.

9.4 In all cases where defects or shortages are complained of the Company shall be under no liability in respect thereof unless an opportunity to inspect the Goods is supplied to the Company before any use is made thereof or any alteration or modification is made thereto by the Buyer.

9.5 Subject to Clause 9.3 and 9.4, the Company shall make good and shortage in the Goods and where appropriate replace any goods damaged in transit as soon as it is reasonable to do so, but otherwise shall be under no liability whatsoever arising from such shortage or damage.

10. Warranty

10.1 The Company warrants that it has title to and the unencumbered right to sell the Goods.

10.2 It is the Buyer's responsibility to ensure that the Goods are suitable for the purpose to which that are intended to be used.

10.3 No representation or warranty is given as to the suitability or fitness of the Goods for any particular purpose and the Buyer shall satisfy itself in this respect and shall be totally responsible thereof.

10.4 If the Buyer has any specific requirements for the use of the Goods the Buyer must notify requirements to the Company in writing before purchasing the Goods.

10.5 If the Buyer is unsure as to the suitability of any Goods for a particular purpose it should consult the Company prior to purchase.

10.6 If the Goods are in such a state as would but for this condition entitle the Buyer to repudiate the contract and/or claim damages from the Company, the Company reserves the right to repair or replace the Goods.

11. Liability

11.1 Introduction

11.1.1 Nothing in clause 11 shall be deemed to exclude or restrict the Company's liability for death or personal injury resulting from the Company's negligence.

11.1.2 Each of the sub-clauses in Clause 11 is to be treated as separate and independent.

11.2 Exclusion

11.2.1 Clauses 11.2 only covers defects caused by faulty design, manufacture, materials or workmanship. It does not cover defects caused by abnormal use, misuse or neglect. It does not cover faulty design, manufacture materials or workmanship supplied or undertaken by the Buyer or third parties. In respect of goods not designed or manufactured by the Company, the Company only gives such guarantee or warranty to the Buyer as the Company itself receives.

11.2.2 The Company agrees that if any defect covered by Clause 11.2 is discovered during the period of three months commencing with the date of dispatch, the Company will either repair the goods at its own expense or, if it chooses to do so, replace them.

11.2.3 The Company does not bear responsibility for any defect arising or introduced by a Buyer in the course of storage or handling of the products where that Buyer acts as an agent or distributor of the Company's products. The Buyer should consult the Company if doubt exists with regard to the appropriate storage or handling requirements.

11.2.4 The Buyer cannot claim the benefit of this clause unless:

(1) he informs the Company of the relevant defect in writing within 7 working days of discovering it; And

(2) he returns the Goods to the Company at his own expense.

11.2.5 The risk of accidental loss whilst the Goods are being returned will be borne by the Buyer.

11.2.6 In consideration for receiving the benefit of this clause, the Buyer agrees that, apart from those terms set out in Clauses 9 and 10, no other terms, conditions, warranties or in nominate terms, express or implied, statutory or otherwise, shall form part of this contract.

11.3 Exclusion of Consequential Loss The Company shall not be liable for any consequential or indirect loss suffered by the Buyer whether their loss arises from breach of duty in contract or tort or in any other way (including loss arising from the Company's negligence). Non exhaustive illustrations of consequential or indirect loss would be:

- Loss of profits

- Loss of contracts

- Damage to property of the Buyer or anyone else, and personal injury to the Buyer or anyone else (except so far as such injury' is attributable to the Company's negligence).

11.4 Limitation

The Company's total liability for any one claim or for the total of all claims arising from any one act or default of the Company (whether arising from the Company's negligence or otherwise) shall not exceed £1,000,000.

12. Special Packaging or Materials

Where special materials or branded packaging are required to satisfy the Buyer's order specification, it will be a condition that any surplus quantity of these items produced by the Company will, on completion of the Buyer's order, be invoiced to, and payable by, the Buyer.

13. Force Majeure

13.1 The Company shall not be liable for any failure to deliver the Goods arising from circumstances outside the Company's control.

13.2 Non-exhaustive illustrations of such circumstances would be act of God, war, riot, explosion, abnormal weather conditions, fire, flood, strikes, lockouts, Government action or regulations (UK or otherwise), delay by suppliers, accidents and shortage of materials, labour or manufacturing facilities.

13.3 Should the Company be prevented from delivering ion the above circumstances, it shall give the Buyer written notice of this fact as soon as reasonably practicable.

13.4 If the circumstances preventing delivery are still continuing three months after the Buyer receives the Company's notice, then either party may give written notice to the other cancelling the contract.

13.5 If the contract is cancelled in this way, the Company will refund any payment which the Buyer has already made on account of the price (subject to deduction of any amount the Company is entitled from the Buyer) but the Company will not be liable to compensate the Buyer for any further loss or damage caused by the failure to deliver.

14. Sales Promotion Documentation

14.1 Whilst the Company takes every precaution in the preparation of its catalogues, technical circulars, price lists and its literature, these documents are for the Buyer's general guidance only and the particulars contained therein shall not constitute representations by the Company and the Company shall not be bound thereby.

14.2 Illustrations and sizes refer to patterns as made at the time of publication. In view of continued improvements and variations in availability of materials, the right is reserved to supply Goods of similar quality which may not correspond exactly with the particulars given.

15. Notice

Any notice to be given hereunder shall be in writing and shall be deemed to have been duly given if sent or delivered to the party concerned at its address specified overleaf or such address as the party may from time to time notify in writing and shall be deemed to have been served, if sent by post, 48 hours after posting.

16. Assignment

Neither the Company nor the Buyer shall assign or transfer or purport to assign of transfer the contract or the benefits thereof to any other person without prior written consent of the other.

17. Proper Law and Jurisdiction

The contract shall be governed by and construed in accordance with the law of England.

18. Waiver

The rights and remedies of the Company under the contract shall not be diminished, waived or extinguished by the granting of any indulgence, forbearance or extension of time by the Company in asserting or exercising any such rights or remedies.

19. Headings

The headings of these conditions are for convenience only and shall have no effect on the interpretation thereof.



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