



sample prep



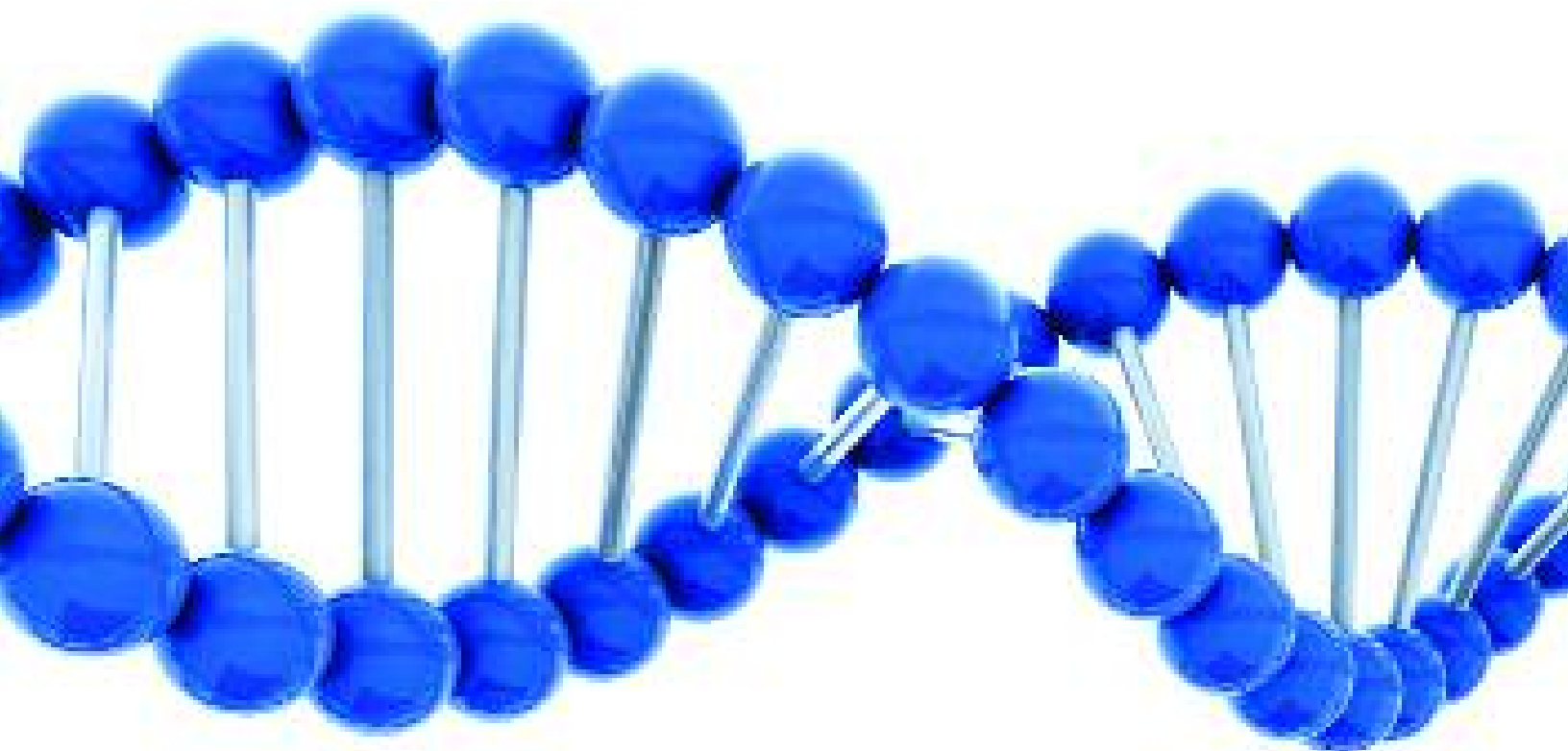
chromatography



filtration



life science



custom plastics & consumables

private label

device design

Ciro Manufacturing Corporation is a development and manufacturing company dedicated to the production of high quality plastic products. As a plastic manufacturer, we work in diversified fields such as life sciences, molecular biology, sample preparation, chromatography, biomedical and clinical research.

ciro can be your complete manufacturing source for all your plastic products

Our goal is to create an enduring manufacturer that meets and exceeds the flexible demands and needs of our customers. Customers can choose from our existing product line and customize the products to their needs. Our other services include molding, mold creation, assembly, private labeling, and product design.



Our mission is to provide our customers with a diverse line of products that allows them to serve their markets in the most efficient manner. Our goal is to create a unique relationship between Ciro and our clients. Our relationships are built on trust and backed by our experience and dedication to satisfying our customer's needs. Everyone at Ciro is committed to 100% customer satisfaction. We look forward to working with you.

Advantages of Using Ciro:

- ISO 9001:2008 Certified manufacturer
- ISO 6, 1,000 Particles Clean Room
- ISO 5, 100 Manufacturing and Packaging
- ISO 7, 10,000 Particles Molding Facility
- Flexible and efficient staff to meet small and large quantity demands
- Private labeling and custom packaging capabilities
- Fully automated assembly and production facility
- Experienced with filling powders, sorbents, buffers, slurries or liquids into devices
- Product design engineering and CAD capabilities
- Standard Confidentiality and Secrecy Agreements





If interested, we can work together to design, mold, and manufacture a new product with you. Our engineering and design staff will guide you through the process from design, molding, sampling, assembly, automation, and production. Our lead-times for custom molds are 35 days. Also, it may cut costs, reduce lead-times, and improve product quality with your own mold.

Ciro not only will design and mold your plastic device, but Ciro can also provide secondary assembly and packaging operations. Therefore, all your manufacturing work can be consolidated into one supplier. Ciro can provide a full service solution so that you can focus your attention on R&D and Sales and Marketing of your products. Based on your requirements, our team can design and manufacture custom devices for nearly any application.

We offer a full range of OEM services. From initial product design to full scale production of your finished product. Your product idea can become reality. Our OEM relationships remain for years and we work closely together on new and confidential projects. We also work with resins and slurries.

For new product ideas, consider the following:

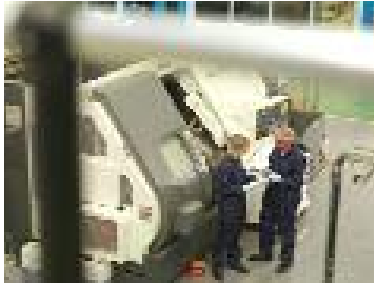


NEW PRODUCT CONCEPTS

Not only can you choose from the current products listed here, but we can also work together to design, mold, and manufacture a new product with you. Our engineering and design staff will guide you through the process from design, molding, sampling, assembly, automation, and production. Contact us immediately to get started.

CUSTOM FORMATS OF EXISTING PRODUCTS

Use our existing products with your proprietary media or membranes. Ciro also can custom fill and pack resins into our spin columns. Whatever the format, we can custom assemble our columns to meet your needs.



PRIVATE LABELING SERVICE

All of our existing products can be private labeled with your company detail on the package. We can plain label them for you or apply your own labels. Just provide us with your company logo and how you want the label to appear and we will do the rest. This includes pad printing on existing products, custom packaging and finished product labeling.

In this manner, you can build your company profile with our customers and build your brand. We can also insert custom inserts or datasheets inside each product. Just provide them and we will insert them as you require.

Please contact us for further information.



ciro quality policy



Ciro ISO 9001 Quality Management System - Compliance Statement

Ciro is committed to understanding and meeting the quality needs and expectations of all of our customers. To guarantee continuous process improvement, we have established a comprehensive quality assurance program to meet our commitment to total customer satisfaction as well as the requirements of ISO 9001:2008. Continuous quality improvement is the responsibility of every employee and we build quality into each and everything we do.

Ciro's target for quality is to maintain and to improve the quality of products and services in order to meet and exceed consistently our customer's requirements. Giro's management is committed to on-time delivery and defect free products.

Under observance of the aforementioned, customer satisfaction is the company's main priority: we want to be our customers' preferred supplier.

Continuous Improvement Commitment:

- Ensure customers defective free products maintained at 99%, reviewed on a quarterly basis.
- Improve on-time delivery of orders.
- Continuously improve product quality and process efficiency; opportunities for improvement are presented on a quarterly basis and approved by management.



We offer a full range of devices that can be used to create custom molecular biology kits. From silica to magnetic beads, we not only manufacture the plasticware, we can also fill and package them for you. Therefore, you can focus on sales, technical support and R&D, let us do the manufacturing. We also have reagent filling capabilities and can private label and package at full kit as required.

We manufacture a complete range of spin columns and accessories that can be customized to meet your needs. Along with spin columns, we manufacture a complete line of receiver tubes. All devices can be customized with various materials from PE Frits with resin, slurries, and glass fiber silica. You can send us your materials and we will insert the materials to meet your specifications. We also work with resins, both dry and slurries. Each device can be also manufactured in various colors to make product identification unique when there is a broad range of products offered. Both the spin device and the insert can be colored. Pad printing is also available on the outside of the device. For small volume applications we have created a mini-vacuum manifold for the molecular biology market. Please review the following products:

Nano-Spin Filter Tubes

- For Samples up to 400ul
- Polypropylene housing
- Max Centrifugal Force: 10,000 XG
- Membrane Diameter: 2.95mm
- Used with 1.5mL receiver tubes or vacuum manifold



Micro-Spin Filter Tubes

- For Samples up to 850ul
- Polypropylene housing
- Max Centrifugal Force: 10,000 XG
- Hold up Volume: less than 5ul
- Membrane Diameter: 7.02mm
- Worked with 1.5mL and 2.0mL Receiver tubes
- Both vacuum and centrifugal compatible



Midi-Spin Filter Tubes

- For Samples up to 4mL
- Polypropylene housing
- Hold up Volume: less than 10ul
- Comes with 7mL Capped receiver tube



Maxi-Spin Filter Tubes

- For Samples up to 23mL
- Polypropylene housing
- Use with Fixed-angle Rotor Centrifuge
- Comes with 50mL screw cap receiver tube





Microcentrifuge Tubes

Additional plastic products offered include DNase/RNase Free receiver tubes in various sizes. Receiver tubes can be packaged with spin filters or separately.



Screw Cap Receiver tubes

0.5mL tube with o'ring-skirted bottom

1.5mL tube with o'ring- skirted bottom

2.0mL tube with o'ring- skirted bottom

0.5mL tube with o'ring-conical bottom

1.5mL tube with o'ring- conical bottom

2.0mL tube with o'ring- conical bottom



96-well plates

- Customize to your specifications with various membranes or glass fibers
- Automation user-friendly
- Uniquely Designed to Work with samples up to 1mL
- Male luer tips remove risk of cross contamination



Vacuum Manifold for Nucleic Acid Purification

Eliminate the need to handle waste during your nucleic acid purification protocols! Our new mini vacuum manifold can handle 24 samples concurrently and allow you to individually control each port. The main advantage to this unit is that there is plenty of space between ports so that each stopcock and sample can be controlled easily. The manifold is very sturdy and is made of chemical resistant polypropylene. The unit comes with 24 luer lock stopcocks. All standard preparation columns that have a standard luer tip will work on this unit .

microfiltration spin filters

Micro-Spin and Maxi-Spin Centrifuge filters are very useful for small volume sample filtration. Designed for use in centrifuges, the filter units consist of a sample chamber and a receiver tube. This tube has a marking area and is graduated. A cap serves the dual purpose of capping the sample chamber during the centrifugation and the receiver tube after the sample chamber has been removed. Each package is imprinted to identify the pore size and membrane type.

Micro-Spin Filters Tubes

- For Samples up to 850ul
- Polypropylene housing
- Max Centrifugal Force: 10,000 XG
- Hold up Volume: less than 5ul
- Membrane Diameter: 7.02mm



Midi-Spin Filters Tubes

- For Samples up to 5mL
- Polypropylene housing
- Hold up Volume: less than 10ul



Maxi-Spin Filters Tubes

- For Samples up to 25mL
- Polypropylene housing
- Use with Fixed-angle Rotor Centrifuge



Micro - 800ul Capacity	
Rec. Tubes With 2.0mL Receiver Tubes	
Sterility:	NON-STERILE
Qty/Pkg.	100
Membrane:	CAT. NO.
.2µm Nylon	CINY02
.2µm PES	CIPE02
.2µm PVDF	CIPV02
.2µm RC	CIRC02
.2µm PTFE	CIPT02
.2µm PP	CIPP02
.2µm CA	CICA02
.2µm NC	CINC02
.45µm Nylon	CINY45
.45µm PES	CIPE45
.45µm PVDF	CIPV45
.45µm RC	CIRC45
.45µm PTFE	CIPT45
.45µm PP	CIPP45
.45µm CA	CICA45
.45µm NC	CINC45

Midi - 4mL Capacity	
Rec. Tubes With 7mL Receiver Tubes	
Sterility:	NON-STERILE
Qty/Pkg.	25
Membrane:	CAT. NO.
.2µm Nylon	BNY02
.2µm PES	BPE02
.2µm PVDF	BPV02
.2µm RC	BRC02
.2µm PTFE	BPT02
.2µm PP	BPP02
.2µm CA	BCA02
.2µm NC	BNC02
.45µm Nylon	BNY45
.45µm PES	BPE45
.45µm PVDF	BPV45
.45µm RC	BRC45
.45µm PTFE	BPT45
.45µm PP	BPP45
.45µm CA	BCA45
.45µm NC	BNC45

Maxi - 25mL Capacity	
Rec. Tubes With 50mL Receiver Tubes	
Sterility:	NON-STERILE
Qty/Pkg.	50
Membrane:	CAT. NO.
.2µm Nylon	XNY02
.2µm PES	XPE02
.2µm PVDF	XPV02
.22µm RC	XRC02
.22µm PTFE	XPT02
.22µm PP	XPP02
.22µm CA	XCA02
.22µm NC	XNC02
.45µm Nylon	XNY45
.45µm PES	XPE45
.45µm PVDF	XPV45
.45µm RC	XRC45
.45µm PTFE	XPT45
.45µm PP	XPP45
.45µm CA	XCA45
.45µm NC	XNC45

Our syringe filters are designed for efficient and cost-effective rapid filtration of almost any solution prior to analysis, and are optimized for superior flow rates and high throughput.

We offer a wide variety of membranes ideal for any application. The housing attaches to any standard Luer lock syringe, so the sample can easily be pushed through the membrane with minimal pressure. The result is a particulate-free eluent that is ready for use with HPLC, GC, or other analytical techniques.



With their low extractables and low binding membranes, our syringe filters are ideal for sensitive instrumental analysis including gas, liquid and ion chromatography. A wide range of chemical compatibility enables their use with virtually any sample composition.

- Increased column lifetime
- Less system down time
- Consistent, reproducible results

Applications:

- Environmental
- Pharmaceutical / Biotech
- Clinical / Toxicology
- Food and Beverage

In today's environment, rapid and simple sample preparation is a must. Our syringe filters are designed for higher flow rates and throughputs than those of competing products.

No matter the sample type, we offer filtration products to meet your demanding requirements. Water, wastewater, soil and sludge, and pollution control samples are especially challenging.

At every stage of the drug discovery process target compounds must be isolated, purified, and prepared prior to testing.

Difficult samples such as serum, urine and other physiological fluids are easily filtered and clarified using our syringe filters. Removal of particulate matter to sub-micron levels is critical before any clinical sample is injected into an HPLC, GC or mass spectrometer. At every stage of toxicology, samples must be prepared prior to testing.



Food safety is more important than ever and decreasing detection limits are making analysis even more challenging. Accurate and reliable testing is critical to ensure food safety. Syringe filters are routinely used in preparation for analysis of pesticides, herbicides, fungicides, flavors and fragrances. For samples with large amounts of particulate and/or large fibrous matter, use a glass fiber prefilter.

syringe filters (Cont.)

SYRINGE FILTERS- 25mm				
	Size	25mm		
	Qty Per PKG	100	500	1,000
NYLON	.2um	NY02	NY021	NY022
	.45um	NY45	NY451	NY452
CA	.2um	CA02	CA021	CA022
	.45um	CA45	CA451	CA452
PP	.2um	PP02	PP021	PP022
	.45um	PP45	PP451	PP452
PTFE Hydrophobic	.2um	PT02	PT021	PT022
	.45um	PT45	PT451	PT452
PTFE Hydrophilic	.2um	PTL02	PTL021	PTL022
PES	.2um	PE02	PE021	PE022
	.45um	PE45	PE451	PE452
NC (MCE)	.2um	NC02	NC021	NC022
	.45um	NC45	NC451	NC452
PVDF	.2um	PV02	PV021	PV022
	.45um	PV45	PV451	PV452
Glass Fiber	1.0um	GL02	GL021	GL022
	Multi	GLM02	GLM021	GLM022

SYRINGE FILTERS- 13mm & 17mm				
	Size	13mm		
	Qty Per PKG	100	500	1,000
NYLON	.2um	13NY0	13NY02	13NY025
	.45um	13NY4	13NY45	13NY455
CA	.2um	1302C	1302CA	1302CA5
	.45um	1345C	1345CA	1345CA5
PP	.2um	1302P	1302PP	1302PP5
	.45um	1345P	1345PP	1345PP5
PTFE Hydrophobic	.2um	1302T	1302PT	1302PT5
	.45um	1345T	1345PT	1345PT5
PTFE Hydrophilic	.2um	1302PL	1302PTL	1302PTL5
PES	.2um	1302E	1302PT	1302PT5
	.45um	1345E	1345PT	1345PT5
NC (MCE)	.2um	1302N	1302NC	1302NC5
	.45um	1345N	1345NC	1345NC5
PVDF	.2um	1302V	1302PV	1302PV5
	.45um	1345V	1345PV	1345PV5
	Size	17mm		
	Qty Per PKG	100	500	1,000
NYLON	.2um	17NY0	17NY02	17NY025
	.45um	17NY4	17NY45	17NY455
CA	.2um	17CA0	17CA02	17CA025
	.45um	17CA4	17CA45	17CA455
PP	.2um	17PP0	17PP02	17PP025
	.45um	17PP4	17PP45	17PP455
PTFE Hydrophobic	.2um	17PT0	17PT02	17PT025
	.45um	17PT4	17PT45	17PT455
PTFE Hydrophilic	.2um	17PTL0	17PTL02	17PTL025
PES	.2um	17PE0	17PE02	17PE025
	.45um	17PE4	17PE45	17PE455
NC (MCE)	.2um	17NC0	17NC02	17NC025
	.45um	17NC4	17NC45	17NC455
PVDF	.2um	17PV0	17PV02	17PV025
	.45um	17PV4	17PV45	17PV455



Materials of Construction

Housing: 100% homopolymer Polypropylene- no filling agents or release agents.

Prefilter: Borosilicate glass 1µm

Effective Filtration Area

13 mm: 0.8 cm²

17 mm: 1.0 cm²

25 mm: 3.9 cm²

Sample Volume

13 mm: < 10 mL

17 mm: < 12 mL

25 mm: < 150 mL

Inlet/Outlet Connections

13, 17 and 25 mm: Female luer lock inlet, male slip luer outlet

Typical Hold-Up Volume (with air purge)

13 mm: < 15 µL

17mm : < 18 µL

25 mm: < 125 µL

25 mm Prefilter: < 150 µL

Maximum Operating Temperature

55 °C (131 °F) at 2.1 bar (210 kPa, 30 psi)

Maximum Operating Pressure

13 mm: 6.9 bar (690 kPa, 100 psi)

17 mm: 130 psi

25 mm: 4.1 bar (410 kPa, 60 psi) at 21 - 24 °C (70 - 75 °F); 2.1 bar (210 kPa, 30 psi) at 55 °C (131 °F)

Typical Water Flow Rate with Nylon membrane- mL/min at 2.1 bar (210 kPa, 30 psi)

13 mm, 0.2 µm Nylon: 10

13 mm, 0.45 µm Nylon : 15

25 mm, 0.2 µm Nylon: 115 0.45 µm: 245

25 mm prefilter/0.45 µm Nylon: 215

Chose the correct filter size:

Volume	Filter Diameter
Less than 1ml	4mm
1-10ml	13mm
10-100ml	25mm



Sample Prep for Chromatography

Applications

- General particulate removal
- GC
- IC
- HPLC
- UHPLC
- Dissolution testing

Membranes

PES- Fast flow and low protein binding

Hydrophilic PTFE- Mild organics and aqueous solutions; low binding and extractables

Nylon- Aqueous or organic solutions

PTFE: Organic solvents (hydrophobic membrane)

Viscous Filtration/ High Particulate

Applications

- General particulate removal
- Analytical Sample preparation
- Wine Analysis

Membranes

Use filters with prefilters for higher throughput

Hydrophilic PTFE- organics and aqueous solutions

Nylon- Aqueous or organic solutions

PTFE: Organic solvents (hydrophobic membrane)

PVDF: for mild organic and aqueous solutions

Laboratory Filtration

Applications

- Particulate and clarification removal

Membranes

Use filters with prefilters for higher throughput

Glass fiber prefiltration

NC- Mixed Cellulose esters (MCE)- Aqueous solutions

PVDF: ultra-low protein binding; mild organic and aqueous solutions

Sterile Filtration

Applications

- Biological solutions
- Buffers
- Tissue culture media/additives

Membranes

PES- Fast flow and low protein binding

PVDF: ultra-low protein binding

Hydrophilic PTFE- wide-ranging chemical compatibility

NC- Mixed Cellulose esters (MCE)- general purpose

Gas/Vent Filters

Applications

- Venting sterile containers
- Sterile filtering gases

Membranes

PTFE: (hydrophobic membrane)



nano spin device

For very small volume filtration, our Nano Spin column can be used either in microcentrifuges or on vacuum manifolds for the purification of DNA and/or RNA. Our device features polypropylene housing and has an overall volume capacity of 400µl. Our unique design places the membrane or glass fiber in the tip and therefore the retention volumes are very low.

Specifications:

- Used with microcentrifuge or vacuum manifold
- 400µl capacity
- Used with capped 1.5mL receiver tubes
- Filter media placed inside tip area- 3mm diameter



microcentrifuge tubes

Additional plastic products offered include **DNase/RNase Free** receiver tubes in various sizes. Receiver tubes can be packaged with spin filters or separately. The following receiver tubes are available in 1,000 per bag:

item	cat no.
2.0mL with Cap	135-00
1.5mL with Cap	137-00
15mL with Cap	139-00

item	cat no.
2.0mL no Cap	136-00
0.5mL with Cap	138-00
50mL with Cap	140-00



forensic spin tubes

Our kit includes a 850µL filter basket and a 2.0mL microcentrifuge receiver tube with attached cap. Each filter has a 1.4mm mesh filter basket that acts as a sieve to retain cloth samples and pass fluids to the receiver tube.

- Extract biological fluids from cloth samples
- 800µL capacity
- DNA/Rnase Free

Forensic Spin Columns	
850ul device with 2.0mL receiver tubes	
CIEMP	100/pkg
CIEMP-250	250/pkg.
CIEMP-BLK	1000/PKG.



microcentrifuge screw cap tubes

The extraordinary strength, safety and reliability of our screw-cap tube lets you perform procedures that simply can't be done with other tubes. Boil it, irradiate it, immerse it in the vapor phase of liquid Nitrogen. Inside the screw cap, an ethylene propylene O-Ring forms a secure and leak-proof seal.

- Frost area for writing
- Non-sterile or Sterile
- Made from a crystal clear resin that allows you to easily view your samples
- Polypropylene tubes are suitable for vapor phase liquid nitrogen storage, boiling and autoclaving
- Sturdy enough to withstand centrifugation of 20,000xG
- Free of RNase, DNase, and endotoxins
- Works with standard caps with and without o'ring



Compliance: Certified RNase-, DNase-, DNA-, and pyrogen-free

- **Convenient-** Molded ridges on tubes match serrations on racks so tubes may be opened with one hand. Upright models stand without a rack. Seamless, conical design lets you extract all the samples or your sample with pipette or syringe. Transparent polymer lets you see your sample clearly.
- **Sample Integrity-** O-ring creates a positive seal that prevents leaking during processing, storage, or transport. Tube is made of inert virgin-polypropylene copolymer, to minimize the risk of altering samples. Our Screw-Cap tube is ideal for any sample-processing or storage application imaginable and especially for working with valuable or hazardous cells and materials.
- **Universal use-** Accommodates all fixed angle head microcentrifuges. Will withstand maximum G-forces of all current microcentrifuge instruments.
- **Safe and Reliable-** External threads minimize contamination, material hang-up and loss.
- **Sturdy and Reusable-** Ideal for freezer storage, boiling, autoclaving and irradiation.

microcentrifuge screw cap tubes



Conical Bottom Screw Cap Micro-Centrifuge Tubes			
<i>Cat No:</i>	<i>Description</i>	<i>Qty/bag</i>	<i>Misc</i>
94.001	0.5mL Screw cap micro-centrifuge tube	1000	
94.002	1.5mL Screw cap micro-centrifuge tube	1000	
94.003	2.0mL Screw cap micro-centrifuge tube	1000	
94.004	0.5mL Screw cap micro-centrifuge tube	500	Sterile- with cap
94.005	1.5mL Screw cap micro-centrifuge tube	500	Sterile- with cap
94.006	2.0mL Screw cap micro-centrifuge tube	500	Sterile- with cap



Skirted Bottom Screw Cap Micro-Centrifuge Tubes			
<i>Cat No:</i>	<i>Description</i>	<i>Qty/bag</i>	<i>Misc</i>
95.001	0.5mL Screw cap micro-centrifuge tube	1000	
95.002	1.5mL Screw cap micro-centrifuge tube	1000	
95.003	2.0mL Screw cap micro-centrifuge tube	1000	
95.004	0.5mL Screw cap micro-centrifuge tube	500	Sterile- with cap
95.005	1.5mL Screw cap micro-centrifuge tube	500	Sterile- with cap
95.006	2.0mL Screw cap micro-centrifuge tube	500	Sterile- with cap



Screw Caps with O'ring		
<i>Cat No:</i>	<i>Color</i>	<i>Qty/Bag</i>
96.001	Clear-Natural PP	1000
96.002	Blue	1000
96.003	Green	1000
96.004	Red	1000
96.005	White	1000
96.006	Yellow	1000

SPE columns and cartridges

Solid phase extraction (SPE) is a form of step-wise chromatography designed to extract, partition, and (or) adsorb one or more components from a liquid phase (sample) onto a stationary phase (sorbent or resin). Over the last twenty years, SPE has become the most powerful technique available for the rapid and selective sample preparation prior to analytical chromatography.

Designed to meet the exacting requirements of pharmaceutical and clinical analysis, our SPE products are ideal for all application areas:

- Food and Beverage
- Environmental
- Petrochemical
- Agriculture



The multitude of phase chemistries and hardware configurations available within our SPE line offer a comprehensive level of selection and flexibility required to handle the increasingly complex and diverse sample prep challenges seen today.

Reversed-Phase (non-polar) Sorbents				
<i>sorbent</i>	<i>fill</i>	<i>column</i>	<i>pack</i>	<i>part #</i>
C18- 6%	50mg	1ml	100/pkg	50C18
	100mg	1ml	100/pkg	100C18
	500mg	3ml	50/pkg	500C18
	500mg	6ml	30/pkg	500C186
	1000mg	6ml	30/pkg	1000C18
C18- 17%	50mg	1ml	100/pkg	50C18H
	100mg	1ml	100/pkg	100C18H
	500mg	3ml	50/pkg	500C18H
	500mg	6ml	30/pkg	500C186H
	1000mg	6ml	30/pkg	1000C18H
C8 Octyl	50mg	1ml	100/pkg	50C8
	100mg	1ml	100/pkg	100C8
	500mg	3ml	50/pkg	500C8
	500mg	6ml	30/pkg	500C86
	1000mg	6ml	30/pkg	1000C8

Normal Phase (polar) Sorbents				
<i>sorbent</i>	<i>fill</i>	<i>column</i>	<i>pack</i>	<i>part #</i>
Silica	50mg	1ml	100/pkg	50SI
	100mg	1ml	100/pkg	100SI
	500mg	3ml	50/pkg	500SI
	500mg	6ml	30/pkg	500SI6
	1000mg	6ml	30/pkg	1000SI
Diol	50mg	1ml	100/pkg	50DI
	100mg	1ml	100/pkg	100DI
	500mg	3ml	50/pkg	500DI
	500mg	6ml	30/pkg	500DI6
	1000mg	6ml	30/pkg	1000DI
Florisil	50mg	1ml	100/pkg	50FL
	100mg	1ml	100/pkg	100FL
	500mg	3ml	50/pkg	500FL
	500mg	6ml	30/pkg	500FL6
	1000mg	6ml	30/pkg	1000FL
CN	50mg	1ml	100/pkg	50CN
	100mg	1ml	100/pkg	100CN
	500mg	3ml	50/pkg	500CN
	500mg	6ml	30/pkg	500CN6
	1000mg	6ml	30/pkg	1000CN
NH2 Amino	50mg	1ml	100/pkg	50NH
	100mg	1ml	100/pkg	100NH
	500mg	3ml	50/pkg	500NH
	500mg	6ml	30/pkg	500NH6
	1000mg	6ml	30/pkg	1000NH

SPE columns and cartridges (Cont.)

SPE extends the lifetime of chromatographic systems and improves qualitative and quantitative analysis. By switching sample matrices from the original matrix to a simpler matrix environment, subsequent analysis is often simplified, and the demand placed on an analytical system is considerably lessened.

Ion-Exchange Sorbents				
sorbent	fill	column	pack	part #
SAX	50mg	1ml	100/pkg	50SAX
	100mg	1ml	100/pkg	100SAX
	500mg	3ml	50/pkg	500SAX
SCX	500mg	6ml	30/pkg	500SAX6
	1000mg	6ml	30/pkg	1000SAX
	50mg	1ml	100/pkg	50SCX
SCX	100mg	1ml	100/pkg	100SCX
	500mg	3ml	50/pkg	500SCX
	500mg	6ml	30/pkg	500SCX6
	1000mg	6ml	30/pkg	1000SCX

CARTRIDGES			
sorbent	fill	pack	part #
C18- 6%	300mg	100/pkg	300C18
	600mg	100/pkg	600C18
	900mg	100/pkg	900C18
C18- 17%	300mg	100/pkg	300C18H
	600mg	100/pkg	600C18H
	900mg	100/pkg	900C18H
C8 Octyl	300mg	100/pkg	300C8
	600mg	100/pkg	600C8
	900mg	100/pkg	900C8
Silica	300mg	100/pkg	300SI
	600mg	100/pkg	600SI
	900mg	100/pkg	900SI
NH2 Amino	300mg	100/pkg	300NH
	600mg	100/pkg	600NH
	900mg	100/pkg	900NH
Florisil	300mg	100/pkg	300FL
	600mg	100/pkg	600FL
	900mg	100/pkg	900FL
SAX	600mg	100/pkg	600SAX
SCX	600mg	100/pkg	600SCX

chromatography columns & cartridges

We offer a full range of polypropylene columns and tubes. Each size can be customized to your specific need and application. All sizes can be filled with various PE Frits, membranes, resins, slurries, or customer provided materials. Pad printing on tubes is also available in any color. Further custom packaging is available as well. All columns can be used for various vacuum applications or gravity feed procedures.

Also, we offer 300mg and 900mg size cartridges that can accommodate up to 900mg of resin.

PP Columns: 1cc, 3cc, 6cc

Also, sizes sometimes referred to **1ml, 3ml, 6ml**

Please contact us for further details, samples, or a custom quote.



Syringe Barrels for SPE
100/pkg.
CAT. NO.
1cc
3cc
6cc
Column Plugs
100/pkg.
CAT. NO.
PLUG

PE Frits for SPE Columns/Barrels
100/pkg.
CAT. NO.
1cc-PE
3cc-PE
6cc-PE
Snap-Cap Cartridges
Includes two PE Frits on the side-100/pkg.
CAT. NO.
300NG_E
900NG-E

All items are available under your trade name or brand. We can private label all items and accessories so that you can market and sell the brand, while we do the manufacturing. The manifold lids can also be etched with your company name or brand. Please contact us for more information.

Vacuum Manifolds

Vacuum manifolds for SPE sample preparation, filtration, and elution are available in 10, 12, 16, and 24 port configurations. These manifolds permit consistent extraction and filtration results. Multiple sample processing with these manifolds simplifies procedures and saves time. The manifolds consist of a clear glass chamber and lid to which a vacuum is applied to draw a sample through an SPE column, cartridge, or disk. Adjustable racks placed in the glass vacuum chamber will accommodate a variety of sample collection vessels, including test tubes, autosampler vials, volumetric flasks, and Erlenmeyer flasks. Eluants are deposited directly into the collection vessel of choice via polypropylene, optional stainless steel, or Teflon needles. Drying attachments for the 12 and 24 port manifolds will direct a flow of air or nitrogen into the collection vessels to dry eluants prior to further analysis. Drying attachments can also be connected, via adapters, to SPE columns or cartridges in order to dry the column or cartridge prior to final elution. Optional disposable solvent resistant polypropylene liners are available for the twelve port manifolds. These waste liners greatly simplify sample preparation, solvent disposal, and clean-up.



Please review complete listing of all vacuum manifold replacement parts and accessories.

Description	12 POSITION		16 POSITION		24 POSITION	
	Item No.	Qty/Pkg	Item No.	Qty/Pkg	Item No.	Qty/Pkg
Vacuum manifold Set-Complete	4012	1	4416	1	4824	1
Glass chamber	4013	1	4417	1	4825	1
Cover, gasket, & 12 stopcocks	4014	1	4418	1	4826	1
Gaskets	4015	2	4419	2	4827	2
Vacuum gauge, valve, & glass chamber	4016	1	4420	1	4828	1
Needles - Polypropylene	4017	12	4421	16	4829	24
Needles - Stainless Steel	4018	12	4422	16	4830	24
Collection Rack-shelves, legs, clips, & posts	4019	1	4423	1	4831	1
Plate - 13mm	4020	1	4424	1	4832	1
Plate - volumetric flask	4021	1				
Plate - 16mm test tube	4022	1	4426	1	4834	1
Plate - autosampler vial	4023	1				
Plate - dimple	4024	1	4428	1	4836	1
Plate - base	4025	1	4429	1	4837	1
Stopcocks*	4026	12	4430	16	4838	24
Drying attachment	4027	1	4431	1	4839	1
12 Position PP vacuum waste container	4028	10				

vacuum manifolds and accessories (Cont.)

ACCESSORIES		
Description	Item No.	Qty/Pkg
Female Luer Fittings	4102	2
Male Luer Fittings	4103	2
Support posts for rack	4104	3
Legs for cover - black	4105	4
Vacuum gauge & valve assembly	4106	1
Valve assembly only	4107	1
Vacuum gauge	4108	1
Retaining clips	4109	12
Vacuum manifold plugs	4110	50

drying attachments

Drying Attachments are available for the 12 and 24 port manifolds, which will direct the flow of air or nitrogen into the collection vessels to concentrate eluants, prior to further analysis. Drying attachments can also be connected directly to columns, cartridges, or disks, via adapters to permit drying sorbent beds, prior to final elution.

item	cat no.	Qty.
4027	12 Position Drying Attachment	Each
4431	16 Position Drying Attachment	Each
4839	24 Position Drying Attachment	Each



flash column processing system

For your large column applications from 10 to 70g, these newly introduced processing stations target the large SPE and Flash columns. Typically vacuum manifolds can handle only 12, 16, or 24 normal size columns, but for those samples that require larger capacity, we have developed a new larger manifold. With 10 positions, the unit is able to address the larger solvent volumes.

description	item no.	Qty/Pkg
Flash Vacuum Manifold Set-Complete	50010	1
Glass chamber	50011	1
Cover, gasket, & 10 stopcocks	50012	1
Gaskets	50013	2
Vacuum gauge, valve, & glass chamber	50014	1
Needles - Polypropylene	50015	10
Needles - Stainless Steel	50016	10
Collection Rack-shelves, legs, clips, & posts	50017	1
Plate - 19mm	50018	1
Plate - 25mm	50020	1
Plate - dimple	50022	1
Plate - base	50023	1
Stopcocks	50024	10
Drying attachment	50025	1

Key features:

- 10 positions optimally spaced to accommodate larger columns
- All units included Inert PTFE Control valves and Needles
- Racks hold collection tubes up to 150mm long
- Familiar controls and system- as commonly used vacuum manifolds
- Chemically resistant Polypropylene Lids
- Racks designed for 19 or 25mm tubes, both included in standard system
- Custom Sizes & Formats available upon request



teflon neddles and control valves

Disposable Teflon® Needles and Teflon® Needles with flow control valves are designed to fit through the manifold lid via the luer fitting. These needles deliver the eluant directly from the SPE extraction column or cartridge into the collection vessel in the vacuum chamber. These needles, when used in conjunction with Teflon® columns and Teflon® frits ensure zero extractables from the column, frits, and fluid path. This combination is especially useful for critical sample analysis, such as environmental samples.



Teflon® Needles:

item no.	Qty/Pkg
4210	100
4212	500

Teflon® Control Valves:

item no.	Qty/Pkg
4202	25
4204	50

waste containers

Disposable solvent resistant polypropylene waste liners, for 12 port manifolds, greatly simplify sample preparation, solvent disposal, and final clean-up of the manifold. The disposable waste liner is a molded solvent resistant polypropylene liner that fits into the vacuum chamber of the 12 port manifold.

The liner is designed to contain all liquids used in SPE sample preparation. To use the liner, remove the manifold lid and take out the rack and shelf set. Place the disposable liner into the glass vacuum chamber, and replace the manifold lid. Proceed with all conditioning and sample preparation steps. Just prior to final elution, the liner, containing the waste solvents, is removed from the vacuum chamber. There are small handles at each end of the waste liner to facilitate its removal. Replace the lid, and proceed with the final elution of the analyte. Waste solvents should be properly discarded from the liner. The liner can be cleaned and re-used a number of times, prior to discarding.



Disposable waste liner, PP:

item no.	Qty/Pkg
4028	10

Teflon® is a registered trademark and a brand name owned by Dupont.

For Independent Flow Control

Luer stopcocks are used to provide independent flow control of each individual port when used in conjunction with vacuum manifolds. They are made from solvent resistant high-grade 100% Nylon, are reusable and can be readily cleaned using organic solvents such as methanol or acetone.

- Control flow rates during SPE
- Improve method reproducibility
- Instant isolation from vacuum reduces accidental tube drying



STOPCOCKS	
Item No.	Description
4840	Stopcocks 100/pkg
4841	Stopcocks 1000/pkg
4842	Stopcocks 5000/pkg

HTS products

96-Well Filter Plate

- Customized to your specifications with various membranes or glass fibers
- Automation user-friendly
- Uniquely Designed to Work with samples up to 1mL
- Male luer tips remove risk of cross contamination



Standard SBS footprint: The plate conforms to all SBS microplate specifications to ensure compatibility with all automated workstations and systems.

Easy robotics handling: The skirt feature allows the same grip by robotic systems as the grip with conventional microtitration plates.

Barcode placement options: A barcode label can be placed on any side of the plate as well as on top. Unique matte finish on side allows for writing as well as bar coding.

OEM and Private Label

Customers can also provide their proprietary membranes or media for insertion into the plates.

Ciro will work with other laboratory manufacturers to supply OEM quantities for your proprietary products. We have complete in-house fabrication facilities including tooling, molding and QC.

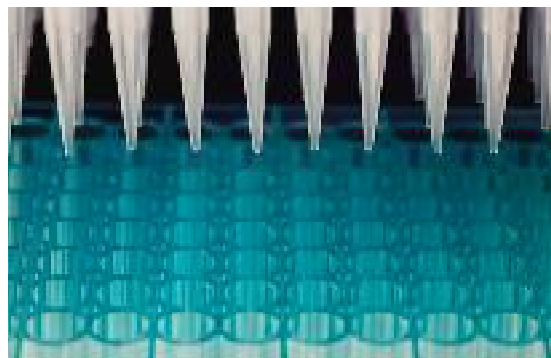
Sterile Disposable Plastic 96-Pin Replicator Plates

Transfer of DNA libraries from storage plates to membranes, agar surfaces or new wells can be facilitated by using the New Replicator Plates from Ciro Mfg. Corp, which allow transfer or conversion from 96 well systems. Micro-Plate Pin Replicators transfer small volume samples to plates, membranes or solid supports.

Ideal for inoculum, clones, YACs, cosmid libraries, colony hybridization, antibiotic sensitivity testing, phage typing, replication of DNA libraries and more. Individual pins transfer approximately 1 μ l of sample. Transfer volume may vary depending on amount of pressure applied and viscosity of sample.

If your research involves screening, replicating or assaying numerous specimens or substances our replication system will reduce your labor, increase your throughput and decrease cost. Also, each plate is supplied sterile, eliminating the need for ethanol washing prior to use as well.

- Sterile
- For use with 96-Well Plates
- Disposable and inexpensive
- Chemical Resistant
- Designed for the replication of DNA libraries
- Ideal for transferring small volumes of inoculum from plate to plate or to a membrane
- Pins transfer 1.0 μ l from liquid or 0.1 μ l to solid supports
- 100% homo-polymer Polypropylene



Please contact us for a sample or further information.

quality mission

Ciro Manufacturing Corporation is a plastic manufacturer focused on products for Life Science research. Our goal is to create an enduring manufacturer that meets and exceeds the flexible demands and needs of our customers, while creating long-term value for our employees and customers.

Ciro Mfg. Corp. developed and implemented a quality management system to better satisfy the needs of its customers and to improve management of the company. The quality system complies with the international standard ISO 9001:2008. It covers the production and servicing of the company's products.

Corporate Quality Policy

The Management of Ciro Manufacturing Corporation is committed to quality and continual improvement in all areas of the organization. Working as a Team, and the involvement of employees in the continual quality improvement process ensures that the company's goals for quality, efficiency and customer satisfaction are met.

Ciro's target for quality is to maintain and to improve the quality of products and service, in order to meet consistently customer requirements and internal needs. Ciro's management is committed to the safety of the company's operations and, in particular, to the health and safety of employees, customers and the public in general.

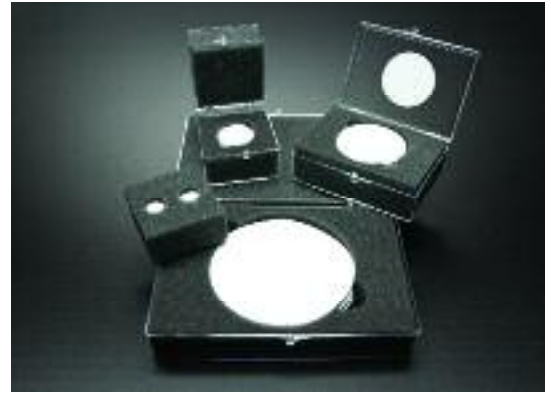
Under observance of the aforementioned, customer satisfaction is the company's main priority: we want to be our customers' preferred supplier.

precut membranes

We offer a wide variety of filter materials including pre-filter membranes, as well as hydrophobic and hydrophilic materials, in a variety of formats to suit your product or application needs.

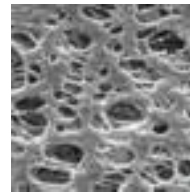
This guide provides an introduction of our membranes which are typically used in venting and filtration applications.

Also, included in this guide is a performance characteristic table which details the most pertinent product attributes and outlines the performance (e.g. flow rate, biocompatibility and average bubble point) of each of our microfiltration membranes.

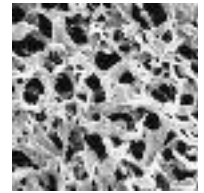


We offer a wide variety of precut membranes in Nylon, Cellulose Acetate, PVDF, PES, Nitrocellulose and PTFE. All are available in sizes ranging from 13mm to 142mm.

- Sizes 13mm to 142mm
- 0.2 and 0.45 micron
- Non Sterile



PES



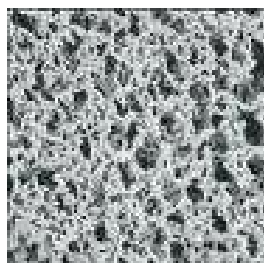
PVDF

Membrane Disc Filters						
	<i>Pre Cut Size (mm)</i>	13	25	47	90	142
	<i>Qty Per package</i>	100	100	100	25	25
NYLON	.2um	NY0213	NY0225	NY0247	NY0290	NY02142
	.45um	NY4513	NY4525	NY4547	NY4590	NY45142
CA	.2um	CA0213	CA0225	CA0247	CA0290	CA02142
	.45um	CA4513	CA4525	CA4547	CA4590	CA45142
PTFE	.2um	PT0213	PT0225	PT0247	PT0290	PT02142
	.45um	PT4513	PT4525	PT4547	PT4590	PT45142
PES	.2um	PE0213	PE0225	PE0247	PE0290	PE02142
	.45um	PE4513	PE4525	PE4547	PE4590	PE45142
NC	.2um	NC0213	NC0225	NC0247	NC0290	NC02142
	.45um	NC4513	NC4525	NC4547	NC4590	NC45142
PVDF	.2um	PV0213	PV0225	PV0247	PV0290	PV02142
	.45um	PV4513	PV4525	PV4547	PV4590	PV45142
Grade 1 glass fiber	0.7um	GL513	GL525	GL547	GL590	N/A
Grade 2 glass fiber	1.0um	GL213	GL225	GL247	GL290	N/A
Grade 3 glass fiber	3.1um	GL413	GL425	GL447	GL490	N/A
Grade 4 glass fiber	5.0um	GL913	GL925	GL947	GL990	N/A

All filters are available with many different membrane types:

Nylon

Nylon membrane filters are fast becoming the "standard" filter material due to their wide chemical compatibility range and naturally hydrophilic characteristics. Nylon filters can be used to filter all aqueous and the majority of solvent solutions.



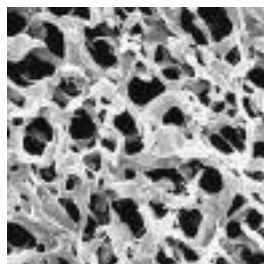
- Naturally hydrophilic
- Wide chemical compatibility range
- Strength and dimensional stability
- Extremely low extractables

Applications

- Sterilization, clarification of aqueous and organic solvent solutions
- HPLC sample preparation

Polypropylene

Polypropylene membrane filters are composed of pure polypropylene with absolute pore size ratings. These filters offer broad chemical compatibility allowing its use with aqueous and organic solvent samples. The polypropylene filter has extremely low extractable levels designed to provide accurate, consistent analysis results for sensitive ion chromatography applications while prolonging column life. Polypropylene filter is the preferred filter membrane for HPLC applications where the detection levels are below 230 nm. The filters also exhibit negligible protein binding which is essential for maximum sample recovery of critical, small volume protein samples.



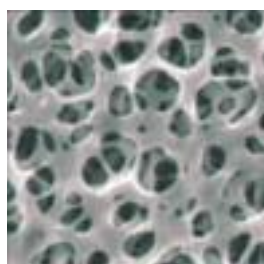
- Broad chemical compatibility
- Hydrophobic
- HPLC applications - detection levels < 230 nm

Applications

- Aqueous and organic solvent filtration
- HPLC sample preparation requiring low detection levels
- Ion chromatography
- Total digest for heavy metals

CA (Cellulose Acetate)

CA (Cellulose Acetate) membrane filters are composed of pure cellulose acetate modified to offer researchers the lowest binding filters available. Due to the extremely low binding characteristics, these filters provide higher throughputs than competitive offerings and reduce filter changes when filtering proteinaceous solutions. Because of their unique strength and extremely low binding characteristics, CA (Cellulose Acetate) filters are ideal for protein and enzyme filtrations, tissue culture media sterilization, cold sterilization, biological fluid filtration and other filtration applications where maximum recovery of proteins is critical.



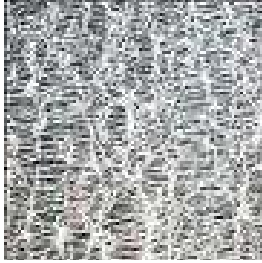
- Lowest binding material available
- Hydrophilic
- High throughput
- Strength and dimension stability
- Uniform pore structure

Applications

- Protein and enzyme filtration, sterilization
- Biological fluid filtration sterilization
- Tissue culture media sterilization

PTFE (Teflon®)

PTFE (Teflon®) polytetrafluoroethylene membrane consists of a pure PTFE laminated to a polypropylene support for improved durability and easy handling. These filters are chemically compatible with strong acids and most aggressive solvents such as alcohols. Laminated PTFE filters can also be used to filter aqueous solutions when prewetted with methanol.



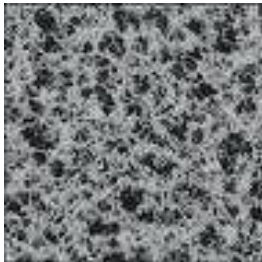
- Naturally hydrophobic
- Compatible with strong acids and aggressive solutions
- Improved durability and handling

Applications

- Filtration of strong acids and aggressive solutions
- Venting applications
- Phase separations
- Aerosol samplings

Nitrocellulose

Nitrocellulose - Mixed Esters (ME) - unsupported filters are composed of a mixture of inert cellulose nitrate and cellulose acetate polymers. The uniform microporous structure of these filters provides the fastest flow rates and highest throughputs available in a membrane filter. Because they are biologically inert, Nitrocellulose filters are ideal for a wide range of clarification, sterilization, and analytical applications such as: microbiological analysis, clarification or sterilization of aqueous solutions, industrial hygiene applications, silt density index (SDI - 0.45µm, 47mm) and particulate-matter analysis.



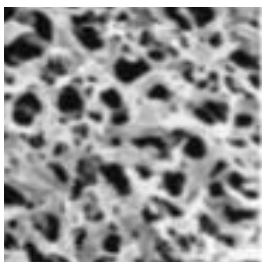
- Hydrophilic for aqueous clarification and particulate capture
- Consistent high flow rate for faster filtration
- Uniform pore structure for selectivity
- Hydrophilic, inert cellulose nitrate
- High binding capacity
- Manufactured thickness within 10 microns

Applications

- Aqueous filtration
- Microbiological analysis
- Sterility testing
- Gravimetric analysis with ashing technique
- Particulate analysis
- Black - food and beverage

Polyvinylidene Difluoride (PVDF) Membranes

Polyvinylidene difluoride (PVDF) syringe filters provide high flow rates and throughput. PVDF syringe and membrane filters also provide low extractables and broad chemical compatibility. PVDF membrane filters bind far less protein than nylon, nitrocellulose or PTFE membranes found in similar syringe filters and membrane disc filters.

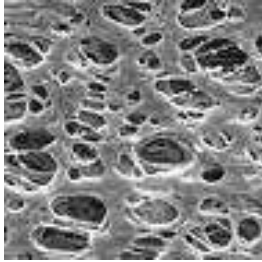


Applications

- HPLC
- GC sample prep/clean up and
- Purifying protein-based samples with high non-specific binding
- Aggressive and non-aggressive solvents

PES (Polyethersulfone)

PES (polyethersulfone) filters are inert which provide extremely low extractable levels in critical sterilization applications such as protein and enzyme filtrations, tissue culture media sterilization, cold sterilization, biological fluid filtration and other sterilization applications where maximum throughputs and fast flow rates are the critical factors.



- Very Low Protein Binding
- Fast Flow Rates
- Low Extractables
- Wide Chemical Compatibility Range
- Strength and Dimensional Stability
- Autoclavable

Applications

- Protein and enzyme filtration sterilization
- Biological fluid filtration sterilization
- Tissue culture media sterilization
- Pharmaceutical sterilizing filtration
- Environmental water studies

Membrane Spec Data										
Membrane	Pore Size (microns)	Nominal Thickness (microns)	Max Temp (°C)	Avg. Bubble Point (psi)	pH	Avg. Flow Rate Water (ml/min/cm ²) ^{a,d}	Autoclavable	Avg. Flow Rate Air (L/min/cm ²) ^a	Binding Capacity (ug/cm ²)	Hydrophillic
NC	0.45	150	130	36	4-10	51a	Yes	4	160f	Yes
	0.22	150	130	58.5	4-10	19a	Yes	2	160f	Yes
Nylon	0.45	65-125	180	37.5	3-12	27a	Yes	3	120f	Yes
	0.22	65-125	180	61	3-12	10a	Yes	2	120f	Yes
PES	0.45	110-150	180	43	1-14	58a	Yes	NA	2e	Yes
	0.22	110-150	180	60	1-14	33a	Yes	NA	2e	Yes
CA	0.45	85	135	37.5	4-8	55a	Yes	NA	3.8f	Yes
	0.22	85	135	61	4-8	16a	Yes	NA	3.8f	Yes
PTFE	0.45c	50	260	NA	1-14	2d	Yes	17	NA	No
	0.22c	50	260	NA	1-14	10d	Yes	9	NA	No

Membrane Chemical Compatibility							
<i>Compatible= C</i>	<i>Limited= L</i>	<i>Not Compatable=N</i>	<i>No data= -</i>				
CHEMICAL	NYLON	PTFE	PVDF	POLYSULFONE	CELLULOSE ACETATE	POLYPROPYLENE	REGENERATED CELLULOSE
Acids							
Acetic, 25%	L	C	C	C	L	C	C
Acetic, Glacial	L	C	C	C	N	C	C
Formic, 25%	N	C	C	C	L	C	C
Hydrochloric, 25%	L	C	C	C	C	C	C
Hydrochloric, Concentrated	N	N	C	C	N	C	C
Sulfuric, 25%	N	C	C	C	N	C	C
Sulfuric, Concentrated	N	C	L	N	N	C	L
Nitric, 25%	N	C	L	L	L	C	C
Nitric, Concentrated	N	C	L	N	N	L	N
Phosphoric, 25%	N	C	C	C	C	C	C
Trichloroacetic, 10%	L	C	C	C	C	C	C
Bases							
Ammonium Hydroxide, 25%	C	C	L	C	C	C	-
Sodium Hydroxide, 3 Normal	C	C	C	C	N	C	-
Alcohols							
Amyl Alcohol	C	C	C	C	N	C	C
Benzyl Alcohol	C	C	C	N	L	C	C
Butyl Alcohol	C	C	C	C	C	C	C
Ethanol, 70%	C	C	C	C	C	C	C
Ethanol, 98%	C	C	C	C	C	C	C
Ethylene Glycol	C	C	C	C	C	C	C
Glycerine (Glycerol)	C	C	C	C	C	C	C
Isopropanol	C	C	C	C	C	C	C
Methanol, 98%	C	C	C	C	C	C	C
n-Propanol	C	C	C	C	C	C	C
Propylene Glycol	C	C	C	C	L	C	C
Hydrocarbons							
Benzene	C	C	C	N	C	N	C
Hexane, Xylene	C	C	C	N	C	L	C
Kerosene, Gasoline	C	C	C	L	C	L	C
Tetralin, Decalin	C	C	C	N	C	L	-
Toluene	C	C	C	N	C	L	C
Halogenated Hydrocarbons							
Carbon Tetrachloride	C	C	C	N	L	L	C
Chlorobenzene (Mono)	C	C	C	L	C	C	C
Chloroform	L	C	C	N	N	L	C
Freon	C	C	C	L	C	C	C
Methylene Chloride	L	C	C	N	N	L	C
Trichloroethane	C	C	C	N	L	L	C
Trichloroethylene	C	C	C	N	C	L	C

membrane chemical compatability (Cont.)

Membrane Chemical Compatibility							
Compatible= C	Limited= L	Not Compatable=N	No data= -				
CHEMICAL	NYLON	PTFE	PVDF	POLYSULFONE	CELLULOSE ACETATE	POLYPROPYLENE	REGENERATED CELLULOSE
Ketones							
Acetone	C	C	N	N	N	C	C
Cyclohexanone	C	C	N	N	N	C	C
Isopropylacetone	C	C	N	N	C	-	-
Methyl Ethyl Ketone	C	C	L	N	L	C	C
Methyl Isobutyl Ketone (MIBK)	C	C	N	N	C	L	C
Esters							
2-Ethoxyethyl Acetate	L	L	L	N	L	-	C
Amyl Acetate	C	C	C	N	L	L	C
Benzyl Benzoate	C	C	-	N	C	-	C
Butyl Acetate	C	C	C	N	L	L	C
Ethyl Acetate	C	C	C	N	N	L	C
Isopropyl Myristate	C	C	-	N	C	-	C
Methyl Acetate	L	C	L	N	N	L	C
Propyl Acetate	L	N	C	N	N	L	C
Propylene Glycol Acetate	L	C	-	N	N	C	C
Methyl Cellosolve Acetate	C	C	C	N	N	C	C
Tricresyl Phosphate	-	C	-	N	C	-	C
Oxides – Ethers							
Acetonitrile (Methyl Cyanide)	C	C	C	N	N	C	C
Aniline	L	C	C	N	N	L	C
Diethyl Acetamide	C	C	C	-	N	-	C
Dimethyl Formamide	C	C	N	N	N	C	L
Dimethyl Sulfoxide (DMSO)	L	C	C	N	N	C	L
Dioxane	C	C	L	N	N	C	L
Ethyl Ether	C	C	C	C	L	L	C
Isopropyl Ether	C	C	N	C	C	C	-
Pyridine	C	C	L	N	N	L	C
Solvents with Nitrogen							
Tetrahydrofuran	C	C	L	N	N	C	L
Triethanolamine	C	C	C	-	C	-	C
Miscellaneous							
Formaldehyde Solution, 30%	C	C	C	C	L	C	L
Hydrogen Peroxide, 30%	N	C	C	C	C	C	C
Phenol, Aqueous, 10%	N	C	L	N	N	C	C
Silicone Oil & Mineral Oil	C	C	C	C	C	C	C



trust

integrity

confidentiality

Ciro Manufacturing Corp

USA

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