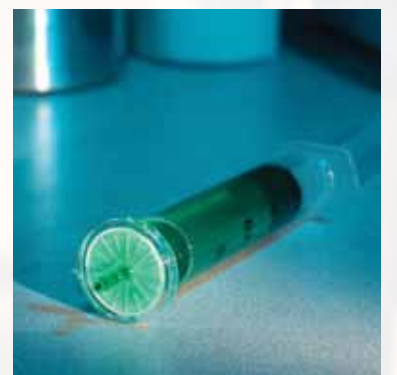


# ADVANTEC®

Laboratory filtration solutions



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**Serving** the pharmaceutical, public health, food and beverage, healthcare, life sciences, and electronics industries, Advantec manufactures high-quality products for separation science. With products ranging from membrane filters, prefiltration media, glass fiber and cellulose filters, qualitative and quantitative filter papers, specialty test papers, and a full selection of filter holders, Advantec employs exacting standards and quality control to ensure consistency and superb product integrity. Cole-Parmer introduces an expanded line of Advantec filtration technologies to meet your laboratory, research, and process application needs.

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## ADVANTEC® Air Sampling Filters

Glass, quartz, and composite filters are ideal for sampling airborne particulates

**Glass Fiber Filters** are binder-free and have a low trace metals content. Glass fibers are unaffected by humidity, highly resistant to chemical attack, and biologically inert. Used for high-volume sampling of aerosols, particulates, and metal contaminants.

**Quartz Fiber Filters** are used for air sampling of acidic gases at high temperatures. Quartz fibers are unaffected by humidity, highly resistant to chemical attack, and biologically inert. Filters are pre-fired at 1832°F (1000°C) for two hours to reduce organic contamination. Show very low trace metals content and do not absorb nitrous and sulfur dioxides.

**Composite Filters** are specially developed for the measurement of dusts and particulate matter in the air. These PTFE-coated filters are naturally hydrophobic and unaffected by humidity. Thermostable to 500°F (260°C).

Catalog number	Size	Qty/pk
<b>Glass fiber filters</b> (Grade GB-140)		
XT-06646-75	47-mm dia disc	100
XT-06646-82	8" x 10" (20 x 25 cm) sheet	50
<b>Quartz fiber filters</b> (Grade QR-100)		
XT-06649-52	47-mm dia disc	100
XT-06649-58	8" x 10" (20 x 25 cm) sheet	50
<b>Composite filters</b> (Grade PG-60)		
XT-06649-60	25-mm dia disc	100
XT-06649-61	47-mm dia disc	100
XT-06649-62	110-mm dia disc	50



## ADVANTEC® 37-mm Monitors for Air Analysis

### Ideal for aerosols and airborne particulates

Preassembled three-piece units contain a mixed cellulose ester (MCE) membrane filter and a cellulose support pad. Monitors are suitable for open- or closed-face sampling. Samples collected on the press-fit membrane can be removed for further analysis. Nonsterile.

### Specifications

#### Materials

Housing: styrene acrylonitrile  
 Membrane: mixed cellulose ester (nitrocellulose)  
 Support pad: pure cotton cellulose

**Filtration area:** 9.0 cm<sup>2</sup>

**Max temperature:** 113°F (45°C)

**Connections:** female luer slip

Catalog number	Analysis type	Membrane				Qty/pk
		Dia	Pore size	Color	Surface	
XT-02935-00	Air analysis	37 mm	0.45 µm	White	Plain	50
XT-02935-06			0.80 µm	White		
XT-02935-10			0.80 µm	White	Gridded	
XT-02935-12			0.80 µm	Black		



37-mm monitor for air analysis.

## ADVANTEC® 37-mm Monitoring Cassettes and Pads

### Assemble your own monitor for specific applications

Empty cassettes and cellulose pads are available as an option for you to assemble a filter/monitoring unit with an MCE membrane filter for asbestos monitoring (below) or other 37-mm filter.

Catalog number	Description	Dia	Qty/pk
XT-02935-30	2-piece cassette	37 mm	50
XT-02935-32	3-piece cassette	37 mm	50
XT-02935-34	Cellulose pads	25 mm	100
XT-02935-36		37 mm	100



02935-10

02935-12

### Find MORE!

For 37-mm monitors for microbial contamination analysis, see page 14.



## ADVANTEC® MCE Membranes for Asbestos Monitoring

### Cleanroom manufacturing ensures minimal contamination and accurate results

Offered in 0.80 µm pore size, these filters are manufactured specifically for industrial hygiene sampling of asbestos fibers. Cutting and packaging operations are carried out under cleanroom conditions to keep non-asbestos fiber contamination to an absolute minimum. Filters may be cleared using the acetone vapors method or the dimethylphthalate diethyloxalate method.

Catalog number	Analysis type	Membrane				Qty/pk	
		Dia	Pore size	Color	Surface		
XT-06639-71	Asbestos monitoring	25 mm	0.80 µm	White	Plain	100	
XT-36230-30					Gridded		
XT-06639-72		37 mm			Plain		100
XT-06639-74					Gridded		
XT-06639-76		47 mm			Plain		100
XT-06639-78					Gridded		



06639-71

## ADVANTEC® NO<sub>2</sub> Filter Badge

### Easily monitor ambient levels of NO<sub>2</sub>

This lightweight, portable sampler lets you monitor ambient levels of nitrogen dioxide. Easily attach badge to clothing or mount onto a stationary object. Use the enclosed foil pouch or other hermetic container to transport badges back to the lab for analysis. Sampling is by passive diffusion; levels of NO<sub>2</sub> are determined spectrophotometrically.

### Specifications

**Sensitivity:** 66 ppb/hr

**Accuracy:** ±30%

**Maximum exposure:** 1 month

**Dimensions:** 2" x 1½" x ⅜" (5 x 4 x 1 cm)

**Weight:** 0.5 oz (16 g)

Catalog number	Description
XT-06649-70	NO <sub>2</sub> filter badge



06649-70

## ADVANTEC® pH Test Papers and Indicator Strips

### Determine pH easily and inexpensively without instrumentation

- Color changes instantaneously, simply compare to chart for determination
- Available in two convenient formats—a booklet of 20 strips, 7 x 70 mm; or a single 9-mm wide roll in a convenient dispenser

Catalog number	Type	pH range	Package
XT-59201-04	Universal	1 to 11	Booklet
XT-59201-06	Universal	1 to 11	Roll
XT-59201-08	Whole range	0 to 14	Roll
XT-59201-00	Litmus blue	Qualitative	Booklet
XT-59201-02	Litmus red	Qualitative	Booklet



## ADVANTEC® Blotting and Chromatography Paper

### High-quality papers for electrophoresis and chromatography applications

These papers are carefully tested for spot formation, capillary action, water flow rate, and absorption speed to ensure performance uniformity and repeatability. Applications include electrophoresis/blotting, chromatography, and separation of heavily loaded solutes.



Catalog number	Grade	Weight (g/m <sup>2</sup> )	Thickness (mm)	Absorption speed <sup>†</sup> (cm)	Wet strength <sup>‡</sup> (cm H <sub>2</sub> O)	Ash	Dimensions	Qty/bx
XT-28501-70	No. 51A	87	0.18	7.5	14.3	0.01%	200 x 200 mm	100
XT-06645-85							460 x 570 mm	100
XT-28501-71	No. 51B	87	0.17	7.0	14.3	0.06%	200 x 200 mm	100
XT-28501-72							460 x 570 mm	100
XT-28501-73	No. 514A	185	0.32	7.5	24.5	0.06%	200 x 200 mm	100
XT-06645-84							460 x 570 mm	100

<sup>†</sup>Absorption speed is the distance in cm that water will travel in an upright strip of paper in ten minutes at 68°F (20°C).

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

## ADVANTEC® Extraction Thimbles

### Seamless, high-purity filters for extraction and air monitoring

Thimble filters are used in soxhlet apparatus for dust sampling, and for extracting soluble components using organic solvents. Thimbles are made of cellulose, glass fiber, or silica fiber. Typical applications include analysis of fats, oils, grease, organics, pesticides, pollutants, and additives in plastic/rubber materials.

**Cellulose Thimbles** are suitable for extraction of organic compounds and dust sampling. Lipid content is <0.1% by weight; thickness is 1.5 mm.

**Glass Fiber Thimbles** of borosilicate glass are acid washed for minimum trace metal content. They are acid resistant (except hydrofluoric) and ideal for high-temperature extractions up to 932°F (500°C). Thickness is 1.6 mm.

**Quartz Fiber Thimbles** are tapered for ease in loading into stack samplers. Heat resistant up to 1832°F (1000°C). Thickness is 2.2 mm.



29821-12



Used in soxhlet apparatus for sampling and extraction applications

Catalog number	dia x H	Qty/pk
<b>Cellulose thimbles</b> (Grade No. 84)		
XT-29821-44	19 x 90 mm	25
XT-29821-08	22 x 65 mm	
XT-29821-00	22 x 80 mm	
XT-29821-02	25 x 60 mm	
XT-29821-46	25 x 80 mm	25
XT-29821-10	25 x 90 mm	
XT-29821-48	25 x 100 mm	
XT-29821-50	28 x 100 mm	
XT-29821-14	30 x 80 mm	25
XT-29821-12	30 x 100 mm	
XT-29821-04	33 x 80 mm	
XT-29821-52	33 x 100 mm	
XT-29821-06	43 x 123 mm	
XT-29821-28	43 x 123 mm	
<b>Glass fiber thimbles</b> (Grade No. 86R)		
XT-29821-16	19 x 90 mm	25
XT-29821-20	25 x 90 mm	
XT-29821-18	25 x 100 mm	
XT-29821-24	30 x 80 mm	25
XT-29821-22	30 x 100 mm	
XT-29821-26	33 x 80 mm	
XT-29821-28	43 x 123 mm	
<b>Quartz fiber thimbles</b> (Grade No. 88R)		
XT-29821-30	19 x 90 mm	25
XT-29821-32	25 x 100 mm	
XT-29821-36	30 x 80 mm	
XT-29821-34	30 x 100 mm	

# ADVANTEC® Laboratory Filter Papers

Manufactured to exacting standards for uniform performance

■ A wide choice of grades and sizes

## A Quantitative Filter Papers

Ideal for gravimetric analysis and environmental monitoring. These papers are made of the highest quality alpha cotton cellulose with low ash content. Papers are double acid washed in hydrochloric acid followed by hydrofluoric acid (No. 3, 5A, 5B, 5C, 6), then rinsed with ultrapure water to neutralize. Paper No. 4A is further treated with nitric acid before washing. Sold in packs of 100.

## B Qualitative Filter Papers

Ideal for clarifying and removing precipitates, and preparation for qualitative analysis. These papers are made of 100% alpha cotton cellulose, with 0 to 12 pH tolerance. Maximum temperature is 248°F (120°C). Sold in packs of 100.



**A**  
Quantitative filter papers

## Specifications

Grade	Nominal rating (µm)	Thickness (mm)	Weight (g/m <sup>2</sup> )	Flow time <sup>†</sup> (sec)	Absorption speed <sup>‡</sup> (cm)	Wet strength <sup>††</sup> (cm H <sub>2</sub> O)
<b>Quantitative filter papers</b>						
No. 3	Medium (5)	0.23	113	130	7.5	20
No. 4A	Very fine (1)	0.12	96	915	4.0	90
No. 5A	Coarse / gelatinous (7)	0.22	97	60	9.5	15
No. 5B	Medium (4)	0.21	108	195	7.0	20
No. 5C	Fine (1)	0.22	118	570	6.0	25
No. 6	Medium-fine (3)	0.2	103	300	6.0	15
No. 7	Medium (4)	0.18	87	200	7.0	12
<b>Qualitative filter papers</b>						
No. 1	Coarse (6)	0.2	90	45	9.0	15
No. 2	Medium (5)	0.26	125	80	8.0	18
No. 231	Medium	0.18	95	130	7.5	—
No. 232	Medium / medium-fine	0.18	90	250	5.0	—
No. 235	Very fine	0.17	95	1200	4.0	—
No. 131	Medium-fine (3)	0.25	140	240	6.0	20
No. 101	Coarse / gelatinous	0.21	80	50	8.0	15

<sup>†</sup>Flow time is the time in seconds required to filter 100 mL of distilled water at 68°F (20°C) under pressure supplied by a 10-cm water column through a 10 cm<sup>2</sup> section of filter paper.

<sup>‡</sup>Absorption speed is the distance in cm that water will travel in an upright strip of filter paper in ten minutes at 68°F (20°C).

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

## A Quantitative Filter Papers (pack of 100)

Grade	Applications	5.5 cm	7.0 cm	9.0 cm	11.0 cm	12.5 cm	15.0 cm	18.5 cm
No. 3 Ashless	Medium retention (5 to 10 µm), fast flow rate analysis of soils, fertilizers, cement, and minerals	XT-81050-56	XT-81050-58	XT-81050-60	XT-81050-62	XT-81050-64	XT-81050-66	XT-81050-68
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	XT-81051-90	XT-81051-92	XT-81051-94	XT-81051-96	XT-81051-98	XT-81052-00	XT-81052-02
No. 5A Ashless	Fast flow rate, retains coarse particulates and gelatinous precipitates (>10 µm); filter hydroxides and metallic aerosols, environmental monitoring, silica in steel	XT-81050-80	XT-81050-82	XT-81050-86	XT-81050-88	XT-81050-90	XT-81050-92	XT-81051-10
No. 5B Ashless	Retains medium particles (5 to 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	XT-81051-12	XT-81051-14	XT-81051-16	XT-81051-18	XT-81051-20	XT-81051-22	XT-81051-24
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	XT-81051-42	XT-81051-44	XT-81051-46	XT-81051-48	XT-81051-50	XT-81051-52	XT-81051-54
No. 6 Ashless	Retains medium-fine particulates (2 to 10 µm), trace and precious metals	XT-81051-56	XT-81051-58	XT-81051-60	XT-81051-62	XT-81051-70	XT-81051-72	XT-81051-74
No. 7 Ashless	Highest purity for retaining medium particles (5 to 10 µm), precise gravimetric analysis	XT-81051-76	XT-81051-78	XT-81051-80	XT-81051-82	XT-81051-84	XT-81051-86	XT-81051-88

## B Qualitative Filter Papers (pack of 100)

Grade	Applications	5.5 cm	7.0 cm	9.0 cm	11.0 cm	12.5 cm	15.0 cm	18.5 cm
No. 1	Coarse retention; retains large crystalline particles and gelatinous precipitates. Fast flow rate, smooth surface, normal hardness	XT-81048-04	XT-81048-06	XT-81048-08	XT-81048-10	XT-81048-12	XT-81048-14	XT-81048-16
No. 2	Medium retention; retains medium crystalline precipitates, fast flow rate, smooth surface, normal hardness	XT-81048-34	XT-81048-36	XT-81048-38	XT-81048-40	XT-81048-42	XT-81048-46	XT-81048-48
No. 231	Medium retention; retains crystalline precipitates, moderate flow rate, smooth surface, normal hardness	XT-81048-64	XT-81048-66	XT-81048-68	XT-81048-70	XT-81048-72	XT-81048-74	XT-81048-80
No. 232	Retains medium to medium-fine particulates, slow flow rate, smooth, normal hardness	XT-81048-84	XT-81048-86	XT-81048-88	XT-81048-90	XT-81048-92	XT-81048-94	XT-81049-90
No. 235	Highest retention efficiency, retains very fine particulates, very slow flow rate, smooth	—	XT-81050-22	XT-81050-24	XT-81050-26	XT-81050-28	XT-81050-30	XT-81050-32
No. 131	High retention efficiency for medium-fine crystalline precipitates like barium sulfate, slow flow rate, smooth surface, normal hardness	XT-81050-04	XT-81050-10	XT-81050-12	XT-81050-14	XT-81050-16	XT-81050-18	XT-81050-20
No. 101	Coarse retention; seed germination, retains large particles	XT-81050-36	XT-81050-38	XT-81050-40	XT-81050-42	XT-81050-50	XT-81050-52	XT-81050-54

## ADVANTEC® Membranes

### A Cellulose Acetate Membranes

Cellulose acetate (CA) membranes have lower binding affinities for charged macromolecules than cellulose nitrate. Retention is primarily based on precipitate size—use to separate bound and unbound proteins. Membranes also have low-swelling properties making them ideal for use with alcohol-based solutions. Membranes withstand temperatures to 356°F (180°C).



Pore size (µm)	Bubble point (psi)	Flow (L/min/cm <sup>2</sup> )		13 mm (100/pk)	25 mm (100/pk)	47 mm (100/pk)	90 mm (25/pk)	142 mm (25/pk)	293 mm (25/pk)
		H <sub>2</sub> O	Air	Cat. no.	Cat. no.	Cat. no.	Cat. no.	Cat. no.	Cat. no.
0.20	>37.1	0.016	2.0	XT-06645-00	XT-06645-02	XT-06645-04	XT-06645-06	XT-06645-08	XT-36230-34
0.45	>25.9	0.035	4.0	XT-06645-10	XT-06645-12	XT-06645-14	XT-06645-16	XT-06645-18	XT-36230-66
0.80	>10.0	0.160	14.0	XT-06645-20	XT-06645-22	XT-06645-24	XT-06645-26	XT-06645-28	XT-36230-68
3.00	>5.0	0.500	54.0	XT-36230-70	XT-36230-72	XT-36230-74	XT-36230-76	XT-36230-78	XT-36230-80

<sup>†</sup>Using water prefiltered to 0.1 µm at 10 psi.

### B Mixed Cellulose Ester Membranes

Mixed cellulose ester (MCE) membranes are made from over 90% cellulose nitrate for strength and thermostability. These membranes can be exposed to temperatures up to 266°F (130°C). Can be used for many laboratory applications including filter sterilizing biological fluids, microbiology, contamination analysis, and air monitoring.

Pore size (µm)	Bubble point (psi)	Flow (L/min/cm <sup>2</sup> )		13 mm (100/pk)	25 mm (100/pk)	47 mm (100/pk)	90 mm (25/pk)	142 mm (25/pk)	293 mm (25/pk)
		H <sub>2</sub> O <sup>†</sup>	Air	Cat. no.	Cat. no.	Cat. no.	Cat. no.	Cat. no.	Cat. no.
0.10	35.3	0.027	0.67	XT-06639-25	XT-06639-28	XT-06639-31	XT-06639-34	XT-06639-41	XT-36230-81
0.20	54.5	0.018	2.4	XT-06639-01	XT-06639-05	XT-06639-13	XT-06639-35	XT-06639-17	XT-36230-82
0.45	35.0	0.045	3.7	XT-06639-02	XT-06639-06	XT-06639-14	XT-06639-36	XT-06639-18	XT-36230-83
0.80	16.4	0.165	15.0	XT-06645-30	XT-06645-32	XT-06645-34	XT-06645-36	XT-06645-38	XT-36230-84
1.00	13.9	0.220	20.4	XT-06639-47	XT-06639-49	XT-06639-51	XT-06639-55	XT-06639-53	XT-36230-85
3.00	10.2	0.300	28.3	XT-06639-26	XT-06639-29	XT-06639-32	XT-06639-39	XT-06639-42	XT-36230-86
5.00	8.5	0.400	40.9	XT-06639-27	XT-06639-30	XT-06639-33	XT-06639-40	XT-06639-43	XT-36230-87

<sup>†</sup>Using water prefiltered to 0.1 µm at 10 psi.

### C Hydrophilic PTFE Membranes

Hydrophilic PTFE membranes offer maximum chemical and pH resistance with minimal aqueous extractables (<0.3 wt%). Since the filter is optically clear when wet, it is ideally suited for culture and microscopic examination of cells/particles captured without requiring a separate step. Maximum operating temperature is 212°F (100°C). Autoclaving and allowing filter to dry will render it hydrophobic.

Pore size (µm)	Bubble point (psi)	Flow (L/min/cm <sup>2</sup> )		13 mm (100/pk)	25 mm (100/pk)	47 mm (100/pk)	90 mm (25/pk)	142 mm (25/pk)	293 mm (10/pk)
		H <sub>2</sub> O <sup>†</sup>	Air	Cat. no.	Cat. no.	Cat. no.	Cat. no.	Cat. no.	Cat. no.
0.10	55.1	0.014	1.6	XT-36229-50	XT-36229-52	XT-36229-54	XT-36229-56	XT-36329-47	XT-36329-51
0.20	34.8	0.021	2.1	XT-36329-40	XT-36329-42	XT-36329-44	XT-36329-46	XT-36329-48	XT-36329-52
0.50	20.3	0.039	2.9	XT-36229-58	XT-36229-60	XT-36229-62	XT-36229-64	XT-36329-49	XT-36329-53
1.00	12.0	0.073	5.7	XT-36229-66	XT-36229-68	XT-36229-70	XT-36229-72	XT-36329-50	XT-36329-54

<sup>†</sup>Using water prefiltered to 0.1 µm at 10 psi.

### D Hydrophobic PTFE Membranes

This thin, highly porous PTFE membrane is inert to most chemically aggressive solvents, strong acids, and bases that may be incompatible with supported PTFE filters. Ideal for sterilizing gases because it will trap aqueous aerosols on the surface. Operating temperature range is -184 to 500°F (-120 to 260°C).

Pore size (µm)	Bubble point (psi)	Flow (L/min/cm <sup>2</sup> )		13 mm (100/pk)	25 mm (100/pk)	47 mm (100/pk)	90 mm (25/pk)	142 mm (25/pk)	293 mm (10/pk)
		Acetone	Air	Cat. no.	Cat. no.	Cat. no.	Cat. no.	Cat. no.	Cat. no.
0.10	17.4	0.027	—	XT-36229-74	XT-36229-76	XT-36229-78	XT-36229-80	XT-36229-82	XT-36329-33
0.20	13.2	0.055	—	XT-36329-04	XT-36329-06	XT-36329-08	XT-36329-10	XT-36329-12	XT-36329-34
0.50	9.1	0.100	—	XT-36329-14	XT-36329-16	XT-36329-18	XT-36329-20	XT-36329-22	XT-36329-35
0.80	5.7	0.200	—	XT-36229-84	XT-36229-86	XT-36229-88	XT-36229-90	XT-36229-92	XT-36329-36
1.00	4.5	0.300	—	XT-36329-24	XT-36329-26	XT-36329-28	XT-36329-30	XT-36329-32	XT-36329-37
3.00	1.9	0.750	—	XT-36229-94	XT-36229-96	XT-36229-98	XT-36329-00	XT-36329-02	XT-36329-38

### E Hydrophobic PTFE Membranes with Support

A laminated polypropylene support offers improved handling characteristics to this PTFE membrane filter. Use to sterilize and clarify strong acids, bases, and aggressive solvents. Ideal for air and gas venting. Protects vacuum pumps and critical samples by blocking aqueous liquids. Operating temperature range is -31 to 266°F (-35 to 130°C).

Pore size (µm)	Bubble point (psi)	Flow (L/min/cm <sup>2</sup> )		13 mm (100/pk)	25 mm (100/pk)	47 mm (100/pk)	90 mm (25/pk)	142 mm (25/pk)	293 mm (10/pk)
		Acetone	Air	Cat. no.	Cat. no.	Cat. no.	Cat. no.	Cat. no.	Cat. no.
0.10	20.3	0.0391	2.5	XT-36329-60	XT-36329-62	XT-36329-64	XT-36329-66	XT-36230-40	XT-36329-70
0.20	14.1	0.0614	4.5	XT-02916-50	XT-02916-52	XT-02916-54	XT-02916-56	XT-02916-58	XT-36329-71
0.50	8.5	0.110	7.5	XT-02916-60	XT-02916-53	XT-02916-64	XT-02916-66	XT-02916-68	XT-36329-72
1.00	4.3	0.445	17.0	XT-02916-70	XT-02916-72	XT-02916-74	XT-02916-76	XT-02916-78	XT-36329-73

## ADVANTEC® Glass and Quartz Fiber Filters

### For analytical or gravimetric studies

**Borosilicate Glass Filters** create a biologically inert filter matrix that is resistant to both chemicals and pH extremes. Use as prefilters to extend membrane life, for water/air pollution analysis, or liquid clarification. Filters without binder withstand up to 932°F (500°C); filters with binder withstand up to 250°F (120°C). Grades GC90, GS25, and DP70 with binder offer higher wet strength and lower fiber release.

**Quartz Fiber Filters** have very low trace metal content and can withstand temperatures up to 1832°F (1000°C). Use to sample acidic gases at high temperatures or for air pollution analysis.



Grade	Characteristics/applications
<b>Glass fiber filters</b>	
GA55	General purpose; air pollution monitoring
GB140	Low absorption; slower filtration speed for industrial waste analysis
GC50	Membrane prefilter (<0.45 µm), for industrial and wastewater analysis and scintillation counting
GD120	Membrane prefilter (<1.2 µm), high wet strength and high loading capacity
GF75	Highest retention; filtering very fine protein precipitates and clarifying chemically aggressive solutions
GA100	General purpose; filtering cells and precipitated proteins; air pollution monitoring
GA200	Thick filter; filtering viscous fluids such as liquid sugars and gels
GB100R	Low trace metal content; sampling high and low volume aerosols for airborne dust and metal contaminants
GC90	High wet strength; clinical screening
GS25	Membrane prefilter (<0.65 µm), high wet strength
DP70	High wet strength and very high loading capacity; dust and fine particulate sampling
<b>Quartz fiber filters</b>	
QR200	Low adsorption; high-temperature filtration and monitoring airborne particulates
QR100	Superior chemical resistance, will not absorb acidic gases



Filter 06646-35 shown with stainless steel filtration holder 29900-05 (holder sold separately on page 13)

Grade	Retention	Thickness	Water flow rate†	Binder	25 mm dia	47 mm dia	90 mm dia	125 mm dia	142 mm dia	293 mm dia
<b>Glass fiber filters</b>										
GA55	0.6 µm	0.21 mm	23	None	XT-06657-00 (box of 100)	XT-06646-02 (box of 100)	XT-06646-04 (box of 100)	XT-06646-05 (box of 100)	XT-06657-07 (box of 100)	—
GB140	0.4 µm	0.56 mm	58	None	XT-06646-84 (box of 100)	XT-06646-12 (box of 100)	XT-06646-14 (box of 100)	XT-06646-15 (box of 100)	XT-06657-17 (box of 100)	XT-06657-18 (box of 50)
GC50	0.5 µm	0.19 mm	28	None	XT-06647-95 (box of 100)	XT-06646-22 (box of 100)	XT-06646-24 (box of 100)	XT-06646-25 (box of 100)	XT-06657-27 (box of 100)	XT-06657-28 (box of 50)
GD120	0.9 µm	0.51 mm	14	None	XT-06657-30 (box of 50)	XT-06646-32 (box of 50)	XT-06646-34 (box of 50)	XT-06646-35 (box of 50)	XT-06657-37 (box of 50)	XT-06656-13 (box of 50)
GF75	0.3 µm	0.35 mm	84	None	XT-06656-24 (box of 100)	XT-06646-42 (box of 100)	XT-06646-44 (box of 100)	XT-06646-45 (box of 100)	XT-06656-23 (box of 100)	XT-06656-25 (box of 50)
GA100	1.0 µm	0.44 mm	11	None	XT-06657-50 (box of 100)	XT-06646-54 (box of 100)	XT-06657-54 (box of 100)	XT-06657-56 (box of 100)	XT-06657-57 (box of 100)	XT-06657-58 (box of 50)
GA200	0.8 µm	0.74 mm	15	None	XT-06646-63 (box of 50)	XT-06657-62 (box of 50)	XT-06657-64 (box of 50)	XT-06657-66 (box of 50)	XT-06657-67 (box of 50)	XT-06657-68 (box of 50)
GB100R	0.6 µm	0.40 mm	15	None	XT-06657-70 (box of 100)	XT-06646-75 (box of 100)	XT-06646-83 (box of 100)	XT-06657-76 (box of 100)	XT-06657-77 (box of 100)	XT-06657-78 (box of 50)
GC90	0.5 µm	0.30 mm	20	Organic	XT-06657-80 (box of 100)	XT-06657-82 (box of 100)	XT-06656-12 (box of 100)	XT-06657-86 (box of 100)	XT-06657-87 (box of 100)	XT-06656-05 (box of 50)
GS25	0.6 µm	0.21 mm	15	Organic	XT-06657-90 (box of 100)	XT-06657-92 (box of 100)	XT-06657-94 (box of 100)	XT-06657-96 (box of 100)	XT-06657-97 (box of 100)	XT-06656-33 (box of 50)
DP70	0.6 µm	0.52 mm	20	Organic	XT-06658-00 (box of 50)	XT-06646-53 (box of 50)	XT-06658-04 (box of 50)	XT-06658-06 (box of 50)	XT-06658-07 (box of 50)	XT-06658-08 (box of 50)
<b>Quartz fiber filters</b>										
QR200	—	1.0 mm	—	Inorganic	XT-06658-10 (box of 100)	XT-06658-12 (box of 50)	XT-06658-14 (box of 50)	XT-06658-16 (box of 50)	—	—
QR100	—	0.38 mm	—	None	XT-06658-20 (box of 100)	XT-06649-52 (box of 100)	XT-06658-24 (box of 100)	XT-06658-26 (box of 100)	—	—

†Time (in seconds) required to filter one liter of deionized water at 68°F (20°C) through 9.6 cm<sup>2</sup> using a 300 mm Hg vacuum.

## ADVANTEC® In-Line and Syringe Filter Holders

### Polypropylene Holders

Use these polypropylene (PP) holders for ultracleaning and sterilizing liquids under pressure, or for aseptic sampling of liquids and gases. Maximum operating temperature (liquids) is 176°F (80°C); maximum operating pressure is 42 psi (2.9 bar) for the 25-mm holder and 71 psi (4.8 bar) for the 47-mm holder.

Holders feature PP dual support screens and silicone O-rings. Dual support screens allow for flow in both directions. Assemble holders quickly and efficiently without membrane tears with the specially designed inlet cap and exterior lock.

The 25-mm holder features a female luer-lock on the inlet and a male luer-slip on the outlet. The 47-mm holder features a ¼" NPT(M) thread on the inlet and a ¼" NPT(M)-female luer-slip on the outlet. Both are autoclavable.



06623-22



06623-32

Catalog number	Type of holder	Diameter	Qty/pk
XT-06623-32	Syringe	25 mm	6
XT-06623-22	In-line	47 mm	1

### Sanitary Stainless Steel In-Line Filter Holders

These sanitary stainless steel (SS) holders are for liquid and gas applications. Use for point-of-use filtration on sterile filling machines, and for lab or pilot-scale sterile filtration applications. The sanitary inlet and outlet connections are nonthreaded and easily disassembled for thorough cleaning.

The 47-mm holder features a vent for air release on the upstream side of the membrane at any time. Body and support screen are 304 SS with PTFE gasket and silicone O-ring. Max pressure at inlet is 71 psi (4.9 bar)



06643-51



06643-53

Catalog number	Type of holder	Diameter	Filtration area
XT-06643-51	Sanitary in-line	25 mm	3.8 cm <sup>2</sup>
XT-06643-53		47 mm	12.5 cm <sup>2</sup>

### PFA In-Line Filter Holders

Use the PFA holders with chemically aggressive liquids. Dual support screens allow for flow in either direction. Exterior locking ring lets you quickly assemble without tearing the membrane. They are ideal for sterilizing and filtering ultra clean liquids under positive pressure and filtering small volumes of high-purity acids, alkalis or organic solvents. Body and support screens of the filters are made of PFA; the O-ring is made of perfluoroelastomer.

The 25-mm holder features a female luer lock on the inlet and male luer slip on the outlet. The 47-mm holder has an air/bleed vent and features combination ¼" NPT(M) and ¼" OD tubing adapter connections. Maximum operating temperature is 250°F (121°C). Autoclavable.



06644-62

06644-60

Catalog number	Type of holder	Membrane diameter		Filtration area
		Filter	Prefilter	
XT-06644-60	Syringe	25 mm	21 mm	3.5 cm <sup>2</sup>
XT-06644-62	In-line	47 mm	42 mm	13.5 cm <sup>2</sup>

### Stainless Steel Syringe and In-Line Filter Holders

These filter holders have bodies and perforated support screens of 304 SS with PTFE gaskets and silicone O-rings. Autoclave with membrane in place.

Syringe holders have luer fittings. Maximum pressure for 13- and 25-mm syringe holders is 99 psi inlet, 42 psi differential. Maximum pressure for 25- and 47-mm in-line holders is 71 psi inlet, 29 psi differential.

In-line holders have ¼" NPT(F) and ¼" NPT(M) ports and are supplied with ⅜" hose barb connectors. All holders include two perforated 304 SS support screens. Open holders without disconnecting lines.



02928-20



02929-10

Catalog number	Type of holder	Diameter
XT-02928-10	Syringe	13 mm
XT-02928-20	Syringe	25 mm
XT-02929-10	In-line	25 mm
XT-02929-20	In-line	47 mm

## ADVANTEC® High-Pressure Stainless Steel Holder

**Operates at pressures up to 100 kg/cm<sup>2</sup> (1400 psi)!**

This filter holder is constructed of type 304 stainless steel and has FPM O-rings, making it compatible with many aggressive liquids and gases. Back pressure support screen prevents membrane rupture and deflects flow at very high pressures. Holder has ¼" NPT(F) inlet and outlet. Membrane prefilter size is 38 mm. Upstream dead volume is 3 mL and downstream volume is 6.5 mL.

Catalog number	Filter diameter	Filtration area
XT-06644-50	47 mm	11.2 cm <sup>2</sup>



06644-50

## ADVANTEC® PTFE Depth Filters

Ideal for aggressive chemicals and air filtration applications

- High temperature and strong chemical resistance
- Excellent air permeability with minimal pressure drop
- High loading capacity

Pure PTFE fibers are sintered to improve handling characteristics and minimize fiber slough-off and downstream contamination. Recommended for filtering hot oils, strong solvents, and for applications where media contamination must be at a critically low level. Use these hydrophobic filters to separate aqueous and non-aqueous phases of mixtures as well as for air/gas filtration or venting. Temperature range is -184 to 436°F (-120 to 260°C).



Retentive pore liquid (µm)	Porosity %	Collection efficiency (% 0.3 µm DOP)	Weight (g/m²)	Thickness (mm)	25 mm discs		47 mm discs		55 mm discs		8" x 10" (20 x 25 cm) sheets	
					Cat. no.	Qty/pk	Cat. no.	Qty/pk	Cat. no.	Qty/pk	Cat. no.	Qty/pk
10	77	70	500	1.00	XT-36240-18	20	XT-36240-08	20	XT-36240-28	20	XT-36240-38	5
6	75	75	240	0.50	XT-36240-19	20	XT-36240-09	20	XT-36240-29	20	XT-36240-39	5
5	73	85	210	0.36	XT-36240-16	20	XT-36240-06	20	XT-36240-26	20	XT-36240-36	5
4	75	95	500	0.95	XT-36240-14	10	XT-36240-04	10	XT-36240-24	10	XT-36240-34	5
2	54	99.9	500	0.54	XT-36240-12	10	XT-36240-02	10	XT-36240-22	10	XT-36240-32	5

## ADVANTEC® Disposable Syringe Filters

Housings are specifically designed to minimize sample holdup and maximize recovery

- Nonpigmented acrylic or polypropylene (PP) housings feature integral filter sealing to avoid the risk of contamination from pigments and adhesives
- Each filter is clearly marked with membrane pore size
- Housings have standard luer connectors, except for 50-mm filters which have 7 to 13.5 mm hose barb connectors

**Mixed Cellulose Ester Filters** are hydrophilic with high porosity and fast flow rate. A good choice for general-purpose filtration of aqueous solutions. Offer higher protein binding than cellulose acetate.

**Cellulose Acetate Filters** feature hydrophilic membranes with low protein binding; suitable for aqueous protein solutions. The filters are nitrate-free, making them suitable for groundwater filtration.

**Nylon Filters** are strong hydrophilic filters compatible with aqueous and alcoholic solutions and most HPLC solvents. They offer minimal extractables and high binding capacity for proteins, DNA, and RNA.

**PTFE Hydrophilic Filters** are versatile filters characterized by very good chemical resistance. They are compatible with many aqueous and organic solvent mixtures used in HPLC, including acetonitrile/water.

**PTFE Hydrophobic Filters** with a laminated polypropylene support can be used to sterilize and clarify strong acids and solvents. Also typically used in gas filtration or venting applications.



### Membrane Specifications

Diameter	Housing	Filtration area	Sample volume	Holdup volume	Max temp	Max pressure psi (bar)
3 mm	PP	0.06 cm²	<2 mL	<0.01 mL	140°F (60°C)	74 (5.1)
13 mm	PP	0.9 cm²	<10 mL	<0.03 mL	140°F (60°C)	74 (5.1) <sup>†</sup>
25 mm	PP	4.0 cm²	<100 mL	<0.1 mL	140°F (60°C)	74 (5.1) <sup>†</sup>
25 mm	Acrylic	4.0 cm²	<100 mL	<0.1 mL	113°F (45°C)	74 (5.1)
30 mm	PP	4.8 cm²	<120 mL	<0.1 mL	356°F (180°C)	127 (8.8)
50 mm	PP	19.6 cm²	>100 mL	<3.0 mL	140°F (60°C)	49 (3.4)

<sup>†</sup>Max pressure for PTFE hydrophilic is 56 psi (3.9 bar).

Catalog number	Pore size	Membrane dia	Housing	Sterile	Qty/pk
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#### Mixed cellulose ester membrane filters

XT-81054-24	0.20 µm	25 mm	Acrylic	No	50
XT-81054-06				Yes	
XT-81054-28	0.45 µm	25 mm	Acrylic	No	50
XT-81054-72				Yes	

#### Cellulose acetate membrane filters

XT-81054-00	0.20 µm	3 mm	PP	Yes	100
XT-81054-06	0.20 µm	13 mm	PP	No	100
XT-81054-08				Yes	
XT-81054-74	0.45 µm	13 mm	PP	No	100
XT-81054-76				Yes	
XT-81054-30	0.20 µm	25 mm	Acrylic	No	50
XT-81054-32				Yes	
XT-81054-34	0.45 µm	25 mm	Acrylic	No	50
XT-81054-36				Yes	
XT-81054-38	0.80 µm	25 mm	Acrylic	No	50
XT-81054-40				Yes	
XT-81054-60	0.20 µm	50 mm	PP	No	10
XT-81054-62				Yes	
XT-81054-64	0.45 µm	50 mm	PP	No	10
XT-81054-66				Yes	

Catalog number	Pore size	Membrane dia	Housing	Sterile	Qty/pk
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#### Nylon membrane filters

XT-81054-20	0.22 µm	13 mm	PP	No	100
XT-81054-22	0.45 µm				
XT-81054-52	0.22 µm	30 mm	PP	No	100
XT-81054-54	0.45 µm				

#### PTFE hydrophilic membrane filters

XT-81054-12	0.20 µm	13 mm	PP	No	100
XT-81054-14	0.50 µm				
XT-81054-42	0.20 µm	25 mm	PP	No	100
XT-81054-44	0.50 µm				

#### PTFE hydrophobic membrane filters

XT-81054-02	0.50 µm	3 mm	PP	No	100
XT-81054-16	0.20 µm	13 mm	PP	No	100
XT-81054-18	0.50 µm				
XT-81054-46	0.20 µm	25 mm	PP	No	50
XT-81054-48	0.50 µm				
XT-81054-68	0.20 µm	50 mm	PP	No	10
XT-81054-70				Yes	
XT-81054-78	0.50 µm	50 mm	PP	No	10

## ADVANTEC® Disposable Capsule Filters

### Polypropylene housing available with PTFE or PES membrane, or polypropylene depth media

- All-polypropylene housing is thermally fused and offers broad chemical compatibility; diameter is a standard 78 mm
- Capsules are sterilizable by autoclave or ethylene oxide (EtO); model 29702-05 is presterilized
- Maximum operating pressure is 57 psi (3.9 bar); maximum operating temperature is 140°F (60°C)
- Capsules are vented at both ends for bleeding trapped air and for draining

**PTFE Membrane Capsules** are ideal for photoresists and also uniquely suitable for corrosive fluids and gases. The hydrophobic nature of the membrane and chemical resistance make PTFE capsules ideal for solvent filtration.

**PES Membrane Capsules** are used to filter high-purity water, ground water, compatible chemicals, pharmaceuticals, and tissue culture media. Ideal for removal of bacteria and other submicron particles.

**Polypropylene Depth-Media Capsules** offer high dirt-holding capacity with superior retention. PP fibers are thermally welded to prevent slough-off and to minimize changes in pore size. Use these filters for high-purity water and prefiltration applications.

### PTFE and PES Membrane Capsule Filters

Catalog number	Pore size	Effective filtration area	Connections
<b>PTFE (hydrophobic) membrane</b>			
XT-29702-23	0.1 µm	1150 cm <sup>2</sup>	3/8" hose barb
XT-29702-21	0.2 µm	570 cm <sup>2</sup>	3/8" hose barb
XT-29702-24	0.2 µm	1150 cm <sup>2</sup>	3/8" hose barb
XT-29702-25	0.5 µm	1150 cm <sup>2</sup>	3/8" hose barb
XT-29702-22	1.0 µm	570 cm <sup>2</sup>	3/8" hose barb
XT-29702-26	1.0 µm	1150 cm <sup>2</sup>	3/8" hose barb
<b>PES membrane</b>			
XT-29702-01	0.2 µm	450 cm <sup>2</sup>	1/4" NPT(M)
XT-29702-03	0.2 µm	900 cm <sup>2</sup>	1/4" NPT(M)
XT-29702-05†	0.2 µm	900 cm <sup>2</sup>	3/8" hose barb
XT-29702-02	0.45 µm	450 cm <sup>2</sup>	1/4" NPT(M)
XT-29702-04	0.45 µm	900 cm <sup>2</sup>	1/4" NPT(M)

†Presterilized



### Polypropylene Depth-Media Capsule Filters

Catalog number	Particle retention		Effective filtration area	Connections
	Particle size	(%)		
XT-29702-11	1.0 µm	>99	500 cm <sup>2</sup>	3/8" hose barb
XT-29702-13	1.0 µm	>99	1000 cm <sup>2</sup>	3/8" hose barb
XT-29702-12	2 to 5 µm	>94	500 cm <sup>2</sup>	3/8" hose barb
XT-29702-14	2 to 5 µm	>94	1000 cm <sup>2</sup>	3/8" hose barb
XT-29702-15	5 to 10 µm	98	600 cm <sup>2</sup>	3/8" hose barb
XT-29702-16	5 to 10 µm	98	1200 cm <sup>2</sup>	3/8" hose barb

## ADVANTEC® Disposable Ultrafiltration Units

### Concentrate, separate, and purify your biological samples without a centrifuge

- Three molecular weight cutoffs
- 40 times maximum concentration

These disposable ultrafiltration units are designed for ease in concentrating, separating or otherwise purifying small volumes (<2 mL) of liquid samples, on the basis of molecular weight cutoff using positive pressure. The unit is constructed of polypropylene cap, acrylic retentive cell, and filtrate cell. Filter media is polysulfone. To use, simply dispense sample into the retentive cell by pipette, place cap on retentive cell, and inject 10 mL of air with a syringe. Remove cap to stop filtration.

**What's included:** 24 retentive cells, 24 filtrate cells, and 4 reusable caps.

### Specifications

<b>Effective filtration area:</b> 2.0 cm <sup>2</sup>	<b>Min recovery volume:</b> 0.5 mL	<b>Sterilization:</b> 25% ethanol, 5% formalin
<b>Max cell capacity:</b> 2.0 mL	<b>Max concentration:</b> x40	<b>Max pressure:</b> 43 psi (2.9 bar)
<b>Min graduated volume:</b> 0.5 mL	<b>Max temperature:</b> 122°F (50°C)	<b>Filtrate cell capacity:</b> 2.0 mL

Catalog number	MWCO (Dalton)
XT-02910-50	10,000
XT-02910-52	50,000
XT-02910-54	200,000



## ADVANTEC® Vacuum Filtration Manifolds

Significantly reduces process time compared to gravity methods

- Connect three or six filter holders to one vacuum source
- Two- and three-way valves for independent control

**Stainless Steel Manifolds** have two- or three-way PTFE valves for each branch to provide individual control of vacuum and air venting. Branches accept no. 8 stoppers. Hose barb accepts 3/8" ID vacuum tubing. Autoclavable.

**Sterility Test Manifolds** feature an extra flushing manifold for sterile buffer. Specifications are the same as SS models described above except each branch has a 1/4" hose barb connection to flushing manifold. Use with sterility test filter holder 06645-98 on page 12. Autoclavable.

**PVC Manifolds** have branches with two-way PTFE valves for independent control of vacuum. Hose barb accepts 1/4" ID tubing. Branches accept no. 8 stoppers. Sanitize with ethanol or formaldehyde; do not autoclave. Maximum temperature is 140°F (60°C).



Sterility test manifold 02924-00



PVC manifold 02924-40 shown with filter holder



Stainless steel manifold 02924-20 shown with filter holder

Catalog number	Type	Valves	No. of branches	Dimensions (L x W x H)	
				in.	cm
XT-02924-20	Stainless steel	2-way	3	18 x 4 3/4 x 7	45.7 x 12.1 x 17.8
XT-02924-30	Stainless steel	2-way	6	28 1/2 x 4 3/4 x 7	72.4 x 12.1 x 17.8
XT-02924-85	Stainless steel	3-way	3	18 x 4 3/4 x 7	45.7 x 12.1 x 17.8
XT-02924-95	Stainless steel	3-way	6	28 1/2 x 4 3/4 x 7	72.4 x 12.1 x 17.8
XT-02924-00	Sterility test	3-way	3	18 x 4 3/4 x 7	45.7 x 12.1 x 17.8
XT-02924-10	Sterility test	3-way	6	28 1/2 x 4 3/4 x 7	72.4 x 12.1 x 17.8
XT-02924-40	PVC	2-way	3	17 3/4 x 4 3/4 x 7	45.1 x 12.1 x 17.8
XT-02924-50	PVC	2-way	6	34 1/2 x 4 3/4 x 7	87.6 x 12.1 x 17.8

XT-02924-02 Perforated silicone rubber stopper, no. 8B

XT-02923-50 Replacement rubber stopper, no. 8

## ADVANTEC® Polysulfone Filter Holders

Available models can be vented aseptically

These 47-mm filter holders feature recessed filter support that provides sufficient clearance so that the membrane will not twist or tear when the funnel is secured. Each unit includes a graduated funnel (either 300-mL standard or 500-mL wide-mouth), silicone rubber stopper and O-ring, and a base. The #8B stopper adapts to standard 1-L flasks. Models 06644-72 and -76 have a funnel cover that can be vented aseptically using a disposable syringe filter (included). Model 06644-76 has a 300-mL receiver which is interchangeable with all other models. See page 9 for syringe filters.

### Specifications

#### Materials

Support: polypropylene  
 Funnel, base, and receiver: polysulfone  
 Stopper, O-ring, and caps: silicone rubber  
 Vacuum adapter: polypropylene

**Filter diameter:** 47 mm  
**Prefilter diameter:** 41 mm  
**Filtration area:** 13.5 cm<sup>2</sup>  
**Connection (funnel cover port):** luer slip

Catalog number	Description	Main components	Funnel capacity
XT-06644-70	Polysulfone filter holder	Funnel, base	300 mL
XT-06644-72	Polysulfone aseptic filter unit	Funnel, base, cover	300 mL
XT-06644-74	Wide-mouth polysulfone filter holder	Funnel, base	500 mL
XT-06644-76	Polysulfone aseptic filter system	Funnel, base, cover, receiver	300 mL



Polysulfone filter holders shown with filter manifold 02924-20

## ADVANTEC® Glass and Stainless Steel Microanalysis Filter Holders

### Ideal for small to medium volumes of liquid

- Standard size for microbiology and particulate analysis
- Available with sintered glass, stainless steel, or PTFE support

The glass filter holders feature borosilicate glass funnel and base, silicone rubber stopper, and anodized aluminum clamp. The support is made of sintered glass, stainless steel screen, or PTFE. The 90-mm holders are ideal for large-volume viscous samples or those with a heavy particle or bioburden that would clog a 47-mm filter.

Model 06645-98 is for sterility testing of antibiotics and pharmaceuticals; it features a silicone funnel cover and tubing, glass stopcock, stainless steel injector needle, and 13-mm holder. Use with sterility test manifold on page 11.

Model 06644-80 features an unbreakable 304 stainless steel funnel/base/support and a PTFE gasket—the entire holder can be flame sterilized to sanitize between samplings. Set pins and a locking nut on the funnel prevent twisting and tearing of the membrane.



Sintered glass filter holder 06644-84



Glass sterility test filter holder 06645-98

Catalog number	Membrane size	Support	Filtration area	Funnel size	Stopper size
<b>Standard glass filter holders</b>					
XT-06644-81 XT-06644-82 XT-06644-83 XT-06644-84†	13 mm	Sintered glass	1.2 cm <sup>2</sup>	100 mL 500 mL 1000 mL 13/100 mL <sup>1</sup>	No. 5
XT-06645-13 XT-06645-23 XT-06645-25	25 mm	Sintered glass	2.1 cm <sup>2</sup>	15 mL 150 mL 300 mL	No. 5
XT-06645-95 XT-06645-96 XT-06645-31	25 mm	Stainless steel	2.1 cm <sup>2</sup>	15 mL 150 mL 300 mL	No. 5
XT-06644-88 XT-06644-85 XT-06644-91 XT-06644-94	47 mm	Sintered glass	9.6 cm <sup>2</sup>	100 mL 300 mL 500 mL 1000 mL	No. 8
XT-06644-89 XT-06644-86 XT-06644-92 XT-06644-95	47 mm	Stainless steel	9.6 cm <sup>2</sup>	100 mL 300 mL 500 mL 1000 mL	No. 8
XT-06644-90 XT-06644-87 XT-06644-93 XT-06644-96	47 mm	PTFE	9.6 cm <sup>2</sup>	100 mL 300 mL 500 mL 1000 mL	No. 8
XT-06644-97 XT-06644-98	90 mm 90 mm	Sintered glass Stainless steel	43 cm <sup>2</sup> 43 cm <sup>2</sup>	1000 mL 1000 mL	No. 8 No. 8
<b>Glass sterility test filter holder for use with sterility test manifold</b>					
XT-06645-98	47 mm	Sintered glass	9.6 cm <sup>2</sup>	300 mL	No. 8
<b>All-stainless-steel filter holder with SS funnel and base</b>					
XT-06644-80	47 mm	Stainless steel	9.3 cm <sup>2</sup>	500 mL	No. 8

†Model 06644-84 has a two-part funnel connected by a ground-glass joint.



All-stainless-steel filter holder 06644-80

## ADVANTEC® All-Glass Filtration Assemblies

### Ideal for high-purity and aggressive chemical applications

All-glass assemblies are ideal for aggressive solvents and applications where you need to minimize the materials that contact sample or filtrate. Standard 25- and 47-mm holders mount on filtration flask using a ground glass joint. Outlet of support base drip tube is positioned below the side arm connection to prevent sample aspiration into vacuum line.

**What's included:** funnel, support base, receiving flask, and clamp.

Catalog number	Membrane size	Support	Filtration area	Funnel size	Flask size
XT-06645-19 XT-06645-39	25 mm	Glass frit Stainless steel	2.1 cm <sup>2</sup>	15 mL	250 mL
XT-06645-49 XT-06645-65 XT-06645-41	47 mm	Glass frit Stainless steel PTFE	9.6 cm <sup>2</sup>	300 mL	1000 mL

XT-06645-51 Replacement receiver flask, 1000 mL



06645-19

## ADVANTEC® Pressure Filtration Holders

**Stainless steel type 304 or 316 minimizes resistance and maximizes flow rate**

- Model 02933-00 meets EPA specifications for EPA Hazardous Waste Toxicity Test

Pressure filtration holders maximize flow rates by applying positive pressure to the fluid over a broad membrane surface. Holders are autoclavable with one filter membrane that is sealed with removable wing nuts. All holders vent to release pressure.

Holders have PTFE gaskets, silicone O-rings, and PTFE-coated photoetched stainless steel support screens<sup>†</sup> to prevent nitrocellulose membranes from sticking. Holders process samples from an in-line system or pressure vessel. Available in stainless steel, stainless steel with a reservoir, and sanitary stainless steel.

**Stainless Steel Holders** are available in the following sizes: 90, 142, and 293 mm.

**Stainless Steel Holders with Reservoir** let you filter samples without a separate pressure-dispensing vessel. The 47-mm holder has a 200-mL capacity, the 90-mm holder has a 750-mL capacity, and the 142-mm holders have a 1500-mL capacity.

**Sanitary Stainless Steel Holders** are best used in-line to filter-sterilize liquids or gases. Sanitary inlet and outlet connections can be completely disassembled for thorough cleaning. Filter from 20 to 100 liters with our model 29900-00 pressure holder. Top plate has knobs for easy positioning over membrane.



142-mm pressure holder 02927-50



Sanitary holders feature connections that completely disassemble for easy cleaning.



90-mm pressure holder with reservoir 02926-54

Catalog number	Holder material	Filter diameter	Prefilter diameter	Filtration area	Max pressure psi (bar)	Adapter size (included)	Dimensions (H x dia)
<b>Stainless steel holders</b>							
XT-02926-50 <sup>†</sup>	304 SS	90 mm	75 mm	45.3 cm <sup>2</sup>	100 (7)	¾" NPT <sup>††</sup> to 11 mm ID	13½" x 5¼" (34.3 x 13.3 cm)
XT-29902-06	316 SS						
XT-02927-50	304 SS	142 mm	124 mm	113.0 cm <sup>2</sup>	100 (7)	¾" NPT <sup>††</sup> to 11 mm ID	16¾" x 7¼" (42.5 x 18.4 cm)
XT-29900-02	316 SS						
XT-29900-04	304 SS	293 mm	257 mm	530.0 cm <sup>2</sup>	100 (7)	¾" NPT <sup>††</sup> to 16 mm ID	16" x 14" (40.6 x 35.6 cm)
XT-02930-00	316 SS						
<b>Stainless steel holders with reservoir</b>							
XT-02926-32	304 SS	47 mm	35 mm	12.5 cm <sup>2</sup>	71 (4.9)	¼" NPT(F) to 10 mm ID	14¼" x 2¾" (36.2 x 7 cm)
XT-02926-54	304 SS	90 mm	75 mm	45.0 cm <sup>2</sup>	71 (4.9)	Inlet: ¼" NPT(F) to 7-13 mm ID Outlet: ¾" NPT(F) to 11 mm ID	17¾" x 5¼" (44 x 13.3 cm)
XT-29902-68	316 SS						
XT-02927-00 <sup>‡</sup>	304 SS	142 mm	124 mm	113.0 cm <sup>2</sup>	71 (4.9)	Inlet: ¼" NPT(F) to 7-13 mm ID Outlet: ¾" NPT(F) to 11 mm ID	23" x 7¼" (58.4 x 18.4 cm)
XT-02933-00 <sup>‡</sup>	316 SS						
<b>Sanitary stainless steel holders</b>							
XT-29900-00	316 SS	90 mm	75 mm	45.0 cm <sup>2</sup>	100 (7)	1½" sanitary to 11 mm ID	14" x 5¼" (35.6 x 13.3 cm)
XT-29900-06	304 SS	142 mm	124 mm	113.0 cm <sup>2</sup>	100 (7)	1½" sanitary to 11 mm ID	16¾" x 7¼" (42.5 x 18.4 cm)
XT-29900-05	316 SS						
XT-29900-08	304 SS	293 mm	257 mm	530.0 cm <sup>2</sup>	100 (7)	1½" sanitary to 11 mm ID	16" x 14" (40.6 x 35.6 cm)
XT-29900-10	316 SS						

<sup>†</sup>Model 02926-50 has a 304 SS support screen. <sup>‡</sup>Meets specifications for EPA Hazardous Waste Toxicity Test.  
<sup>††</sup>Includes one NPT(M) adapter and one NPT(F) adapter.

### Pressure Vessels

Use these electropolished stainless steel pressure vessels to propel filtration fluids through pressure holders by applying external pressure from compressed gases. Increasing pressure increases the efficiency of the EPR (ethylene propylene rubber) O-ring seal.

Vessels feature 5⅞" x 4⅞" (14.9 x 12.3 cm) wide-mouth opening for easy cleaning, SS dip tube, and molded neoprene rubber base for stability. Intake for the dip tube, located at the deepest point in the vessel, minimizes fluid loss to 6.0 mL. Sterilize vessels at 250°F (121°C) for 30 minutes. Make connections to four ¼" NPT(F) ports. Pressure vessels are ASME certified.



29902-02

Catalog number	XT-29902-00	XT-29902-90	XT-29902-02	XT-29902-92	XT-29902-04	XT-29902-94	XT-29902-96	XT-29902-98
Material	304 SS	316 SS	304 SS	316 SS	304 SS	316 SS	304 SS	316 SS
Capacity	1 gal. (3.78 L)		3 gal. (11.3 L)		5 gal. (18.9 L)		8 gal. (30.2 L)	
Height	8½" (21.6 cm)		15½" (39.4 cm)		22½" (57.2 cm)		21⅞" (53.5 cm)	
Inside diameter	9" (22.9 cm)		9" (22.9 cm)		9" (22.9 cm)		12" (30.5 cm)	
Max temperature	300°F (149°C)		300°F (149°C)		300°F (149°C)		300°F (149°C)	
Max pressure	125 psi (8.5 bar)		125 psi (8.5 bar)		125 psi (8.5 bar)		110 psi (7.5 bar)	



02935-00

## ADVANTEC® 37-mm Monitors for Microbial/Contamination Analysis

Ideal for bacterial, yeast, mold and other contamination analysis

Preassembled two- and three-piece units contain a built-in, 37-mm membrane filter and 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 be cultured in place or removed for further analysis. Monitors come presterilized and individually packed. Monitor sets include a two-piece monitor, plug, sampling tube, and three-way connector.

### Specifications

#### Materials

Housing: styrene acrylonitrile  
 Membrane: mixed cellulose ester (nitrocellulose)  
 Support pad: pure cotton cellulose

Filtration area: 9.0 cm<sup>2</sup> (6.7 cm<sup>2</sup> for hydrophobic edge type)

Maximum temperature: 113°F (45°C)

Catalog number	Analysis type	Membrane				Sterile	Qty/pk
		Dia	Pore size	Color	Surface		
<b>Three-piece monitors</b>							
XT-02935-00	Aerosol, contamination	37 mm	0.45 µm	White	Plain	No	50
XT-02935-02	Bacterial, contamination	37 mm	0.45 µm	White	Gridded	Yes	50
XT-02935-04				Black		Yes	50
XT-02935-06	Yeast/mold	37 mm	0.80 µm	White	Plain	No	50
XT-02935-08				Gridded		Yes	50
XT-02935-10					Black	No	50
XT-02935-12				Yes		50	
<b>Two-piece monitors</b>							
XT-02935-14	Bacterial, contamination	37 mm	0.45 µm	White	Gridded	Yes <sup>†</sup>	50
XT-02935-16				Black		Yes	50
XT-02935-18					Gridded	Yes <sup>†</sup>	50
XT-02935-20				Yes		50	
<b>Two-piece monitor sets</b>							
XT-02935-22	Bacterial, contamination	37 mm	0.45 µm	White	Gridded	Yes <sup>†</sup>	20
XT-02935-24				Black		Yes <sup>†</sup>	20

<sup>†</sup>With hydrophobic edge.



White gridded membrane  
02935-10

Black gridded membrane  
02935-12



14005-20

## ADVANTEC® Disposable 50-mm Sterile Petri Dishes

Ideal for culturing microorganisms in water/wastewater testing

Standard 50 x 11 mm polystyrene dishes are available with or without 47-mm absorbent cellulose pad (0.85-mm thick, ±0.17 mm). Pads are tested for neutrality and for absorption volume of 1.8 to 2.0 mL of liquid media.

All dishes have ridges for stacking. Sterilized by gamma irradiation; 20 dishes per sleeve. Presterilized pads can also be purchased separately below.



Catalog number	Description	Dia x H (mm)	Qty/cs
XT-14005-20	Petri dish with pad	50 x 11	100
XT-14005-28			500
XT-14005-24	Petri dish without pad	50 x 11	100
XT-14005-26			500

XT-14005-22 Presterilized absorbent pads. Box of 100 individual packages



14005-22

## ADVANTEC® Nobuto Blood Filter Strips

Ideal for blood collection applications

Collect blood on the narrow end of the strip and place on the drying rack for easy and efficient sample handling. Each strip can hold approximately 0.1 mL of blood or 0.04 mL of serum. Strips are produced with high-purity cellulose paper with a fine, textile like structure—ideal for uniform sampling. Typical blood collection applications include toxoplasmosis (HA), hanta virus, new castles disease (HI), canine distemper (VN), measles (Rubeola), Japanese encephalitis (HI, VN), mycoplasmosis (AG), and hog cholera (VN). Dried samples can be analyzed, stored, or mailed without refrigeration.

Catalog number	Description	Qty/pk
XT-06644-40	Nobuto blood filter strips	100

XT-06644-42 Filter strip drying rack



Nobuto blood filter strips 06644-40 shown with drying rack 06644-42

## ADVANTEC® Sterile Mixed Cellulose Ester Filter Membranes

### Presterilized membranes in convenient single- or multi-packs

Mixed cellulose ester membranes are suitable for microbiological analysis of water, wastewater, pharmaceuticals, or beverages. Offered with or without grid lines; grid lines facilitate counting colonies on the membrane surface. Grid squares measure 3.1 mm and represent 1/100 of the area of a 47-mm membrane. Black membranes maximize contrast between colonies and the filter; green membrane enables viewing of black, white, and colorless colonies on a single filter.

Presterilized by EtO, these 47-mm diameter filters are available in envelopes of 10 or individually packaged. Order membranes with absorbent pad for use with broth media.



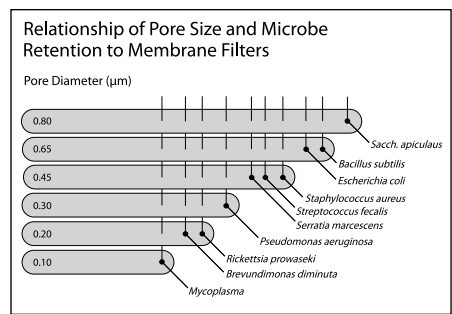
06644-08



06644-14



Catalog number	Pore size	Surface	Absorbent pad	Qty/pk
<b>White membranes, packaged 10 per envelope</b>				
XT-06644-08	0.45 µm	Gridded	Included	100
XT-06644-10			Not included	200
XT-06644-06	0.65 µm	Gridded	Included	100
<b>White membranes, individually packaged</b>				
XT-06644-21	0.20 µm	Plain	Not included	100
XT-06644-19	0.20 µm	Gridded	Included	100
XT-06644-23			Not included	100
XT-06644-27	0.45 µm	Plain	Not included	100
XT-06644-28†			Not included	100
XT-06644-16	0.45 µm	Gridded	Included	100
XT-06644-25				1000
XT-06644-14				100
XT-06644-29†	0.45 µm	Gridded	Not included	100
XT-06644-33				200
XT-06644-31				1000
XT-06644-38	0.65 µm	Plain	Not included	100
XT-06644-43	0.65 µm	Gridded	Included	100
XT-06644-12			Not included	100
XT-06644-47	0.80 µm	Plain	Not included	100
XT-06644-45			Included	100
XT-06644-49	0.80 µm	Gridded	Not included	100
XT-06644-52			Not included	1000
<b>Black membranes, individually packaged</b>				
XT-06644-37	0.45 µm	Gridded	Included	100
XT-06644-39			Not included	100
XT-06644-44			Not included	1000
XT-06644-51	0.80 µm	Gridded	Included	100
XT-06644-53			Not included	100
<b>Green membranes, individually packaged</b>				
XT-06644-54	0.45 µm	Gridded	Not included	100



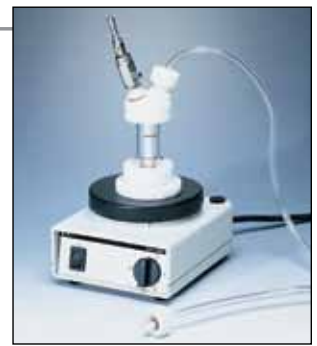
†With hydrophobic edge

## ADVANTEC® Stirred Cells

### Increase membrane life and speed sample processing

Use stirred cells for dewatering and concentrating proteins and other biological samples with ultrafiltration membranes. They are also recommended for cellulose membrane filtration of fluids with a heavy particle burden. Pressurized air from an external source (70 psi/4.8 bar max) filters sample through the membrane. Magnetic stir rod/bar is mounted to cell top cap and is preset to clear membrane surface. Samples do not touch any metal surfaces.

Cells include a preset safety relief valve for pressure buildup, a 1/2" NPT(M) cell cap connection, adapters, and pressure tubing. Top cap can be removed on the 25-, 43-, and 62-mm models to load sample; the 76-, 90-, and 150-mm models have a 1/2" NPT(M) port for sample loading. All cells have polycetal end caps and stir rod, PTFE stir bar, polypropylene support screen, and silicone O-ring.



Stirred cell 02910-40 shown with stirrer (stirrer not included)

Catalog number	Reservoir material	Membrane diameter	Filtration area	Cell capacity	Minimum recoverable volume	Downstream holdup volume	Height x bottom diameter
XT-02910-40	Clear polycarbonate	25 mm	3.5 cm <sup>2</sup>	10 mL	0.5 mL	1.3 mL	5 1/2" x 2 3/8" (13.8 x 6.0 cm)
XT-02910-41		43 mm	11.5 cm <sup>2</sup>	70 mL	2.5 mL	4.6 mL	6 3/8" x 2 5/8" (16.1 x 6.8 cm)
XT-02910-82		62 mm	27.0 cm <sup>2</sup>	200 mL	4.5 mL	9.1 mL	7 1/2" x 3 1/4" (19.0 x 8.2 cm)
XT-02910-42		76 mm	38.5 cm <sup>2</sup>	450 mL	10 mL	13 mL	8 3/4" x 4 9/16" (21.1 x 11.7 cm)
XT-02910-43	Acrylic	90 mm	54.5 cm <sup>2</sup>	600 mL	15 mL	20 mL	9" x 5 3/8" (23.0 x 13.5 cm)
XT-02910-88		150 mm	162 cm <sup>2</sup>	2000 mL	60 mL	41 mL	10 3/8" x 7 3/4" (26.9 x 19.8 cm)

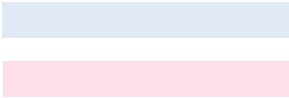
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