

# SPECIALTY PRODUCTS

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## Qualitative Filter Papers

- **100% alpha cotton cellulose**
- **pH tolerant 0 to 12**
- **Temperature maximum 120°C**
- **Wide selection** – seven types
- **Ash Content: 0.1%**

### APPLICATIONS

- Clarify and remove precipitates
- Preparation for qualitative analysis

### ORDERING INFORMATION

See page 34.



Seven grades of qualitative filter papers are available.

## CHARACTERISTICS AND APPLICATIONS: CONVERSIONS – QUALITATIVE PAPERS

Grade	Comments	Weight (g/m <sup>2</sup> )	Thickness (mm)	Flow Time <sup>1</sup> (sec)	Absorption speed <sup>2</sup> (cm)	Wet Strength <sup>3</sup> (cm H <sub>2</sub> O)	Retention Characteristic (µm)	Collection Efficiency (%; 0.3 µm DOP)	Conversion <sup>4</sup>	
									Whatman	Schleicher & Schuell
No. 1	Retains large crystalline particles and gelatinous precipitates. Fast flow rate, smooth surface, normal hardness	90	0.20	45	9.0	14.3	6 Coarse	65	1	410 or 1450cv
No. 2	Retains medium crystalline precipitates, fast flow rate, smooth surface, normal hardness	125	0.26	80	8.0	17.3	5 Medium	80	2	604
No. 231	Retains crystalline precipitates, moderate flow rate, smooth surface, normal hardness	95	0.18	130	7.5	-	Medium	-	1	-
No. 232	Retains medium to medium-fine particulates, slow flow rate, smooth, normal hardness	90	0.18	250	5.0	-	Med./Med.-Fine	-	-	-
No. 131	High retention efficiency for fine crystalline precipitates like barium sulfate, slow flow rate, smooth surface, normal hardness	140	0.25	240	6.0	19.4	3 Med.-Fine	90	3 or 6	597
No. 235	Highest retention efficiency, retains very fine particulates, very slow flow rate, smooth	95	0.17	1200	4.0	-	Very Fine	-	5	-
No. 101	Seed germination, retains large particles	80	0.21	50	8.0	14.3	6-7 Coarse and gelatinous	-	4	-

1. Flow time is the time in seconds required to filter 100 mL of distilled water at 20°C under pressure supplied by a 10 cm water column through a 10 cm<sup>2</sup> section of filter paper.

2. Absorption speed is the distance in cm that water will travel in an upright strip of filter paper in ten (10) minutes at 20°C.

3. Wet strength is the height in cm of a water column that will rupture a 10 cm<sup>2</sup> section of filter paper.

4. Conversions between manufacturers are not absolute. Use these conversions as a guideline.

## Quantitative Filter Papers

- **Highest quality** alpha cotton cellulose
- **Ash Content:** 0.01%
- **Acid washed:** Double acid washed in hydrochloric then hydrofluoric acid (No. 3, 5A, 5B, 5C, 6), then rinsed with ultrapure water to neutralize. No. 4A is further treated with nitric acid before washing

## APPLICATIONS

- Gravimetric analysis
- Environmental monitoring



Seven quantitative filter papers are available.

## CHARACTERISTICS AND APPLICATIONS: CONVERSIONS – QUANTITATIVE PAPERS

Grade	Comments	Weight (g/m <sup>2</sup> )	Thickness (mm)	Flow Time <sup>1</sup> (sec)	Absorption speed <sup>2</sup> (cm)	Wet Strength <sup>3</sup> (cm H <sub>2</sub> O)	Retention Characteristic (µm)	Collection Efficiency (%; 0.3 µm DOP)	Conversion <sup>4</sup>	
									Whatman	Schleicher & Schuell
No. 3 Ashless	Medium retention (5-10 µm), fast flow rate Analysis of soils, fertilizers, cement, and minerals	113	0.23	130	7.5	19.4	5 Medium	80	6	593-A
No. 5A Ashless	Fast flow rate, retains coarse particulates and gelatinous precipitates (>10 µm). Filter hydroxides and metallic aerosols, environmental monitoring, determine silica content in steel	97	0.22	60	9.5	14.3	7 Coarse and gelatinous	75	41	589-IH
No. 5B Ashless	Retains medium particles (5-10 µm) such as CaCO <sub>3</sub> , PbSO <sub>4</sub> , CaCO <sub>4</sub> , MnCO <sub>3</sub> , ZnCO <sub>3</sub> , ZnS, AgCl	108	0.21	195	7.0	19.4	4 Medium	90	40	598 Green
No. 5C Ashless	Collect fine precipitates (<5 µm) such as SrSO <sub>4</sub> , BaSO <sub>4</sub> , HgCrO <sub>4</sub> , and colloidal dispersions; gravimetric analysis	118	0.22	570	6.0	24.5	1 Fine	93	42	589 Blue
No. 6 Ashless	Retains medium-fine particulates (2-10 µm), trace and precious metals	103	0.20	300	6.0	14.3	3 Medium Fine	90	42	589 White
No. 7 Ashless	Highest purity for retaining medium particles (5-10 µm), precise gravimetric analysis	87	0.18	200	7.0	11.2	4 Medium	85	40, 43 or 540	-
No. 4A Hardened Ashless	High wet strength, suitable for use under high pressure, high chemical and pH resistance, retains fine crystalline precipitates (<5 µm), slow flow	96	0.12	915	4.0	89.7	1 Very Fine	90	50	-

Footnotes: See facing page

**Ash content of Quantitative Papers (mg per disk)**

cm	No.3	No.5A	No.5B	No.5C	No.6	No.7
5.5	0.03	0.02	0.03	0.03	0.02	0.02
7.0	0.04	0.04	0.04	0.05	0.04	0.03
9.0	0.07	0.06	0.07	0.08	0.07	0.06
11.0	0.11	0.09	0.10	0.11	0.10	0.08
12.5	0.14	0.12	0.13	0.15	0.13	0.11
15.0	0.20	0.17	0.19	0.21	0.18	0.15
18.5	0.30	0.26	0.29	0.32	0.28	0.23

**Metal Content**

(µg/g)	Si	Na	K	Ca	Mg	Fe	Pb	Cu	Mn	Ni	Al	Zn	Cd
Qualitative	46	62	3	140	17	<5	<1	<1	<1	<1	<2	1	<0.5
Quantitative	32	<10	<2	<10	<1	8	<1	<1	<0.5	<1	2	<1	<0.5

**ORDERING INFORMATION: QUALITATIVE PAPERS**

Available in disks in the following diameters (cm): 4.25, 5.5, 7.0, 9.0, 11.0, 12.5, 15.0, 18.5, 24.0, 28.5, 30.0, 33.0, 36.0, 40.0, 50.0, 60.0
Additional sizes available upon request.
Order by specifying first the grade of filter then the diameter, e.g. N0112.5CM (No.1, 12.5 cm), N02325.5CM (No.232, 5.5 cm)
Package of 100

**ORDERING INFORMATION: QUANTITATIVE PAPERS**

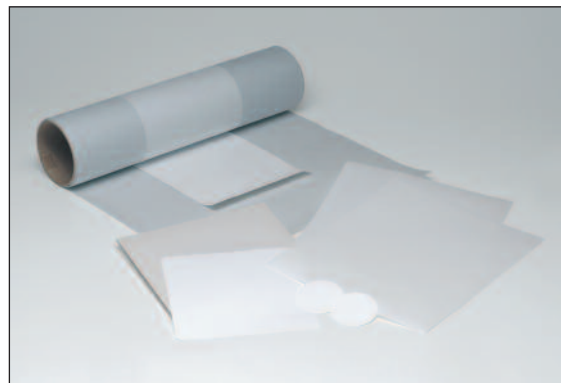
Available in disks in the following diameters (cm): 5.5, 7.0, 9.0, 11.0, 12.5, 15.0, 18.5
Additional sizes available upon request.
Order by specifying first the grade of filter then the diameter, e.g. N05A12.5CM (No.5A,12.5 cm), N065.5CM (No.6, 5.5 cm)
Package of 100

## Pure Nitrocellulose for Blotting and Hybridization

- **Pure esters of nitrocellulose**, free of acetate and other esters
- **Maximal protein/nucleic acid binding**, up to 80-100  $\mu\text{g}/\text{cm}^2$
- **Low background**
- **Two pore sizes** available: 0.45  $\mu\text{m}$  is suitable for most blotting applications, 0.20  $\mu\text{m}$  sizes for lower molecular weights

### ORDERING INFORMATION: NITROCELLULOSE

	Quantity per package	0.20 $\mu\text{m}$	0.45 $\mu\text{m}$
Sheets (Dimensions in cm)			
20 x 20	10	S020A204D	S045A204D
30 x 30	10	S020A304D	S045A304D
Rolls			
33 cm x 3 M	1	S020A330R	S045A330R
Disks (Diameter in mm)			
82	25	S020A082C	S045A082C
137	25	-	S045A137C



Pure Nitrocellulose and Blotting Paper.

## Blotting/Chromatography Paper

- **High quality papers** are carefully tested for spot formation, capillary action, water flow rate and absorption speed to assure uniformity and reproducibility
- **Better resolution** with slower flow rate papers

### APPLICATIONS

- Chromatography
- Electrophoresis and blotting
- Separation of heavily loaded solutes

### SPECIFICATIONS AND CONVERSION GUIDE

Grade	Weight (g/m <sup>2</sup> )	Thickness (mm)	Absorption Speed <sup>1</sup> (cm)	Wet Strength (cm H <sub>2</sub> O)	Ash (%)	Whatman equivalent
No. 50	140	0.25	6.0	19.3	0.1	20 Chr
No. 51A	87	0.18	7.5	14.3	0.01	4 Chr
No. 151B	87	0.17	7.0	14.3	0.06	1 Chr
No. 1514A	185	0.32	7.5	24.5	0.06	3MMChr
No. 526	325	0.70	11.0	50.0	0.1	17 Chr

1. Absorption speed is the distance in cm that water will travel in an upright strip of filter paper in ten (10) minutes at 20°C.

### ORDERING INFORMATION

All grades above are available in the following dimensions (cm) and quantities:

2 x 40	100/pkg
20 x 20	50/pkg
46 x 57	100/pkg
60 x 60	50/pkg

Order by specifying first the grade of paper then the dimensions, e.g. N051A20X20CM (No. 51A, 20 cm x 20 cm), N01514A33CMX3M (No. 1514A, 33 cm x 3 m Roll).

## Products for Food Analysis

### SUGAR PAPER

- **Fast flow rate**
- **Creped surface** available

### APPLICATION

- Clarify sugar and syrup solutions prior to polarimetric determination of sucrose concentration

### SPECIFICATIONS

Grade	Weight (g/m <sup>2</sup> )	Thickness (mm)	Water Flow Time <sup>1</sup> (sec)	Dry Burst Strength		Wet Burst Strength		Ash content (%)	Surface	Wet Strengthened
				MPa	psi	MPa	psi			
No. 106	60	0.14	42.5	0.10	14.2	0.03	4.3	0.1	Creped	No

1. Flow time is the time in seconds required to filter 100 mL of distilled water at 20°C under pressure supplied by a 10 cm water column through a 10 cm<sup>2</sup> section of filter paper.

### ORDERING INFORMATION

- Available in disks in the following diameters (cm): 15.0, 18.5, 20.0
- Available in sheets: 8 x 8 inches, 60 x 60 cm
- Packages of 100 or 1000
- Order by specifying first the grade of paper then the diameter, e.g. N010615.0CM (No. 106, 15.0 cm)

### Milk Sediment Disk

- Made of long, refined cellulose fibers

### APPLICATION

- Detection of contaminants in dairy products

Grade	Diameter	Color	Package
No. 1026	33 mm	White	50
No. 1026-B	33 mm	Black	50



Milk Sediment Disks.

### Thimbles for Soxhlet Type Extractions

Grade No. 84 is often used for food analysis including Soxhlet-type gravimetric determinations of fats and oils from foods, feeds, or oil seeds. It is also used to extract and concentrate non-aqueous chemicals or additives from a solid sample for analysis (such as HPLC or gas chromatography for PCB and pesticides).

Ordering information and specifications on page 42.



Thimble for Soxhlet.

## Products for Food Analysis (CONTINUED)

### Phase Separating Filters

- **Separate** aqueous and non-aqueous phases of mixtures
- **Hydrophobic** filters retain aqueous phase while non-aqueous phase passes through
- **Choice of materials:** Grade No. 2S is silicone treated cellulose  
Grade PF is pure PTFE

### SPECIFICATIONS

Grade	Substrate	Weight (g/m <sup>2</sup> )	Thickness (mm)	Retentive Particle (µm)	Collection Efficiency (% 0.3 µm DOP)
No. 2S	Silicone treated cellulose	120	0.26	5	-
PF020	PTFE	500	0.54	2	99.9
PF040	PTFE	500	0.95	4	95.0
PF050	PTFE	210	0.36	5	85.0
PF060	PTFE	240	0.50	6	75.0
PF100	PTFE	500	1.00	10	70.0

### ORDERING INFORMATION

#### Grade No. 2S:

- Available in disks in the following diameters (cm): 5.5, 7.0, 9.0, 11.0, 12.5, 15.0, 18.5, 24.0, 27.0
- Available in sheets: 28 x 46 cm
- Packages of 100
- Order by specifying first the grade of paper then the diameter, e.g. N02S11.0CM (No. 2S, 11.0 cm)

#### PTFE Filter – all grades:

- Available in disks in the following diameters (mm): 13, 25, 47, 55
- Available in sheets: 8 x 10 inches

Order by specifying first the grade of paper then the diameter, e.g. PF04025MM.



## Products for Air Pollution Monitoring

Several products from Advantec have been developed especially to meet the needs of persons concerned with air pollution monitoring.

### QUARTZ FIBER FILTER – QR100

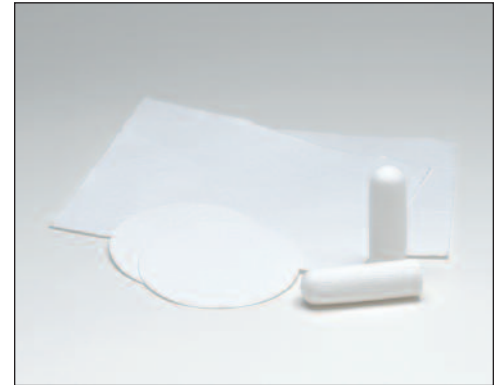
- Increased chemical and thermal resistance compared to GB100R
- Prefired at 1000°C for 2 hours to reduce organic contamination
- Available in sheets and disks

Specifications and ordering information on pages 27-29.

### PURE FIBROTIC PTFE FILTERS – PF050

- PTFE filters neither adsorb acid gases nor do they contribute any trace metal contamination during assay procedures
- Superior handling characteristics compared to either glass or quartz
- Available in sheets and disks

Specifications and ordering information on page 38.



Four grades of fibrous filter media are available in sheets, disks, and thimble form for air pollution monitoring.

## Thimbles

Material	Grade
Cellulose	No. 84
Glass	No. 86R
Silica	No. 88R
Heat-treated Silica	No. 88RH
PTFE	No. 89
PTFE/Silica	No. 89S

For detailed specifications and ordering information, see page 42.

## Composite Filter

- **Composite Filter PG60** is specially developed for the measurement of dust concentration in the air
- **PTFE coated:** Naturally hydrophobic and unaffected by humidity

### APPLICATIONS

- Air pollution analysis
- Air dust analysis

Note: Cannot be used for liquid filtration

### ORDERING INFORMATION

Grade	Quantity/package
21 – 70 mm diameter disks	100
90 – 150 mm diameter disks	50
300 x 300 mm sheets	10

Available in disks in the following diameters (mm): 21, 24, 25, 26, 37, 45, 47, 55, 70, 90, 110, 125, 150

Order by specifying first the grade of filter then the diameter, e.g. PG6090MM, PG60125MM.

## 37 mm Monitors for Microbial and Contamination Analysis

Pre-assembled 2- and 3-piece units contain a built-in membrane filter and a support pad. Monitors are suitable for field collection and transportation of samples as well as analysis in the laboratory. Samples collected on the press-fit membrane can then be cultured in place or removed for further analysis.

Monitor Sets include a 2-piece monitor, plugs, sampling tube, and 3-way connector. Individually packaged sets are pre-sterilized and are ideal for field sampling.

### SPECIFICATIONS

Monitor Type	2-piece	3-piece
Housing	Styrene Acrylonitrile	
Membrane	Mixed Cellulose Ester (Nitrocellulose)	
Support Pad	Pure Cotton Cellulose	
Internal Dimensions	ø34 x 9 mm	ø34 x 18 mm
External Dimensions	ø42 x 29 mm	ø42 x 39 mm
Filtration Area	9.0 cm <sup>2</sup> (6.7 cm <sup>2</sup> for hydrophobic edge type)	
Internal Volume	8 mL	16 mL
Maximum Temperature	45°C	

### APPLICATIONS

Test Type	Recommended Product	
	Housing	Membrane
Bacterial Analysis	2- or 3-piece	0.45 µm white/black gridded
Yeast/Mold Analysis	2- or 3-piece	0.80 µm white/black gridded
Aerosol Analysis	2-piece	0.45 µm white plain
Contamination Analysis	2- or 3-piece	0.45 µm white plain/gridded

### ORDERING INFORMATION

#### 3-Piece Monitors

Pore Size (µm)	Color	Surface	Quantity	Sterile	Non-Sterile
0.45	White	Plain	50/pk	-	37AS345AN
0.45	White	Gridded	50/pk	37AS345BS	-
0.45	Black	Gridded	50/pk	37AS345PS	-
0.80	White	Plain	50/pk	-	37AS380AN
0.80	White	Gridded	50/pk	37AS380BS	37AS380BN
0.80	Black	Gridded	50/pk	-	37AS380PN

#### 2-Piece Monitors

Pore Size (µm)	Color	Surface	Quantity	Sterile	Sterile w/ Hydrophobic Edge
0.45	White	Gridded	50/pk	37AS245BS	37AS245BS-HE
0.45	Black	Gridded	50/pk	37AS245PS	37AS245PS-HE

#### 2-Piece Monitor Sets

Pore Size (µm)	Color	Surface	Quantity	Sterile w/ Hydrophobic Edge
0.45	White	Gridded	20/pk	37ASA45BS-HE
0.45	Black	Gridded	20/pk	37ASA45PS-HE



37 mm Monitors.



37 mm Monitor Sets.

## Products for Industrial Hygiene

Advantec provides a selection of products for industrial hygiene applications including asbestos monitoring. Mixed Cellulose Esters can be used with cellulose support pads in standard 25 and 37 mm Monitor type filter holders. Fully assembled 37 mm monitors are available in addition to the units without membrane, see page 40.

### Cellulose Support Pads

Type 25S cellulose support pads fit standard 25 and 37 mm Monitor type filter holders.

#### ORDERING INFORMATION

- Available in disks in the following diameters (mm): 25, 37
- Packages of 100

Order by specifying first the grade then the diameter, e.g. TYPE25S37MM

### MCE (Mixed Cellulose Ester) Membrane

- **Standard** 0.8 µm pore size, white plain membrane fits standard 25 and 37 mm Monitor type filter holders
- **High quality:** Cutting and packaging operations are carried out under clean room conditions to keep non-asbestos fiber contamination to an absolute minimum

Note: Filters may be cleared using either the acetone vapor method or the dimethylphthalate diethyloxalate method.

Description	Diameter	Surface	Qty/Pkg	Catalog No.
0.80 µm MCE	25 mm	White Plain	100	A080X025A
	25 mm	White Grid	100	A080X025B
	37 mm	White Plain	100	A080X037A
	37 mm	White Grid	100	A080X037B
Cellulose Pads	25 mm	White Plain	100	TYPE25S25MM
	37 mm	White Plain	100	TYPE25S37MM
Monitor, 2-piece	37 mm	Without Membrane	50	370S200ON
Monitor, 3-piece	37 mm	Without Membrane	50	370S300ON

Advantec continually works with customers to develop special filter media to suit their specific application needs. Direct inquiries to our Technical Services Department.

## Extraction Thimbles

High purity, seamless filters with a characteristic thimble shape. Applications include analysis of fats, oils, grease, pesticides, pollutants, other organics and additives in plastics and rubber materials.

### Cellulose Thimbles – No. 84

- Suitable for Soxhlet extractions of organic components
- Dust sampling
- Lipid content <0.1% by weight

### Glass Fiber Thimbles – No. 86R

- Borosilicate glass
- High temperature extractions or dust monitoring ( $\leq 500^{\circ}\text{C}$ )
- Acid resistant (except hydrofluoric)
- Acid washed for minimum trace metal content

### Silica Fiber Thimbles – No. 88R and 88RH

- Use up to  $1000^{\circ}\text{C}$
- No. 88RH is treated at  $900^{\circ}\text{C}$  for 4 hours to stabilize the weight prior to use
- Both 88R and 88RH are tapered for ease in loading into stack samplers

### PTFE Fiber and PTFE/Silica Fiber Thimbles – No. 89 and 89S

- Durable, temperature-resistant
- Non-adsorptive with respect to acid gases
- PTFE is inherently hydrophobic
- Little or no trace metal contamination



Thimbles

## SPECIFICATIONS

Grade	Material	Nominal Rating ( $\mu\text{m}$ )	Thickness (mm)	Weight (g per 25 x 90 thimble)	Pressure drop (mm H <sub>2</sub> O / 5 cm /sec)	Collection Efficiency (%; 0.3 $\mu\text{m}$ DOP)	Max. operating temp ( $^{\circ}\text{C}$ )	Heating loss rate (%)	Conversion	
									Whatman	S & S
No. 84	Cellulose	8	1.5	3.6	25	89	120	-	2800	603
No. 86R	Glass Fiber	1	1.6	1.8	30	>99.9	500	0.2	2814	603G
No. 88R	Silica Fiber	-	2.2	1.6	45	>99.9	1000	-	-	-
No. 88RH	Silica Fiber	-	2.2	1.6	45	>99.9	1000	0.1	2812	-
No. 89	PTFE Fiber	-	1.8	11.0	450	>99.9	260	-	-	-
No. 89S	PTFE/Silica Fiber	-	1.6	6.0	55	>99.9	400	0.07	-	-

## ORDERING INFORMATION

Sizes are expressed as internal diameter ( $\pm 3\%$ ) x height ( $\pm 1.5\%$ ).

### No. 84 (diameter x height, mm), 25 thimbles per package

-	22 x 65	25 x 60	-	-	-	-
-	22 x 80	25 x 80	-	30 x 80	33 x 80	-
19 x 90	-	25 x 90	-	-	-	-
-	-	25 x 100	28 x 100	30 x 100	33 x 100	43 x 123

### No. 86R (diameter x height, mm), 25 thimbles per package

19 x 90	-	25 x 90	-	30 x 80	-	43 x 123
-	-	25 x 100	-	30 x 100	-	-

### No. 88R (diameter x height, mm), 25 thimbles per package

19 x 90	-	25 x 100	30 x 80	30 x 100
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Sizes are expressed as outer diameter.

### No. 86R, 88R, 88RH, 89 and 89S (diameter x height mm), 10 thimbles per package

-	-	25 x 90	-
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## Nobuto Blood Filter Strips

- Collect blood on the narrow end of the strip and allow to dry on the convenient drying rack for easy and efficient sample handling
- Strip holds approximately 0.1 mL of blood or 0.04 mL of serum
- High purity cellulose paper yields a fine, textile like structure ideal for uniform sampling
- Dried samples can be analyzed, stored, or mailed without refrigeration

### Typical blood collection applications:

- Toxoplasmosis (HA)
- Hanta Virus
- New Castles Disease (HI)
- Canine Distemper (VN)
- Measles (Rubeola) (HI)
- Japanese Encephalitis (HI, VN)
- Mycoplasmosis (AG)
- Hog Cholera (VN)

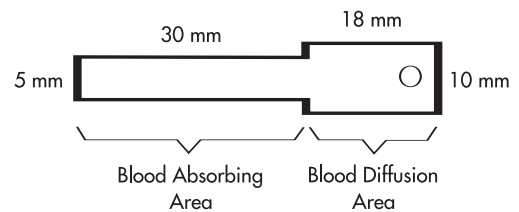
## ORDERING INFORMATION

		Catalog No.
Nobuto Blood Filter Strips	100/package	800700
Filter Strip Drying Rack	Each	800701



Nobuto Blood Filter Strips and Drying Rack.

### Nobuto Strip: Actual Size



## Filter Badges – NO<sub>2</sub>

- Monitor ambient levels of nitrogen with this passive, portable sampler
- Attach to clothing or mount on stationary objects
- Use enclosed foil pouch or other hermetic container to transport badges back to the lab for analysis

## SPECIFICATIONS

### NO<sub>2</sub> Badges

- Sampling: Passive Diffusion
- Analysis: Spectrophotometry
- Sensitivity: 66 ppb/hour
- Accuracy:  $\pm 30\%$
- Maximum Exposure: 1 month
- Dimensions: 5 x 4 x 1 cm
- Weight: 16 g

## ORDERING INFORMATION

	Quantity	Catalog No.
Filter Badge – NO <sub>2</sub>	1	800600



Filter Badge – NO<sub>2</sub>

### pH Indicator and Acid Alkali Test Papers

- Determine pH easily and inexpensively, without instrumentation
- Color changes instantaneously, compare to chart for determination
- Two convenient formats:
  - Booklet of 20 strips, 7 x 70 mm
  - Roll, 9 mm wide in dispenser

#### ORDERING INFORMATION

Type	pH range	Packaging	Catalog No.
Universal	1 – 11	Booklet	UNIV-B
Universal	1 – 11	Roll (9 mm x 6 m)	UNIV-R
Whole Range	0 – 14	Roll (9 mm x 5.5 m)	W-R
Litmus Blue	Qualitative	Booklet	07020010
Litmus Red	Qualitative	Booklet	07020020



pH and Test Paper

### Blaine Test Paper

- Standard for testing cement using the Blaine air permeation test
- 12.7 mm diameter disks

#### ORDERING INFORMATION

		Catalog No.
Blaine Test paper	250/package	01511012



Blaine Test Papers

## Disposable Ultrafiltration Units

- **Concentrate** samples with built-in polysulfone ultrafilter
- **Easy to use** units require only syringe pressurization and do not require a centrifuge
- **Clear** housings enable visual confirmation of the filtration process
- **Low adsorption** for maximum sample recovery
- **Disposable** units for simple operation and clean-up

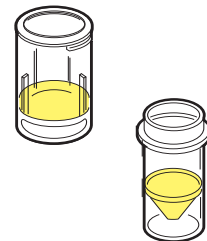
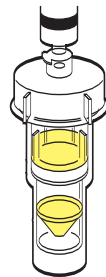
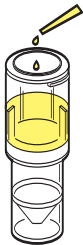
Unit diagram on page 46.

## SPECIFICATIONS

- Housing: Acrylic
- Filter: Polysulfone
- Effective filtration area: 2 cm<sup>2</sup>
- Cell Capacity: 2 mL
- Minimum recovery volume: 0.5 mL
- Sterilization: 25% Ethanol, 5% Formalin

## OPERATION INFORMATION

1. Prepare unit for use. Dispense sample (approx. 1-2 mL) into the retentive cell by pipet.
2. Place cap on the retentive cell. Using a syringe, pressurize the unit with air.
3. Disassemble unit when filtration is complete: concentrated sample and/or filtrate can be analyzed.



USY Series Ultrafilter Units

## SAMPLE COLLECTION DATA

Grade		USY-1	USY-5	USY-20
Molecular Weight Cut Off of Ultra filter				
Solute	Molecular weight	10,000	50,000	200,000
Lysozyme	14,800	>98	50	-
Myoglobin	16,800	>95	40	-
α-Chymotrypsin	24,500	>98	85	-
β-Lactoglobulin	35,000	>98	85	10
Ovalbumin	44,000	>98	95	60
Albumin (0.01%)	64,000	>98	>98	-
Bovine Albumin	67,000	>98	>90	60
β-Globulin	110,000	>98	>98	>95
γ-Globulin	160,000	>98	>98	>90

## ORDERING INFORMATION

Grade	USY-1	USY-5	USY-20
Filter Rating	10,000 Da	50,000 Da	200,000 Da
Quantity per package*	24	24	24

\*Each package contains 24 filter cells, 24 retention cells, and 4 reusable cell caps.

## ACCESSORIES

Grade	USY-CAP
Quantity per package	4

## Centrifugal Filter Holders

- **Durable, reusable** unit for concentrating, desalting or purifying samples by centrifuge
- **Compatible** with most  $\phi 13$  mm filters and  $\phi 30$  mm centrifuge tubes (both sold separately)
- **Easy to use** units assemble quickly for repeated use

Unit diagram below.

### SPECIFICATIONS

- Housing: Acrylic, Polyacetal, Polypropylene
- Effective filtration area:  $0.65 \text{ cm}^2$
- Maximum sample volume: 2 mL
- Minimum sample volume: 0.15 mL
- Maximum RCF:  $19.6 \times 10^3 \text{ m/s}^2$  (2,000 x g)
- Dead Volume: 0.01 mL



UHP-13C Ultrafilter Unit

### ORDERING INFORMATION

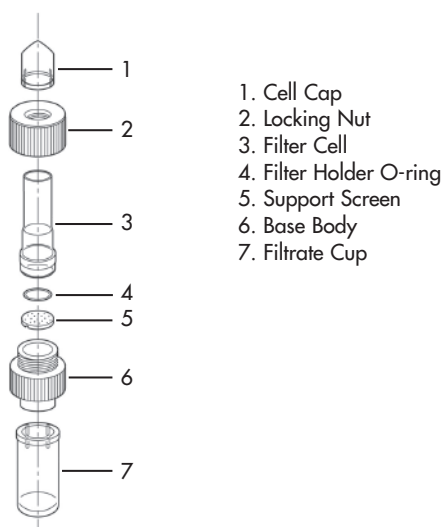
Grade	UHP-13C
Compatible filter size	$\phi 13$ mm
Quantity per package*	1

\*Each unit includes 1 main body assembly, 12 cell caps, 12 filtrate caps, and 3 silicone O-rings.

### ACCESSORIES

FPM O-ring	UHP-13C-FPM
Quantity per package	1

### UHP-13C Unit Assembly



### USY Series Unit Assembly

