

BONNA-AGELA TECHNOLOGIES

Accessories and Supplies

- Clarinert™ Filtration Products
- GC Columns
- Vials, Caps and Septa
- Pipette

Best Value
Guaranteed Product Quality
Innovation to Benefit Customers



Bonna-Agela Technologies — A Global Supplier for Chromatography Solutions

2013 Message From Bonna-Agela Technologies

As Bonna-Agela is poised to enter its fifth year with confidence and pride in its innovative separation, purification, and sample preparation products, we would like to thank our many loyal customers for your continuous support and trust. With your support and our effort in delivering the highest quality products to you, our company has grown remarkably. This has allowed us to expand our research and development effort, and thus introduce more innovative products to better service your application needs.

In 2012, we had tremendous accomplishments: We cataloged over one thousand different products. Our manufacturing and R&D operation were certified in compliance with ISO 9001 and passed many quality audits by customers and distributors, including VWR International. As a global wide company, we not only have our own international sales force but have also formed a marketing alliance with VWR. This will allow us to reach higher goals and to provide our customers with even better quality products and faster service in the new year.

Our 2013 mission statement and commitment:

- Provide products with our innovative technologies at the best performance to cost ratio.
- Deliver products with guaranteed quality.
- Provide global support with quick responses.

How to Place Orders

Our office is open from 9:00 am to 6:00 pm Eastern Standard Time, Monday through Friday.

To place an order or receive a quote, you may choose from the following contacts:

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Please make checks payable to:
Bonna-Agela Technologies Inc. and send to:
Bonna-Agela Technologies Inc.
2038A Telegraph Road, Wilmington, DE 19808, USA

Wire Transfer:

Please contact us by phone, fax or email for account information.

Credit Cards:

Please include the card type and number, expiration date, and card holder name. Due to security concerns, please do not email the information. Please call or send a fax to provide your credit card information.

Terms and Conditions

PLEASE READ THESE TERMS BEFORE ORDERING. IF YOU HAVE ANY QUESTIONS, PLEASE DO NOT HESITATE TO CONTACT US AND OUR STAFF WILL BE GLAD TO ASSIST YOU.

Acceptance and Availability

All orders placed are subject to the agreement of Bonna-Agela Technologies Inc. The catalogue does not constitute an engagement of the company to sell all listed products. You are guaranteed to be notified at the time of ordering if the ordered items are in back-order or discontinued.

Price and Payment

The prices are in effect at the time of printing. Bonna-Agela Technologies reserves the right to change the prices without notice, though we do our best to provide our customers with advance notice. The prices quoted at the time of ordering will be guaranteed. The general payment term is net 30 days, F.O.B., Newark, Delaware, USA. However we reserve the right to ask for prepayment if customers' account information is not satisfactory. A 1.5% per month service charge will be added to delinquent accounts. If a purchase order is less than \$1000.00, a \$50.00 extra charge will be added to the invoice.

Changes

Bonna-Agela Technologies reserves the right to change product specifications, quantities, designs or prices without prior notice and without liability for such changes.

Shipping Policy

The standard shipping method is 2 day FedEx within the United States and Canada. We will try to accommodate requests for other shipping methods if they are available. All shipping and handling charges will be billed separately. Should you receive damaged goods, it is imperative that you notify us immediately and save all packing materials for inspection by the carrier.

Application

All products in this catalog should be used for laboratory or manufacturing use only. They are not intended for direct medicinal or food use. Bonna-Agela Technologies assumes no liability for any misuse of the products.

Returns

Bonna-Agela Technologies tries to accommodate all requests for returns of unused goods. However, return of some items may be restricted by the original manufacturers. Please contact us for return authorization before returning any items. A restocking charge may be applied to certain products.

Warranty

All Bonna-Agela Technologies products are warranted to be free of defects in materials and workmanship. They are not warranted for any other particular purpose. Bonna-Agela Technologies shall not under any circumstance be liable for any incidental, consequential or compensatory damage in conjunction with its products. The maximum liability shall not exceed the invoice price of the product.



Accessories and Supplies

● Clarinert™ Filtration Products	001
Syringe Filters	001
Membrane Filters	008
96-Well Filtration Plates and Collection Plates	010
Glass Filtration System	010
Disposable Filtration Funnels with 10 µm Frits	010
● Vials and Seals	011
Shell Vials and Seals	011
Inserts For 2 ml Short Thread Screw Vials	011
2 mL 12x32 mm Screw Neck Vials and Seals	011
ND11 12x32 mm Snap Ring Vials and Seals	012
ND11 2 mL 12x32 mm Crimp Neck Vials and Seals	012
Screw Neck Vials for Storage Purposes	012
Crimper for HS Vials	013
Headspace Vials and Seals	013
2 mL Vial Rack (Cat. No AR0002-1)	013
● HPLC Accessories and Supplies	014
UV Lamps	014
Pipettes and Accessories	014
Disposable Syringe for HPLC Filtration	015
HPLC Fittings and Tubing	015



ClarinerTM Filtration Products

- **High Quality** – Bonna-Agela is an ISO 9001 certified manufacturer; all of our products are guaranteed to meet our published specifications.
 - **Cost saving** – Reduce substantially the customers cost without sacrificing quality.
 - **Comprehensive** – Comprehensive product lines; including some very unique products
 - **Reliable partnership** – Global OEM manufacturing partner
- Important Features**
- All filters's housing is made of high purity polypropylene
 - Female luer-lock inlets on all filters secure the fit to syringes
 - All filters are designed for use in both direction
 - All filters are autoclavable
 - All products are certified

- **Syringe Filters**
- **Membrane Filters**
- **96-Well Filtration Plates and Collection Plates**
- **Glass Filtration System**
- **Disposable Filtration Funnels with 10 µm Frits**



Syringe Filters

Type of Filters

- **Single Layer Filters:** Single membrane, commonly used, highly cost-effective; newly developed Φ33 mm Syringe Filters, with pore sizes of 0.22 µm and 0.45 µm are in stock.
- **Double Layer Filters:** A prefilter before the main membrane, which would avoid the damage to the soft main membrane from larger particles and clogging of the main membrane by colloidal particles, is good for the overall lifetime, process volume, and efficiency.
- **IC Syringe Filters:** The Nylon membrane filter is specially developed for IC filtration and is manufactured with advanced technology, with micro-pores evenly distributed with extremely low ion residual, which can effectively filter the particulate impurities.
- **Drying Filters:** Syringe filters with PTFE membrane, embedded with MgSO₄, to combine the drying function with filtration in one single step for organic samples.
Simple, fast and convenient to use!
- **Metal Remover:** Syringe filters with PTFE membrane, embedded with metal scavenger resin to remove heavy metals from the organic samples at the same time of filtration, to eliminate the interference of the metal in subsequent tests, or to protect the HPLC columns from contamination.
Simple, fast and effective!
- **Organic Remover:** Syringe filters with nylon membrane, embedded with polystyrene resin to remove hydrophobic organic interference from samples for ion-chromatography, HPLC, molecular biology testing, etc.
Simple, convenient and reliable!
- **Sterilized Filters:** Filter the sample with biological activity or aseptic requirements; generally used as a fast, convenient, reliable sterilization and filtration tool in the lab. We supply many kinds of syringe filters, which can be used for filtration of 1mL to 300 mL sample solutions.

Specifications

Type	Diameter (mm)	Pore size (µm)	Pressure rating (bar)	Bubble Point rating(bar)	Water speed (mL/min/cm ²)	Air speed (L/min/cm ²)	Filtration /Hold-up Volume	Effective filter area(cm ²)
MCM	13	0.22	7	3.52	18	-	10 mL/<25 µL	0.65
		0.45	7	2.20	60	-		0.65
	25	0.22	5	3.52	18	-	100 mL/<100 µL	3.90
		0.45	5	2.20	60	-		3.90
Nylon	13	0.22	7	2.80	25	-	10 mL/<25 µL	0.65
		0.45	7	2.50	75	-		0.65
	25	0.22	5	2.80	25	-	100 mL/<100 µL	3.90
		0.45	5	2.50	75	-		3.90
PVDF	13	0.22	7	1.20	15	16	10 mL/<25 µL	0.65
		0.45	7	0.56	35	20		0.65
	25	0.22	5	1.20	15	16	100 mL/<100 µL	3.90
		0.45	5	0.56	35	20		3.90
PTFE	13	0.22	7	1.00	24	5	10 mL/<25 µL	0.65
		0.45	7	0.63	60	8		0.65
	25	0.22	5	1.00	24	5	100 mL/<100 µL	3.90
		0.45	5	0.63	60	8		3.90
PES	13	0.22	7	-	-	-	10 mL/<25 µL	0.65
		0.45	7	-	-	-		0.65
	25	0.22	5	-	-	-	100 mL/<100 µL	3.90
		0.45	5	-	-	-		3.90
Reg. Cellulose	13	0.22	7	-	-	-	10 mL/<25 µL	0.65
		0.45	7	-	-	-		0.65
	25	0.22	5	-	-	-	100 mL/<100 µL	3.90
		0.45	5	-	-	-		3.90

Selection Guide

Material Type	Characteristics
MCM (Hydrophilic)	Remove the particle from aqueous; Can be high temperature sterilized. Low protein-binding.
Nylon	Good flexibility and chemical compatibility (avoid strong acid and strong organic solution).
PTFE (Hydrophobic)	Broad chemical compatibility (compatible to any common solvents). Low protein-binding; Can be high temp. sterilized repeatedly; Low extractable; For use with high aqueous solution, pre-wet the filter membrane with MeOH, then rinse with DI water before filtering samples.
PVDF (Hydrophilic, Hydrophobic)	Low extractable; Low protein-binding; Broad chemical compatibility (avoid strong basic solution); Hydrophobic: for use with organic solution; Hydrophilic: can be used with high aqueous solution without pre-wet steps.
PES (Hydrophilic)	Broad chemical compatibility; Apply to high-throughput, high efficient filtration; Low protein-binding.
Reg. Cellulose (Hydrophilic)	Low protein-binding; Better strength than MCM.



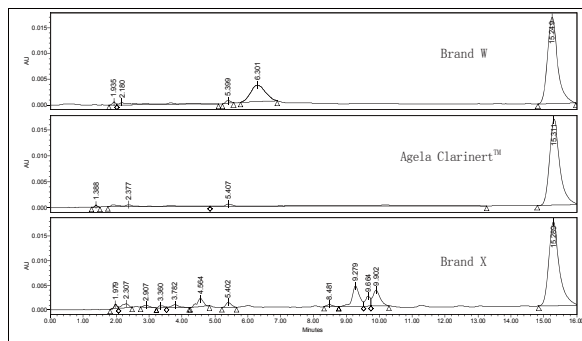
Chemical Compatibility

The introduction of extra impurities (extractables) is undesired; we should minimize the extractables during sample preparation. Extractables are often the result of inappropriate choice of materials, improper operation of the device during the manufacturing process, or downstream particle shedding. Particular attention should be paid to potential impurities from the membrane and housing material. The membranes used in Bonna-Agela's Clarinert Filters are extensively tested to determine their compatibility with various HPLC solvents.

Material	MCM	R.C	Nylon	PTEE	Material	MCM	R.C	Nylon	PTEE
1-hexanol	R	R	R	R	glycol	R	R	R	R
CH ₃ COOH, 10 %	LR	R	-	R	formic acid, 25 %	LR	R	-	R
acetone	NR	R	R	R	n-hexane	R	R	R	R
acetonitrile	NR	R	R	NR	HCl, 25 %	NR	R	NR	R
fatty hydrocarbon	R	R	R	R	isopropanol	R	R	R	R
ammonia, 1 M	R	R	R	R	methanol	R	R	LR	R
aromatic hydrocarbons	R	R	N/A	R	nitrous acid, 25 %	LR	R	NR	R
benzene	R	R	R	R	pentane	R	R	R	R
boric acid	R	R	LR	R	phosphoric acid, 25 %	R	R	LR	R
tetrachloromethane	LR	LR	NR	R	phosphoric acid, 45 %	LR	LR	LR	R
carboxylic acid	R	R	NR	R	KOH, 1M	NR	LR	NR	R
chloroacetic acid	NR	NR	NR	R	mineral salt in water	R	R	R	R
chloroform	NR	NR	R	LR	NaOH, 1M	LR	NR	NR	R
cyclohexane	LR	LR	R	R	cellon	LR	R	LR	R
cyclohexanol	R	R	R	R	tetrahydrofuran	NR	R	R	LR
aether	LR	LR	R	LR	toluene	R	R	R	R
DMF	NR	NR	R	R	acetocastin, 10 %	NR	NR	LR	R
DMSO	NR	NR	N/A	R	methyl chloroform	LR	R	LR	R
alcohol=<98 %	R	R	R	R	chlorylene	LR	R	LR	R
ethyl acetate	NR	NR	R	R	xylene	R	R	R	R
chloroethylene	LR	LR	R	R					

Remarks: R (Resistant), LR (Limited Resistant), NR (Not Resistant)

Comparison of Clean Performance of Three Brands' Filters



Instrument: Waters 600e Pump, 717 Auto-sampling, 2487UV
 Detector Column: Venusil ASB C18, 4.6×250 mm, 5 μm;
 Mobile Phase: Water: ACN= 22 : 78;
 Wave Length: 251 nm

Ordering Information



★ Single Layer & Double Layer

Membrane Type	Pore Size	Qty	Cat.No.
Mixed Cellulose(Ccetate and Nnitrate) Syringe Filters			
13 mm	0.22 µm	200	AS011320
	0.45 µm	200	AS011345
25 mm	0.22 µm	100	AS012520
	0.45 µm	100	AS012545
33 mm	0.22 µm	100	AS013320
	0.45 µm	100	AS013345
13 mm with glass prefilter	0.22 µm	200	AS011320-G
	0.45 µm	200	AS011345-G
25 mm with glass prefilter	0.22 µm	100	AS012520-G
	0.45 µm	100	AS012545-G
33 mm with glass prefilter	0.22 µm	100	AS013320-G
	0.45 µm	100	AS013345-G
Nylon Syringe Filters			
13 mm	0.22 µm	200	AS021320
	0.45 µm	200	AS021345
25 mm	0.22 µm	100	AS022520
	0.45 µm	100	AS022545
33 mm	0.22 µm	100	AS023320
	0.45 µm	100	AS023345
13 mm with PP prefilter	0.22 µm	200	AS021320-P
	0.45 µm	200	AS021345-P
25 mm with PP prefilter	0.22 µm	100	AS022520-P
	0.45 µm	100	AS022545-P
33 mm with PP prefilter	0.22 µm	100	AS023320-P
	0.45 µm	100	AS023345-P
Hydrophobic PVDF Syringe Filters			
13 mm	0.22 µm	200	AS031320
	0.45 µm	200	AS031345
25 mm	0.22 µm	100	AS032520
	0.45 µm	100	AS032545
33 mm	0.22 µm	100	AS033320
	0.45 µm	100	AS033345
13 mm with PP prefilter	0.22 µm	200	AS031320-P
	0.45 µm	200	AS031345-P
25 mm with PP prefilter	0.22 µm	100	AS032520-P
	0.45 µm	100	AS032545-P
33 mm with PP prefilter	0.22 µm	100	AS033320-P
	0.45 µm	100	AS033345-P



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BETTER SOLUTION FOR CHROMATOGRAPHY

Membrane Type	Pore Size	Qty	Cat.No.
Hydrophobic PTFE Syringe Filters			
13 mm	0.22 µm	200	AS041320
	0.45 µm	200	AS041345
	1.00 µm	200	AS041301
25 mm	0.22 µm	100	AS042520
	0.45 µm	100	AS042545
	1.00 µm	100	AS042501
33 mm	5.00 µm	100	AS042505
	0.22 µm	100	AS043320
	0.45 µm	100	AS043345
13 mm with PP prefilter	1.00 µm	100	AS043301
	0.22 µm	200	AS041320-P
	0.45 µm	200	AS041345-P
25 mm with PP prefilter	0.22 µm	100	AS042520-P
	0.45 µm	100	AS042545-P
	1.00 µm	100	AS042501-P
33 mm with PP prefilter	5.00 µm	100	AS042505-P
	0.22 µm	100	AS043320-P
	0.45 µm	100	AS043345-P
Polyethersulfone (PES) Syringe Filters			
13 mm	0.22 µm	200	AS051320
	0.45 µm	200	AS051345
25 mm	0.22 µm	100	AS052520
	0.45 µm	100	AS052545
33 mm	0.22 µm	100	AS053320
	0.45 µm	100	AS053345
13 mm with glass prefilter	0.22 µm	200	AS051320-G
	0.45 µm	200	AS051345-G
25 mm with glass prefilter	0.22 µm	100	AS052520-G
	0.45 µm	100	AS052545-G
33 mm with glass prefilter	0.22 µm	100	AS053320-G
	0.45 µm	100	AS053345-G
Regenerated Cellulose (RC) Syringe Filters			
13 mm	0.22 µm	200	AS061320
	0.45 µm	200	AS061345
25 mm	0.22 µm	100	AS062520
	0.45 µm	100	AS062545
33 mm	0.22 µm	100	AS063320
	0.45 µm	100	AS063345
13 mm with glass prefilter	0.22 µm	200	AS061320-G
	0.45 µm	200	AS061345-G
25 mm with glass prefilter	0.22 µm	100	AS062520-G
	0.45 µm	100	AS062545-G
33 mm with glass prefilter	0.22 µm	100	AS063320-G
	0.45 µm	100	AS063345-G

Membrane Type	Pore Size	Qty	Cat.No.
Hydrophilic PVDF Syringe Filters			
13 mm	0.22 µm	200	AS071320
	0.45 µm	200	AS071345
25 mm	0.22 µm	100	AS072520
	0.45 µm	100	AS072545
33 mm	0.22 µm	100	AS073320
	0.45 µm	100	AS073345
13 mm with glass prefilter	0.22 µm	200	AS071320-G
	0.45 µm	200	AS071345-G
25 mm with glass prefilter	0.22 µm	100	AS072520-G
	0.45 µm	100	AS072545-G
33 mm with glass prefilter	0.22 µm	100	AS073320-G
	0.45 µm	100	AS073345-G

Membrane Type	Pore Size	Qty	Cat.No.
Hydrophilic PTFE Syringe Filters			
13 mm	0.22 µm	200	AS081320
	0.45 µm	200	AS081345
25 mm	0.22 µm	100	AS082520
	0.45 µm	100	AS082545
33 mm	0.22 µm	100	AS083320
	0.45 µm	100	AS083345
13 mm with glass prefilter	0.22 µm	200	AS081320-G
	0.45 µm	200	AS081345-G
25 mm with glass prefilter	0.22 µm	100	AS082520-G
	0.45 µm	100	AS082545-G
33 mm with glass prefilter	0.22 µm	100	AS083320-G
	0.45 µm	100	AS083345-G

Glass Fiber Syringe Filters			
13 mm	0.22 µm	200	AS091320
	0.45 µm	200	AS091345
25 mm	0.22 µm	100	AS092520
	0.45 µm	100	AS092545
33 mm	0.22 µm	100	AS093320
	0.45 µm	100	AS093345



Membrane Type	Pore Size	Qty	Cat.No.
Polypropylene Syringe Filters			
13 mm	20 µm	200	AS201300
25 mm	20 µm	100	AS202500
33 mm	20 µm	100	AS203300
13 mm	0.22 µm	200	AS201320
13 mm	0.45 µm	200	AS201345
25 mm	0.22 µm	100	AS202520
25 mm	0.45 µm	100	AS202545
33 mm	0.22 µm	100	AS203320
33 mm	0.45 µm	100	AS203345

★ IC Syringe Filters

Membrane Type	Pore Size	Qty	Cat.No.
IC-Nylon Syringe Filters			
13 mm	0.22 µm	200	IC021320
	0.45 µm	200	IC021345
25 mm	0.22 µm	100	IC022520
	0.45 µm	100	IC022545

★ Drying Filters

Membrane Type	Pore Size	Qty	Cat.No.
Hydrophobic PTFE Syringe Filters			
13 mm	0.45 µm	100	AD041345-T
25 mm	0.45 µm	100	AD042545-T

★ Metal Remover

Membrane Type	Pore Size	Qty	Cat.No.
Hydrophobic PTFE Syringe Filters			
13 mm	0.45 µm	100	MR041345-T
25 mm	0.45 µm	100	MR042545-T

★ Organic Remover

Membrane Type	Pore Size	Qty	Cat.No.
Nylon Syringe Filters			
13 mm	0.45 µm	100	OR021345-T
25 mm	0.45 µm	100	OR022545-T

★ Sterilized Syringe Filters

Membrane Type	Pore Size	Qty	Cat.No.
Mixed Cellulose (Acetate And Nitrate) Syringe Filters			
13 mm	0.22 µm	96	AS911320
	0.45 µm	96	AS911345
25 mm	0.22 µm	100	AS912520
	0.45 µm	100	AS912545
Nylon Syringe Filters			
13 mm	0.22 µm	96	AS921320
	0.45 µm	96	AS921345
25 mm	0.22 µm	100	AS922520
	0.45 µm	100	AS922545
Hydrophobic PVDF Syringe Filters			
13 mm	0.22 µm	96	AS931320
	0.45 µm	96	AS931345
25 mm	0.22 µm	100	AS932520
	0.45 µm	100	AS932545
Hydrophobic PTFE Syringe Filters			
13 mm	0.22 µm	96	AS941320
	0.45 µm	96	AS941345
25 mm	0.22 µm	100	AS942520
	0.45 µm	100	AS942545
Polyethersulfone (PES) Syringe Filters			
13 mm	0.22 µm	96	AS951320
	0.45 µm	96	AS951345
25 mm	0.22 µm	100	AS952520
	0.45 µm	100	AS952545
Regenerated Cellulose (RC) Syringe Filters			
13 mm	0.22 µm	96	AS961320
	0.45 µm	96	AS961345
25 mm	0.22 µm	100	AS962520
	0.45 µm	100	AS962545



Membrane Filters

Ordering Information

Membrane Type	Pore Size	Qty	Cat.No.
Mixed Cellulose(Acetate And Nitrate)			
13 mm	0.22 µm	200	AM011320
	0.45 µm	200	AM011345
25 mm	0.22 µm	200	AM012520
	0.45 µm	200	AM012545
47 mm	0.22 µm	100	AM014720
	0.45 µm	100	AM014745





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Membrane Type	Pore Size	Qty	Cat.No.
Nylon			
13 mm	0.22 µm	200	AM021320
	0.45 µm	200	AM021345
25 mm	0.22 µm	200	AM022520
	0.45 µm	200	AM022545
47 mm	0.22 µm	100	AM024720
	0.45 µm	100	AM024745
Hydrophobic PVDF			
13 mm	0.22 µm	200	AM031320
	0.45 µm	200	AM031345
25 mm	0.22 µm	200	AM032520
	0.45 µm	200	AM032545
47 mm	0.22 µm	100	AM034720
	0.45 µm	100	AM034745
Hydrophobic PTFE			
13 mm	0.22 µm	200	AM041320
	0.45 µm	200	AM041345
25 mm	0.22 µm	200	AM042520
	0.45 µm	200	AM042545
47 mm	0.22 µm	100	AM044720
	0.45 µm	100	AM044745
Polyethersulfone (PES)			
13 mm	0.22 µm	200	AM051320
	0.45 µm	200	AM051345
25 mm	0.22 µm	200	AM052520
	0.45 µm	200	AM052545
47 mm	0.22 µm	100	AM054720
	0.45 µm	100	AM054745
Regenerated Cellulose (RC)			
13 mm	0.22 µm	200	AM061320
	0.45 µm	200	AM061345
25 mm	0.22 µm	200	AM062520
	0.45 µm	200	AM062545
47 mm	0.22 µm	100	AM064720
	0.45 µm	100	AM064745
Hydrophilic PVDF			
13 mm	0.22 µm	200	AM071320
	0.45 µm	200	AM071345
25 mm	0.22 µm	200	AM072520
	0.45 µm	200	AM072545
47 mm	0.22 µm	100	AM074720
	0.45 µm	100	AM074745
Hydrophilic PTFE			
13 mm	0.22 µm	200	AM081320
	0.45 µm	200	AM081345
25 mm	0.22 µm	200	AM082520
	0.45 µm	200	AM082545
47 mm	0.22 µm	100	AM084720
	0.45 µm	100	AM084745

96-Well Filtration Plates and Collection Plates

■ 96-well Protein Precipitation Plates:

The wide selectivity range of protein precipitation plates makes it possible to supply preparation methods for samples with complex matrices.

■ Features and Applications:

- ★ Use chemical inert material, pH tolerance range: 1-13;
- ★ Compatible with automatic SPE or manual handling;
- ★ High throughput, superior to the traditional liquid-liquid extraction technique;
- ★ Dispense with stirring and centrifugal separation;
- ★ Larger specific surface area speeds up the extraction procedure;
- ★ Dispense with activating treatment.



Ordering Information

Type	Vol	Qty	Cat.No.
Filtration plate PP frits 20 µm	2 mL	2	96GL2025
Filtration plate PP frits 20 µm with PTFE membrane 0.45 µm	2 mL	2	96GL2025-F

Glass Filtration System

The system includes a borosilicate glass funnel, a sintered borosilicate glass membrane core on the neck, aluminum clamp, and borosilicate glass filter flask. It can be used with or without a membrane filter depending on the application requirement to filtrate organic or aqueous solution. It is also used for liquid degassing.

Funnel volumes: 300 mL, 500 mL

Pore size of the glass membrane core: 10 µm

Flask volumes: 1000 ml, 2000 mL

Ordering Information

Funnel Volume (mL)	Flask Volume (mL)	Qty	Cat.No.
300	1000	ea	AM3100
500	2000	ea	AM5200



Disposable Filtration Funnels with 10 µm Frits

Part No.	Description	Qty (PK)
SLC0006-F	6 mL	50
SLC0008-F	10 mL	50
SLC0025-F	25 mL	30
SLC0060-F	60 mL	20
SLC0150-F	150 mL	20





Vials and Seals

Bonna-Agela Technologies Inc. offers a number of high quality vials and seals. All of them are meet the high standard of the chromatographic applications. The difference of our offering from many other brand name vendors is the cost to you. We offer lower price for the same products as many brand name's due to our lean cost structure and we provide personal assist to you to select right products.

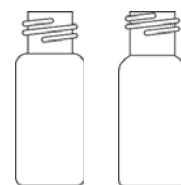


Shell Vials and Seals

Description	Thread	Color	Cat. No.(100/pk)
1mL shell vial, 8mm PE-Plug	Shell	Clear	AV0100-6

2 mL 12x32 mm Screw Neck Vials and Seals

Description	Thread	Color	Cat. No.(100/pk)
Screw neck vial	Std 8-425	Clear	AV1000-6
Screw neck vial	Std 8-425	Amber	AV1010-0
Screw neck vial, graduated	Std 8-425	Clear	AV1001-6
Screw neck vial, graduated	Std 8-425	Amber	AV1011-0
Black screw cap, centre hole; Red silicone/white PTFE septa	Std 8-425		AV2000-0



8-425 Short thread

Description	Thread	Color	Cat. No.(100/pk)
300 µL PP Micro-vial	short 9 mm	Transparent	AV1103-P
300 µL PP Micro-vial	short 9 mm	Amber	AV1113-P
Screw neck vial	short 9 mm	Clear	AV1100-6
Screw neck vial	short 9 mm	Amber	AV1110-0
Screw neck vial, graduated	short 9 mm	Clear	AV1101-6
Screw neck vial, graduated	short 9 mm	Amber	AV1111-0
Screw neck cap, center hole; red silicone/ white PTFE septa	short 9 mm	Blue	AV2100-0
Screw neck cap, center hole; red silicone/ white PTFE septa, slitted	short 9 mm	Blue	AV2200-0
Screw neck cap, closed top; red silicone/ white PTFE septa	short 9 mm	Blue	AV2300-0



8-425 Short thread

Inserts for 2 ml Short Thread Screw Vials

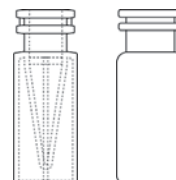
Description	Vol.	Color	Cat. No.(100/pk)
Insert, flat bottom, 31x6 mm, for 9 mm vials	300 µL	Clear	AV1130-6
Insert, with assembled plastic spring, 29*6 mm	250 µL	Clear	AV1131-6



AV1131-6

ND11 12x32 mm Snap Ring Vials and Seals

Description	Color	Vol.	Cat. No.(100/pk)
PP snap ring Micro-vial	300 µL	Transparent	AV0003-P
PP snap ring Micro-vial	300 µL	Amber	AV0013-P
Snap ring vial	2 mL	Clear	AV3000-6
Snap ring vial	2 mL	Amber	AV3101-0
Snap ring vial, graduated	2 ml	Clear	AV3001-6
Snap ring vial, graduated	2 mL	Amber	AV3011-0
PE snap ring cap, centre hole; white silicone/blue PTFE septa, slitted	11 mm	Transparent	AV4100-0
PEsnap ring cap, centre hole; red silicone/ white PTFE septa	11 mm	Red	AV4201-0



ND11 12x32 mm Crimp Neck Vials and Seals

Description	Vol.	Color	Cat. No.(100/pk)
Crimp neck vial	wide	Clear	AV5001-6
Crimp neck vial	wide	Amber	AV5200-0
Crimp neck vial, graduated	wide	Clear	AV5111-6
Crimp neck vial, graduated	wide	Amber	AV5300-0
Aluminium cap, center hole; red silicone/white PTFE septa	11 mm	clear	AV6110-0
Manual Crimper	11 mm	lacquered	AVC011-0



Screw Neck Vials and Seals

Description	Vol.	Color	Cat. No.(100/pk)
Screw neck vial, clear glass	4 mL	Clear	AV7000-6
Screw neck vial, clear glass, graduated	4 mL	Clear	AV7001-6
Screw neck vial, amber glass	4 mL	Amber	AV7010-0
Screw neck vial, amber glass, graduated	4 mL	Amber	AV7011-0
Screw neck cap, closed top; nature PTFE/ nature silicone septa	13 mm	Black	AV7400-0
Screw neck cap, black, centre hole; red PTFE/white silicone septa	13 mm	Black	AV7410-0



Screw Neck Vials and Seals

Description	Vol.	Color	Cat. No.(100/pk)
Screw neck vial, clear glass	12 mL	Clear	AV7500-6
Screw neck vial, amber glass	12 mL	Amber	AV7510-7
Screw neck cap, closed top; Red PTFE/ white Silicone septa	15 mm	Black	AV1076-1514-B





Screw Neck Vials and Seals

Description	Vol.	Color	Cat. No.(100/pk)
Screw neck vial, clear glass, 57*27.5 mm	20 mL	Clear	AV7100-7
Screw neck vial, amber glass, 57*27.5 mm	20 mL	Amber	AV7110-7
Screw neck vial, clear glass, 70*27.5 mm	25 mL	Clear	AV7600-7
Screw neck vial, clear glass, 95*27.5 mm	40 mL	Clear	AV7220-7
Screw neck vial, amber glass, 95*27.5 mm	40 mL	Amber	AV7230-7
Screw neck vial, clear glass, 140*27.5 mm	60 mL	Clear	AV7320-7
Screw neck vial, amber glass, 140*27.5 mm	60 mL	Amber	AV7330-7
Screw caps, centre hole; nature PTFE/ nature silicone septa,	∅ 22*3 mm	white	AV7910-0
Screw caps, closed top; nature PTFE/ nature silicone septa,	∅ 22*1.5 mm	white	AV7920-0



Headspace Vials and Seals

Description	Vol.	Color	Cat. No.(100/pk)
Crimp neck headspace vial, 23*75.5 mm, rounded bottom (PE)	20 mL	clear	AV8000-7
Crimp neck headspace vial, 22.5*75.5 mm, long neck, rounded bottom	20 mL	clear	AV8100-7
Crimp neck headspace vial, long neck, flat bottom, 22.5*75.5 mm	20 mL	clear	AV8110-7
Aluminium cap, centre hole; nature silicone/ PTFE septa	20 mm*3 mm		AV8800-0
Manual Crimper	20 mm		AVC020-0



Description	Vol.	Color	Cat. No.(100/pk)
Precision thread vials, rounded bottom 46*22.5 mm	10 mL	clear	AV8500-0
Precision thread vials, rounded bottom 77.5*22.5 mm	20 mL	clear	AV8600-0
Screw cap, centre hole; White silicone/Blue PTFE septa	18 mm*1.5 mm	silver	AV8900-0



2 mL Vial Rack (Cat. No AR0002-1)

Crimper for HS Crimp Vials

Product	Description	Cat. No.(100/pk)
Crimper	for 20 mm crimp vials	AVC020-0
Crimper	for 11 mm crimp vials	AVC011-0



AVC011-0

- ◆ Easy Handling
- ◆ Chemical Resistance Surface
- ◆ Long Service Lifetime
- ◆ Crimping Pressure Adjustable by a Screw In the Handle

HPLC Accessories and Supplies

UV Lamps

Bonna-Agela Technologies offers UV lamps of the same or better quality as a low cost replacement for many of those manufactured by original HPLC manufacturers, such as Shimadzu.

Shimadzu

Original Instrument Part Number	Agela Lamps Part Number
SPD-10 A, 2000 h	SHL001
LC2010, 2000 h	SHL002
SPD-20 A, 2000 h	SHL003
UV AA	SUV001



Pipettes and Accessories

Mechanical Pipette (Fixed Volume)

Cat No.	Volume (µL)	Cat No.	Volume (µL)
A722001	5	A722030	200
A722004	10	A722035	250
A722010	20	A722040	500
A722015	25	A722045	1000
A722020	50	A722050	2000
A722025	100	A722055	5000

Mechanical Pipette (Adjustable Volume)

Single Channel Pipette

Cat No.	Volume (µL)	Increment (µL)	Cat No.	Volume (µL)	Increment (µL)
A720005	0.1-2.5	0.05	A720070	20-200	1
A720000	0.5-10	0.1	A720030	50-200	1
A720020	5-50	0.5	A720060	100-1000	5
A720080	2-20	0.5	A720040	200-1000	5
A720050	10-100	1	A720110	1000-5000	50

8-Channel Pipette

Cat No.	Volume (µL)	Increment (µL)
A720210	0.5-10	0.1
A720220	5-50	0.5
A720240	50-300	5

12-Channel Pipette

Cat No.	Volume (µL)	Increment (µL)
A720310	0.5-10	0.1
A720320	5-50	0.5
A720340	50-300	5

Pipette Tips

Cat No.	Qty	Cat No.	Qty
AD781348	FT10 µL	AD780019	FT1000 µL
AD781349	FT10 µL	AD780020	FT1000 µL
AD780006	FT300 µL	AD780046	FT1200 µL
AD780007	FT300 µL		



Disposable Syringe for HPLC Filtration

- High Quality
- Low Cost
- Convenient For Use
- Without Needle



LZSQ-2 ML



ZSQ-5 ML

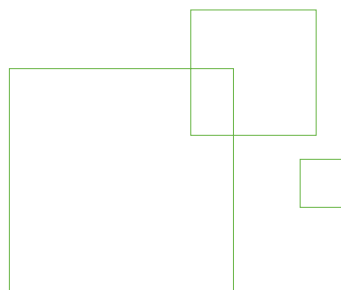
Cat. No	Products	Description	Specification	Package
ZSQ-5 ML	Syringe	-----	5 mL	10
LZSQ-2 ML	Syringe	Two-Piece Syringe	2 mL	10

HPLC Fittings and Tubing

Cat.No	Product	Material	Specification
AF-120	One-piece finger tight fittings	PEEK	1/16", 10-32
PM1960	PEEK tube	PEEK, yellow	1/16"OD, 0.010" (0.25 mm) ID
PM1945R	PEEK tube	PEEK, red	1/16", 0.005" (125 µm) ID



GC Columns And Accessories



◆ DA-1	017
◆ DA-1MS	018
◆ DA-5	018
◆ DA-5MS	019
◆ DA-35MS	020
◆ DA-1701	020
◆ DA-CarBoWax 20M	021
◆ DA-FFAP	021
◆ DA-INOWAX	022
◆ DA-50+MS	023
◆ DA-1301	024
◆ DA-624	024
◆ DA-PLOT Al ₂ O ₃ "KCl"	025
◆ DA-PLOT Al ₂ O ₃ "M"	025
◆ DA-PLOT Al ₂ O ₃ "S"	026
◆ DA-PLOT Mole Sieve	027
◆ DA-PLOT GasPro	027
◆ DA-Blood Alcohol Column	028
◆ DA-PLOT Q	028
◆ DA-PLOT U	029
◆ GC Accessories And Supplies	030
Septa	030
Injection Port Liners	030
Ferrules	031
Column Scribe	034
1/32" Ultra Low Mass External Unions	034



DA-1

- 100% bonded and crosslinked dimethylpolysiloxane
- Non-polar, equivalent to USP phase G2
- Solvent rinseable and high temperature limit
- Wide range of column dimensions and stationary phase film thicknesses
- Low column bleed, inert surface and high efficiency
- Most popular for general applications

Similar Phases: DB-1, HP-1, Ultra-1, SPB-1, Rxi-1, CP-Si 5CB, BP-1, ZB-1, AT-1, MDN-1, OV-1, OV101



Ordering Information

ID(mm)	Length(m)	Film(μm)	Temperature Limit(°C)	Cat.No.
0.25	15	0.1	-60 to 325/350	0125-1501
0.25	15	0.25	-60 to 325/350	0125-1502
0.25	15	1	-60 to 325/350	0125-1510
0.25	30	0.1	-60 to 325/350	0125-3001
0.25	30	0.25	-60 to 325/350	0125-3002
0.25	30	1	-60 to 325/350	0125-3010
0.25	60	0.25	-60 to 325/350	0125-6002
0.25	60	1	-60 to 325/350	0125-6010
0.25	100	0.5	-60 to 325/350	0125-0010
0.32	15	0.25	-60 to 325/350	0132-1502
0.32	15	1	-60 to 325/350	0132-1510
0.32	25	0.17	-60 to 325/350	0132-2501
0.32	25	0.52	-60 to 325/350	0132-2505
0.32	25	1.05	-60 to 325/350	0132-2510
0.32	30	0.1	-60 to 325/350	0132-3001
0.32	30	0.25	-60 to 325/350	0132-3002
0.32	30	1	-60 to 325/350	0132-3010
0.32	30	3	-60 to 325/280	0132-3030
0.32	30	4	-60 to 325/280	0132-3040
0.32	30	5	-60 to 325/280	0132-3050
0.32	50	0.17	-60 to 325/350	0132-5001
0.32	50	0.52	-60 to 325/350	0132-5005
0.32	50	1.05	-60 to 300/320	0132-5010
0.32	60	0.25	-60 to 325/350	0132-6002
0.32	60	1	-60 to 300/320	0132-6010
0.32	60	5	-60 to 260/280	0132-6050
0.53	5	0.15	-60 to 325/360	0153-0501
0.53	5	0.88	-60 to 325/360	0153-0508
0.53	5	2.65	-60 to 260/280	0153-0526
0.53	7.5	5	-60 to 260/280	0153-0750
0.53	10	0.88	-60 to 300/320	0153-1008
0.53	10	2.65	-60 to 260/280	0153-1026
0.53	15	0.15	-60 to 320/360	0153-1501
0.53	15	1.5	-60 to 300/320	0153-1515
0.53	15	3	-60 to 260/280	0153-1530
0.53	15	5	-60 to 260/280	0153-1550
0.53	30	0.88	-60 to 300/320	0153-3008
0.53	30	1.5	-60 to 300/320	0153-3015
0.53	30	2.65	-60 to 260/280	0153-3026
0.53	30	3	-60 to 260/280	0153-3030
0.53	30	5	-60 to 260/280	0153-3050
0.53	60	5	-60 to 260/280	0153-6050

DA-1MS

- Identical selectivity to DA-1, but with much lower column bleed
 - Ideal for GC-MS analysis and first choice of new method development
- Similar Phases:** HP-1MS, DB-1MS, BPX-1, AT-1MS, ZB-1, Rxi-1, CP-Sil 5CB

Ordering Information

ID(mm)	Length(m)	Film(μ m)	Temperature Limit($^{\circ}$ C)	Cat.No.
0.25	15	0.25	-60 to 325/350	1125-1502
0.25	30	0.1	-60 to 325/350	1125-3001
0.25	30	0.25	-60 to 325/350	1125-3002
0.25	30	0.5	-60 to 325/350	1125-3005
0.25	30	1	-60 to 325/350	1125-3010
0.25	60	0.25	-60 to 325/350	1125-6002
0.32	15	0.25	-60 to 325/350	1132-1502
0.32	25	0.52	-60 to 325/350	1132-2505
0.32	30	0.1	-60 to 325/350	1132-3001
0.32	30	0.25	-60 to 325/350	1132-3002
0.32	30	1	-60 to 325/350	1132-3010
0.32	60	0.25	-60 to 325/350	1132-6002

DA-5

- 5 % phenyl, 95 % methylpolysiloxane, bonded and crosslinked
- Non-polar, equivalent to USP phase G27
- Solvent rinsable and high temperature limit
- Wide range of column dimensions and stationary phase film thicknesses
- Low column bleed, inert surface with neutral surface and high efficiency
- Most popular for general applications

Similar Phases: DB-5, HP-5, Ultra-5, SPB-5, Rxi-5, CP-Sil 8CB, BP-5, ZB-5, AT-5, MDN-5, OV-5, SE-52, SE-54

Ordering Information

ID(mm)	Length(m)	Film(μ m)	Temperature Limit($^{\circ}$ C)	Cat.No.
0.25	15	0.25	-60 to 325/350	0525-1502
0.25	15	1	-60 to 325/350	0525-1510
0.25	30	0.1	-60 to 325/350	0525-3001
0.25	30	0.25	-60 to 325/350	0525-3002
0.25	30	1	-60 to 325/350	0525-3010
0.25	60	0.25	-60 to 325/350	0525-6002
0.25	60	1	-60 to 325/350	0525-6010
0.32	15	0.25	-60 to 325/350	0532-1502
0.32	15	1	-60 to 325/350	0532-1510
0.32	25	0.17	-60 to 325/350	0532-2501
0.32	25	0.52	-60 to 325/350	0532-2505
0.32	25	1.05	-60 to 325/350	0532-2510
0.32	30	0.1	-60 to 325/350	0532-3001
0.32	30	0.25	-60 to 325/350	0532-3002



ID(mm)	Length(m)	Film(μm)	Temperature Limit(°C)	Cat.No.
0.32	30	0.5	-60 to 325/350	0532-3005
0.32	30	1	-60 to 325/350	0532-3010
0.32	50	0.17	-60 to 325/350	0532-5001
0.32	50	0.52	-60 to 325/350	0532-5005
0.32	50	1.05	-60 to 325/350	0532-5010
0.32	60	0.25	-60 to 325/350	0532-6002
0.32	60	1	-60 to 260/280	0532-6010
0.53	10	2.65	-60 to 260/280	0553-1026
0.53	15	1.5	-60 to 300/320	0553-1515
0.53	15	5	-60 to 260/280	0553-1550
0.53	30	0.88	-60 to 300/320	0553-3008
0.53	30	1.5	-60 to 300/325	0553-3015
0.53	30	2.65	-60 to 260/280	0553-3026
0.53	30	5	-60 to 260/280	0553-3050

DA-5MS

- Identical selectivity to DB-5, but with much lower column bleed
- Best surface inertness for wide range of compounds
- Ideal for GC-MS analysis or new method development

Similar Phases: HP-5MS, DB-5MS, BPX-5MS, AT-5MS, Rxi-5MS, CP-Sil 8 CB

Ordering Information

ID(mm)	Length(m)	Film(μm)	Temperature Limit(°C)	Cat.No.
0.25	15	0.1	-60 to 325/350	1525-1501
0.25	15	0.25	-60 to 325/350	1525-1502
0.25	15	0.5	-60 to 325/350	1525-1505
0.25	15	1	-60 to 325/350	1525-1510
0.25	30	0.1	-60 to 325/350	1525-3001
0.25	30	0.25	-60 to 325/350	1525-3002
0.25	30	0.5	-60 to 325/350	1525-3005
0.25	30	1	-60 to 325/350	1525-3010
0.25	60	0.1	-60 to 325/350	1525-6001
0.25	60	0.25	-60 to 325/350	1525-6002
0.25	60	0.5	-60 to 325/350	1525-6005
0.25	60	1	-60 to 325/350	1525-6010
0.32	15	0.1	-60 to 325/350	1532-1501
0.32	15	0.25	-60 to 325/350	1532-1502
0.32	15	0.5	-60 to 325/350	1532-1505
0.32	15	1	-60 to 325/350	1532-1510
0.32	25	0.52	-60 to 325/350	1532-2505
0.32	30	0.1	-60 to 325/350	1532-3001
0.32	30	0.25	-60 to 325/350	1532-3002
0.32	30	0.5	-60 to 325/350	1532-3005
0.32	30	1	-60 to 325/350	1532-3010
0.32	60	0.1	-60 to 325/350	1532-6001
0.32	60	0.25	-60 to 325/350	1532-6002
0.32	60	0.5	-60 to 325/350	1532-6005
0.32	60	1	-60 to 325/350	1532-6010

DA-35MS

- Bonded and 35 % phenyl backbone 65 % dimethylsiloxane phase
- Equivalent to USP phase G42
- Inert to many active compounds
- Low column bleed to improve detection sensitivity and quantitation
- Applications: Aroclors, PCBs, amines, pesticides, pharmaceutical molecules

Similar Phases: HP-35MS, DB-35, BPX-35, AT-35, Rxi-35, SPB-35

Ordering Information

ID(mm)	Length(m)	Film(μ m)	Temperature Limit($^{\circ}$ C)	Cat.No.
0.25	15	0.25	40 to 320/340	3525-1502
0.25	30	0.15	40 to 320/340	3525-3001
0.25	30	0.25	40 to 320/340	3525-3002
0.25	60	0.25	40 to 320/340	3525-6002
0.32	15	0.25	40 to 320/340	3532-1502
0.32	30	0.25	40 to 320/340	3532-3002
0.32	60	0.25	40 to 320/340	3532-6002
0.53	15	1	40 to 300/320	3553-1510
0.53	30	0.5	40 to 300/320	3553-3005
0.53	30	1	40 to 300/320	3553-3010

DA-1701

- Bonded and crosslinked 14 % Cyanopropyl-phenyl 86 % dimethylsiloxane phase
- Low to mid polarity
- Inert to many active compounds
- Applications: pesticides, herbicides, halogenates. Good confirmation of analysis of active compounds on DA-5MS columns

Similar Phases: DB-1701, ZB-1701, BP-10, Rxi-1701, CP-Sil 19 CB

Ordering Information

ID(mm)	Length(m)	Film(μ m)	Temperature Limit($^{\circ}$ C)	Cat.No.
0.25	15	0.15	-20 to 280/300	6125-1501
0.25	15	0.25	-20 to 280/300	6125-1502
0.25	15	1	-20 to 280/300	6125-1510
0.25	30	0.15	-20 to 280/300	6125-3001
0.25	30	0.25	-20 to 280/300	6125-3002
0.25	30	1	-20 to 280/300	6125-3010
0.25	60	0.15	-20 to 280/300	6125-6001
0.25	60	0.25	-20 to 280/300	6125-6002
0.25	60	1	-20 to 280/300	6125-6010
0.32	15	0.15	-20 to 280/300	6125-1501



DA-CarBoWax 20M

- Polyethylene glycol (PEG), MW 20,000
- Non-Bonded non-crosslinked phase
- Polar phase, equivalent to USP phase G16
- Replacement of packed columns with Carbowax 20 M modified

Ordering Information

ID(mm)	Length(m)	Film(μ m)	Temperature Limit($^{\circ}$ C)	Cat.No.
0.2	25	0.1	60 to 220	2220-2501
0.2	50	0.1	60 to 220	2220-5001
0.25	30	0.25	60 to 220	2225-3002
0.32	25	0.3	60 to 220	2232-2503
0.32	50	0.3	60 to 220	2232-5003
0.53	10	1.33	60 to 210	2253-1013
0.53	30	1.33	60 to 210	2253-3013

DA-FFAP

- Nitroterephthalic acid modified Polyethylene glycol (PEG)
- Bonded and crosslinked
- Non-alcohol/aqueous solvent rinseable
- High temperature limit
- Polar phase equivalent to USP phase G35
- Designed for the analysis of volatile fatty acids and phenols

Similar Phases: HP-FFAP, DB-FFAP, CB-WAX58 (FFAP) CB, Stabilwax-DA, BP-21, 007-CW, AT-100

Ordering Information

ID(mm)	Length(m)	Film(μ m)	Temperature Limit($^{\circ}$ C)	Cat.No.
0.25	15	0.25	60 to 240/250	2125-1502
0.25	30	0.25	60 to 240/250	2125-3002
0.32	15	0.25	60 to 240/250	2132-1502
0.32	25	0.5	60 to 240/250	2132-2505
0.32	30	0.25	60 to 240/250	2132-3002
0.32	50	0.5	60 to 240/250	2132-5005
0.53	10	1	60 to 240	2153-1010
0.53	15	1	60 to 240	2153-1510
0.53	30	1	60 to 240	2153-3010

DA-INOWAX

- Bonded and crosslinked Polyethylene glycol (PEG)
- Solvent washable
- Highest temperature limits of bonded PEG phases
- Polar phase, equivalent to USP phase G16
- Wide applications of polar solvent analysis in food, pharma., cosmetics, petrochemical industries

Similar Phases: HP-INNOWax, DB-WAX, DB-WAXetr, SupelcoWAX 10, CP-WAX, 52-CB, CB-WAX, Stablilwax, BP-20, 007-CW, AT-Wax, Rxi-Wax, ZB-Wax, HP-20M

Ordering Information

ID(mm)	Length(m)	Film(μ m)	Temperature Limit($^{\circ}$ C)	Cat.No.
0.2	25	0.2	40 to 260/280	2020-2502
0.2	25	0.4	40 to 260/280	2020-2504
0.2	50	0.2	40 to 260/280	2020-5002
0.2	50	0.4	40 to 260/280	2020-5004
0.25	15	0.25	40 to 260/280	2025-1502
0.25	15	0.5	40 to 260/280	2025-1505
0.25	30	0.15	40 to 260/280	2025-3001
0.25	30	0.25	40 to 260/280	2025-3002
0.25	30	0.5	40 to 260/280	2025-3005
0.25	60	0.15	40 to 260/280	2025-6001
0.25	60	0.25	40 to 260/280	2025-6002
0.25	60	0.5	40 to 260/280	2025-6005
0.32	15	0.25	40 to 260/280	2032-1502
0.32	15	0.5	40 to 260/280	2032-1505
0.32	30	0.15	40 to 260/280	2032-3001
0.32	30	0.25	40 to 260/280	2032-3002
0.32	30	0.5	40 to 260/280	2032-3005
0.32	60	0.15	40 to 260/280	2032-6001
0.32	60	0.25	40 to 260/280	2032-6002
0.32	60	0.5	40 to 260/280	2032-6005
0.53	15	1	40 to 240/260	2053-1510
0.53	30	1	40 to 240/260	2053-3010
0.53	60	1	40 to 240/260	2053-6010



DA-50+MS

- Bonded and crosslinked 50 % phenyl backbone 50 % dimethylsiloxane phase
- Equivalent to USP phase G3
- Inert to many active compounds
- Low column bleed to improve detection sensitivity and quantization
- Applications: Common drug screens, phenols, PAHs, free steroids, pesticides, herbicides. Good confirmation of the analysis of active compounds on AB-5MS or AB-35MS columns

Similar Phases: HP-50⁺, DB -7, DB-17MS, BPX-50, AT-50, Rxi-50, SPB-50

Ordering Information

ID(mm)	Length(m)	Film(μm)	Temperature Limit(°C)	Cat.No.
0.2	12	0.16	40 to 320/340	5020-1201
0.2	12	0.31	40 to 320/340	5020-1203
0.2	25	0.16	40 to 320/340	5020-2501
0.2	25	0.31	40 to 320/340	5020-2503
0.2	50	0.31	40 to 320/340	5020-5003
0.25	15	0.15	40 to 320/340	5025-1501
0.25	15	0.25	40 to 320/340	5025-1502
0.25	15	0.5	40 to 320/340	5025-1505
0.25	30	0.15	40 to 320/340	5025-3001
0.25	30	0.25	40 to 320/340	5025-3002
0.25	30	0.5	40 to 320/340	5025-3005
0.25	60	0.25	40 to 320/340	5025-6002
0.32	15	0.15	40 to 320/340	5032-1501
0.32	15	0.25	40 to 320/340	5032-1502
0.32	15	0.5	40 to 320/340	5032-1505
0.32	30	0.15	40 to 320/340	5032-3001
0.32	30	0.25	40 to 320/340	5032-3002
0.32	30	0.5	40 to 320/340	5032-3005
0.32	60	0.25	40 to 320/340	5032-6002
0.32	60	0.5	40 to 320/340	5032-6005
0.53	15	1	40 to 300/320	5053-1510
0.53	30	0.5	40 to 300/320	5053-3005
0.53	30	1	40 to 300/320	5053-3010

DA-1301

- Bonded and crosslinked 6 % Cyanopropyl-phenyl 94 % dimethylsiloxane phase
- Equivalent to USP phase G 43, low to mid polarity
- Inert to many active compounds
- Applications: pesticides, herbicides, halogenates. Good confirmation of the analysis of active compounds on DA-5MS or DA-35MS columns

Similar Phases: HP-1301, DB-1301, BP-10, Rxi-1301

Ordering Information

ID(mm)	Length(m)	Film(μ m)	Temperature Limit($^{\circ}$ C)	Cat.No.
0.25	15	0.25	-20 to 280/300	6025-1502
0.25	15	1	-20 to 280/300	6025-1510
0.25	30	0.25	-20 to 280/300	6025-3002
0.25	30	1	-20 to 280/300	6025-3010
0.25	60	0.25	-20 to 280/300	6025-6002
0.25	60	1	-20 to 280/300	6025-6010
0.32	15	0.25	-20 to 280/300	6032-1502
0.32	15	1	-20 to 280/300	6032-1510
0.32	30	0.25	-20 to 280/300	6032-3002
0.32	30	1	-20 to 280/300	6032-3010
0.32	60	0.25	-20 to 280/300	6032-6002
0.32	60	1	-20 to 280/300	6032-6010
0.53	15	1	-20 to 260/280	6053-1510
0.53	30	1	-20 to 260/280	6053-3010
0.53	30	1.5	-20 to 260/280	6053-3015

DA-624

- Bonded and crosslinked specially designed stationary phase for EPA methods
- Mid-polarity
- Inert to many active compounds
- Applications: EPA methods: 501.3, 502.2, 503.1, 524.2, 601, 602, 8010, 8015, 8020, 8240,8260

Similar Phases: DB-624, ZB-624, AT-624, Rxi-624, CP-624

Ordering Information

ID(mm)	Length(m)	Film(μ m)	Temperature Limit($^{\circ}$ C)	Cat.No.
0.2	25	1.12	-20 to 260	6220-2511
0.25	30	1.4	-20 to 260	6225-3014
0.25	60	1.4	-20 to 260	6225-6014
0.32	30	1.8	-20 to 260	6232-3018
0.32	60	1.8	-20 to 260	6232-6018
0.53	30	3	-20 to 260	6253-3030
0.53	60	3	-20 to 260	6253-6030
0.53	75	3	-20 to 260	6253-7530



DA-PLOT Al₂O₃ “KCl”

- Least selective ("polar") aluminum oxide phase
- Deactivated with KCl
- Good baseline separation of most C1 to C10 hydrocarbons
- Olefins may co-elute with corresponding paraffin over C5
- Minimum surface adsorption of dienes and halocarbons
- ASTM recommended phase
- Preferred choice of hydrocarbon separation

Similar Phases: HP-PLOT Al₂O₃/KCl, GS-Alumina/KCl, CP-Al₂O₃/KCl PLOT, ZB-Alumina/KCl

Ordering Information

ID(mm)	Length(m)	Film(μm)	Temperature Limit(°C)	Cat.No.
0.25	25	5	-60 to 200/250	8125-2505
0.25	30	5	-60 to 200/250	8125-3005
0.32	15	8	-60 to 200/250	8132-1508
0.32	30	8	-60 to 200	8132-3008
0.32	50	8	-60 to 200	8132-5008
0.53	15	15	-60 to 200/250	8153-1515
0.53	30	15	-60 to 200	8153-3015
0.53	50	15	-60 to 200	8153-5015
0.53	60	15	-60 to 200	8153-6015

DA-PLOT Al₂O₃ “M”

- Strong selective (most "polar") aluminum oxide phase
- Deactivated with Na₂MoO₄ salt
- Mostly baseline separation of C1 to C10 hydrocarbons, good baseline separation of cyclopropane from propylene
- Accurate quantitations of dienes and halocarbons
- ASTM recommended phase
- Preferred choice of hydrocarbon separation

Similar Phases: HP-PLOT Al₂O₃/"M", GS-Alumina, ZB-Alumina

Ordering Information

ID(mm)	Length(m)	Film(μm)	Temperature Limit(°C)	Cat.No.
0.25	25	5	-60 to 200/250	8325-2505
0.25	30	5	-60 to 200/250	8325-3005
0.32	15	8	-60 to 200/250	8332-1508
0.32	30	8	-60 to 200	8332-3008
0.32	50	8	-60 to 200	8332-5008
0.53	15	15	-60 to 200/250	8353-1515
0.53	30	15	-60 to 200	8353-3015
0.53	50	15	-60 to 200	8353-5015
0.53	60	15	-60 to 200	8353-6015

DA-PLOT Al₂O₃ “S”

- Good selective (mid "polar") aluminum oxide phase
- Deactivated with Na₂SO₄ salt
- Excellent baseline separation of C1 to C10 hydrocarbons, excellent of C3, C4 isomer baseline separations
- Less accurate quantitations of dienes and halocarbons
- ASTM recommended phase
- Preferred choice of hydrocarbon separation

Similar Phases: HP-PLOT Al₂O₃/"S", GS-Alumina, CP-Al₂O₃/Na₂SO₄ PLOT, ZB-Alumina, RT-Alumina

Ordering Information

ID(mm)	Length(m)	Film(μm)	Temperature Limit(°C)	Cat.No.
0.25	25	5	-60 to 200/250	8225-2505
0.25	30	5	-60 to 200/250	8225-3005
0.32	15	8	-60 to 200/250	8232-1508
0.32	30	8	-60 to 200	8232-3008
0.32	50	8	-60 to 200	8232-5008
0.53	15	15	-60 to 200/250	8253-1515
0.53	30	15	-60 to 200	8253-3015
0.53	50	15	-60 to 200	8253-5015
0.53	60	15	-60 to 200	8253-6015
0.25	25	5	-60 to 200/250	8325-2505
0.25	30	5	-60 to 200/250	8325-3005
0.32	15	8	-60 to 200/250	8332-1508
0.32	30	8	-60 to 200	8332-3008
0.32	50	8	-60 to 200	8332-5008
0.53	15	15	-60 to 200/250	8353-1515
0.53	30	15	-60 to 200	8353-3015
0.53	50	15	-60 to 200	8353-5015
0.53	60	15	-60 to 200	8353-6015



DA-PLOT Mole Sieve

- Molecular Sieve, Zeolite, 5A
- Thin and thick coatings for push limit separations, e.g. Ar/O₂ separation at 35C, O₂/N₂ with 15sec
- Truly immobilized coating and smooth baseline workable for valve switching
- Preferred column to analyze fixed gases from hydrocarbon streams
- Elution order, H₂, He, Ne, O₂, N₂, CH₄, CO - Regeneration of performance from water/CO₂ adsorptions at 250°C for 3hr
- ASTM recommended phase
- Noble gas, air from methane, fuel cell, etc
- Often used with other PLOT columns for fixed gas separation from sample matrix

Similar Phases: HP-PLOT Al₂O₃/"S", GS-Alumina, CP-Al₂O₃/Na₂SO₄ PLOT, ZB-Alumina, RT-Alumina

Ordering Information

ID(mm)	Length(m)	Film(μm)	Temperature Limit(°C)	Cat.No.
0.32	5	12	-80 to 300	8432-0512
0.32	15	12	-80 to 300	8432-1512
0.32	30	12	-80 to 300	8432-3012
0.32	15	25	-80 to 300	8432-1525
0.32	30	25	-80 to 300	8432-3025
0.53	5	25	-80 to 300	8453-0525
0.53	15	25	-80 to 300	8453-1525
0.53	30	25	-80 to 300	8453-3025
0.53	15	50	-80 to 300	8453-1550
0.53	30	50	-80 to 300	8453-3050

DA-PLOT GasPro

- Proprietary Silica base phase
- Very inert to wide range of gases including sulfur gases and Freons, symmetric peak shapes
- Truly immobilized coating and smooth baseline workable for valve switching
- Preferred column to analyze sulfur gases from hydrocarbon streams and air
- Separation of CO and CO₂
- No effect of water on retention time
- Regeneration of performance from water adsorptions at 250°C for 3hr
- ASTM recommended phase
- GC-MS applicable

Similar Phases: GS-GasPro, CP-Silica PLOT

Ordering Information

ID(mm)	Length(m)	Film(μm)	Temperature Limit(°C)	Cat.No.
0.32	5	5	-80 to 260/300	8532-0505
0.32	15	5	-80 to 260/300	8532-1505
0.32	30	5	-80 to 260/300	8532-3005

DA-Blood Alcohol Column

- Proprietary PLOT phase
- Reliable blood alcohol analysis
- Tolerance of direct sample injection
- Excellent confirmation column to other blood alcohol columns using t-butanol as internal standard

Ordering Information

ID(mm)	Length(m)	Film(μ m)	Temperature Limit($^{\circ}$ C)	Cat.No.
0.32	7.5	10	-80 to 260/280	8932-0710

DA-PLOT Q

- Divinylbenzene polymer particle, non-polar, close to traditional PoraPak Q
- Truly immobilized coating and smooth baseline workable for valve switching and liquid sample introduction at low temperatures
- Highest temperature limit, up to 280/300 $^{\circ}$ C
- Baseline separation of Air, CO₂, water, sulfur gases, hydrogen chlorine, ammonia/light amines from hydrocarbons such as refinery stream, natural gas, and engine exhaust
- Excellent separation of C1 to C3 isomers, good separations of C3 to C12, halocarbons
- Excellent inertness and long lifetime of water/alcohol sample, a good secondary choice of wax column for alcohol analysis
- Excellent tolerance to strong acid/base sample without affecting retention time
- Good anti-oxidation at 280 $^{\circ}$ C and fast regeneration of performance
- Observed slight sulfur gas, hydrogen chlorine, and amine absorption
- Water peak is tailing, but no effect on retention
- Good choice for analyzing low level solvent residues from wide samples, such as headspace, aqueous, or organic solutions
- Preferred column for residue analysis in petroleum industry, pharmaceutical, environmental, chemical weapon detection
- Preferred column to analyze polar compounds including oxygenates from hydrocarbon streams: natural gas, refinery gas, dienes, ethylene, propylene

Similar Phases: HP-PLOT Q, GS-Q, CP-PoraPLOT Q HT, Supel PLOT Q, Rt-Q, ZB-PLOT Q

Ordering Information

ID(mm)	Length(m)	Film(μ m)	Temperature Limit($^{\circ}$ C)	Cat.No.
0.32	15	15	-80 to 280/290	8632-1515
0.32	30	15	-80 to 280/290	8632-3015
0.53	15	30	-80 to 280/290	8653-1530
0.53	30	30	-80 to 280/290	8653-3030



DA-PLOT U

- Divinylbenzene and Ethylene glycol dimethacrylate copolymer particle, polar, close to traditional PoraPack U
- Truly immobilized coating and smooth baseline workable for valve switching and liquid sample introduction at low temperatures
- Improved separation and selectivity of Air, CO₂, water, sulfur gases, hydrogen chlorine, ammonia/light amines from hydrocarbons
- Symmetric water peak shape, water elute after C3
- Excellent separation of C1 to C3 isomers, good separations of C3 to C12, halocarbons
- Excellent inertness and long lifetime of water/alcohol sample, a good secondary choice of wax column for alcohol analysis
- Excellent tolerance to strong acid/base sample without affecting retention time
- Observed slight sulfur gas, hydrogen chlorine, and amine absorption
- Good choice for analyzing low level solvent residues from wide samples, such as headspace, aqueous, or organic solutions
- Preferred column for residue analysis in petroleum industry, pharmaceutical, environmental, chemical weapon detection
- Preferred column to analyze polar compounds including oxygenates from hydrocarbon streams: natural gas, refinery gas, dienes, ethylene, propylene

Similar Phases: HP-PLOT U, CP-PoraPLOT U

Ordering Information

ID(mm)	Length(m)	Film(μm)	Temperature Limit(°C)	Cat.No.
0.32	15	10	-80 to 190/200	8732-1510
0.32	30	10	-80 to 190	8732-3010
0.32	30	20	-80 to 190	8732-3020
0.53	15	20	-80 to 190/200	8753-1520
0.53	30	20	-80 to 190	8753-3020

GC Accessories and Supplies

Septa

Septa BTO

Extended temperature range, low-bleed

- Maximum temperature 400°C
- Virtually eliminates injection-port sticking
- Preconditioned packaged in glass to prevent contamination
- Each batch GC-FID tested.
- Ideal for use with low-bleed, "Mass Septc" capillary columns

Cat.No.	Description
B02-1002	Septa BTO 5 mm Center guide (50 / pk)
B02-1040	Septa BTO 3/8" (9.5 mm) (50 / pk)
B02-1031	Septa BTO 11.5 mm Center guide (50 / pk)
B02-1001	Septa BTO 11 mm (7/16") Center guide (50 / pk)
B02-1032	Septa BOT 17 mm, Center guide

Advanced Green 3

Extended temperature range, low-bleed

- True low-bleed, high temperature green septum.
- Maximum temperature 400°C

Cat.No.	Description
B02-1006	Septa AG3 5 mm Center guide (50 / pk)
B02-1005	Septa AG3 11 mm (7/16") Center guide (50 / pk)
B02-1041	Septa AG3 3/8" (9.5 mm) (50 / pk)

Injection Port Liners

Organosilane deactivated borosilicate glass (quartz where notes). Guaranteed inertness for phenols, organic acids and bases. Glass wool is also deactivated. These capillary injection port liners provide a clean, non-adsorptive surface for your samples. Regular replacement of the liner protects your capillary columns from potentially harmful non-volatiles that might otherwise deposit on your columns.

For Agilent Capillary GC Instruments

Cat.No.	Description	Qty.
B02-3004	Liner, 4 mm, 79 mm length, Single Taper w/Sil Wool	1 / pk
B02-3005	Liner, 4 mm, 79 mm length, Single Taper w/Sil Wool	5 / pk
B02-3007	Liner, 4 mm, 79 mm length, Single Taper w/Sil Wool	10 / pk
B02-3008	Liner, 4 mm, 79 mm length, Double Taper	1 / pk
B02-3009	Liner, 4 mm, 79 mm length, Double Taper	5 / pk
B02-3011	Liner, 4 mm, 79 mm length, Double Taper	10 / pk
B02-3012	Liner, 4 mm, 79 mm length, Single Taper	1 / pk
B02-3013	Liner, 4 mm, 79 mm length, Single Taper	5 / pk
B02-3015	Liner, 4 mm, 79 mm length, Single Taper	10 / pk
B02-3019	Liner, 4 mm, 79 mm length, with Silanized Wool	1 / pk
B02-3020	Liner, 4 mm, 79 mm length, with Silanized Wool	5 / pk



Bonna-Agela Technologies

BETTER SOLUTION FOR CHROMATOGRAPHY

Cat.No.	Description	Qty.
B02-3022	Liner, 4 mm, 79 mm length, with Silanized Wool	10 / pk
B02-3030	Liner, 2 mm, 79 mm length, Splitless, Glass	1 / pk
B02-3031	Liner, 2 mm, 79 mm length, Splitless, Glass	5 / pk
B02-3032	Liner, 2 mm, 79 mm length, Splitless, Glass	10 / pk
B02-3033	Liner, 2 mm, 79 mm length, Splitless, Quartz	1 / pk
B02-3034	Liner, 2 mm, 79 mm length, Splitless, Quartz	5 / pk
B02-3036	Liner, 2 mm, 79 mm length, Splitless, Quartz	10 / pk

For Perkin-Elmer Capillary GCs

Cat.No.	Description	Qty.
B02-3201	Liner, 4 mm Split, 92 mm length, Autosystem for PerkinElmer GC	1 / pk
B02-3202	Liner, 4 mm Split, 92 mm length, Autosystem for PerkinElmer GC	5 / pk
B02-3203	Liner, 4 mm Split, 92 mm length, Autosystem for PerkinElmer GC	10 / pk
B02-3204	Liner, 4 mm Split, 92 mm length Autosystem w/Wool for PerkinElmer (ea)	1 / pk
B02-3205	Liner, 4 mm Split, 92 mm length Autosystem w/Wool for PerkinElmer (ea)	5 / pk
B02-3206	Liner, 4 mm Split, 92 mm length Autosystem w/Wool for PerkinElmer (ea)	10 / pk
B02-3207	Liner, 2 mm Splitless, 92 mm length, Autosystem for PerkinElmer GC	1 / pk
B02-3208	Liner, 2 mm Splitless, 92 mm length, Autosystem for PerkinElmer GC	5 / pk
B02-3209	Liner, 2 mm Splitless, 92 mm length, Autosystem for PerkinElmer GC	10 / pk
B02-3210	Liner, 100 mm, Dimple Splitter for PerkinElmer GC	1 / pk
B02-3211	SLiner, 100 mm, Dimple pliter for PerkinElmer GC	5 / pk
B02-3212	Liner, 100 mm, Dimple Splitter for PerkinElmer GC	10 / pk

For Varian Capillary GCs

Cat.No.	Description	Qty.
B02-3103	4 mm Open Split w/Sil. Wool for Varian 1075/1077	1 / pk
B02-3104	4 mm Open Split w/Sil. Wool for Varian 1075/1077	5 / pk
B02-3105	4 mm Open Split w/Sil. Wool for Varian 1075/1077	10 / pk
B02-3112	Liner, Frit Split for Varian 1075/1077	1 / pk
B02-3113	Liner, Frit Split for Varian 1075/1077	5 / pk
B02-3114	Liner, Frit Split for Varian 1075/1077	10 / pk
B02-3115	Liner, 4 mm Open Split, for Varian 1075/1077	1 / PK
B02-3116	Liner, 4 mm Open Split, for Varian 1075/1077	5 / PK
B02-3117	Liner, 4 mm Open Split, for Varian 1075/1077	10 / PK
B02-3118	Liner, 74 mm length, Splitless, Glass for Varian 1075/1077 (ea)	1 / pk
B02-3119	Liner, 74 mm length, Splitless, Glass for Varian 1075/1077 (ea)	5 / pk
B02-3120	Liner, 74 mm length, Splitless, Glass for Varian 1075/1077 (ea)	10 / pk

Ferrules

Vespel Ferrules-Sold In Packages Of 10

- Upper temperature limit: 350°C
- 100% high-temperature DuPont polyimide
- Fairly hard; tends to seal
- permanently to the column

Capillary Column Ferrules	Cat.No.
1/16" to 0.3 mm ferrules	B02-2126
1/16" to 0.4 mm ferrules	B02-2127
1/16" to 0.5 mm ferrules	B02-2128
1/16" to 0.8 mm ferrules	B02-2129
1/16" to 1.0 mm ferrules	B02-2130
1/16" to 1.2 mm ferrules	B02-2131
1/16" to 0.4 mm -Agilent style	B02-2012
1/16" to 0.5 mm -Agilent style	B02-2013
1/16" to 0.8 mm -Agilent style	B02-2014

Straight Ferrules—for tubing with ODs as listed	Cat.No.
1/16" ferrules	B02-2125
1/8" ferrules	B02-2133
1/4" ferrules	B02-2141
Reducing Ferrules	
1/8" to 0.4 mm Vespel	B02-2135
1/8" to 0.5 mm Vespel	B02-2136
1/8" to 0.8 mm Vespel	B02-2137
1/8" to 1/16" Vespel	B02-2138
1/4" to 1/16" ferrules	B02-2143
1/4" To 1/8" ferrules	B02-2144

Agilent style—Short ferrule, especially for Agilent inlet systems: 4890,5890 and 6890

Graphite Ferrules—Sold 10/pack Except as Noted

- Upper temperature limit: 450°C
- High-purity Graphite; Preferred for capillary GC use
- Ideal for glass-to-metal connections; doesn't stick to glass
- Reusable if not over-tightened

Ordering Information

Cat.No.	Description
Straight Ferrules—for tubing with ODs as listed	
B02-2101	1/16" Graphite Ferrule
B02-2109	1/8" Graphite Ferrule
B02-2116	1/4" Graphite Ferrule
Short Ferrules for Agilent Inlets	
B02-2001	1/16" to 0.4 mm Graphite Ferrule
B02-2002	1/16" to 0.5 mm Graphite Ferrule
B02-2003	1/16" to 0.8 mm Graphite Ferrule
B02-2004	1/16" to 1.0 mm Graphite Ferrule
Capillary Column Ferrules	
B02-2102	1/16" to 0.4 mm Graphite Ferrule
B02-2103	1/16" to 0.5 mm Graphite Ferrule
B02-2104	1/16" to 0.8 mm Graphite Ferrule
B02-2105	1/16" to 1.0 mm Graphite Ferrule
B02-2106	1/16" to 1.2 mm Graphite Ferrule
Reducing Ferrules	
B02-2110	1/8" to 0.4 mm Graphite Ferrule
B02-2111	1/8" to 0.5 mm Graphite Ferrule
B02-2112	1/8" to 0.8 mm Graphite Ferrule
B02-2113	1/8" to 1/16" Graphite Ferrule
B02-2117	1/4" to 1.0 mm Graphite Ferrule
B02-2118	1/4" to 0.4 mm Graphite Ferrule
B02-2119	1/4" to 0.5 mm Graphite Ferrule
B02-2120	1/4" to 0.8 mm Graphite Ferrule
B02-2121	1/4" to 1/16" Graphite Ferrule
B02-2122	1/4" to 1/8" Graphite Ferrule
B02-2123	1/4" to 6.0 mm Graphite Ferrule
B02-2124	1/4" to 4.0 mm Graphite Ferrule



Vespel/Graphite Ferrules –Sold in Packages of 10

- Upper temperature limit: 450°C
- Made from quality DuPont polyimide/graphite blend
- Recommended for GC/MS interface applications

Ordering Information

Cat.No.	Description
Straight Ferrules-for tubing with ODs as listed	
B02-2145	1/16" V/G Ferrules
B02-2153	1/8" V/G Ferrules
B02-2160	1/4" V/G
Short Ferrules for Agilent Inlet	
B02-2005	1/16" to 0.4 mm V/G Ferrules
B02-2006	1/16" to 0.5 mm V/G Ferrules
B02-2007	1/16" to 0.8 mm V/G
Capillary Column Ferrules	
B02-2146	1/16" to 0.4 mm V/G Ferrules
B02-2147	1/16" to 0.5 mm V/G Ferrules
B02-2148	1/16" to 0.8 mm V/G
B02-2149	1/16" to 1.0 mm V/G Ferrules
B02-2150	1/16" to 1.2 mm V/G
Reducing Ferrules	
B02-2154	1/8" to 0.4 mm V/G Ferrules
B02-2155	1/8" to 0.5 mm V/G Ferrules
B02-2156	1/8" to 0.8 mm V/G
B02-2157	1/8" to 1/16" V/G Ferrules
B02-2161	1/4" to 0.4 mm V/G
B02-2162	1/4" to 0.5 mm V/G
B02-2163	1/4" to 6.0 mm V/G Ferrules
B02-2164	1/4" to 0.8 mm V/G Ferrules
B02-2166	1/4" to 1/16" V/G Ferrules
B02-2167	1/4" to 1/8" V/G

Teflon Ferrules –Sold in Packages of 10

- Upper temperature limit: 250°C
- 100% Teflon; completely inert

Ordering Information

Cat.No.	Description
Straight Ferrules-for tubing with ODs as listed	
B02-2169	1/16" Teflon
B02-2176	1/8" Teflon
B02-2182	1/4" Teflon
Capillary Column Ferrules	
B02-2170	1/16" to 0.3 mm Teflon
B02-2171	1/16" to 0.4 mm Teflon
B02-2172	1/16" to 0.5 mm Teflon
B02-2173	1/16" to 0.8 mm Teflon
B02-2174	1/16" to 1.0 mm Teflon
B02-2175	1/16" to 1.2 mm Teflon

Cat.No.	Description
Reducing Ferrules	
B02-2177	1/8" to 0.4 mm Teflon
B02-2178	1/8" to 0.5 mm Teflon
B02-2179	1/8" to 0.8 mm Teflon
B02-2180	1/8" to 1/16" Teflon
B02-2183	1/4" to 6 mm Teflon
B02-2185	1/4" to 1/16" Teflon
B02-2186	1/4" To 1/8" Teflon
B02-2187	1/4" to 3/16" Teflon

Column Scribe

Used to cut capillary tubing. Simply pull one smooth edge of the hard ceramic scribe (tilted about 45 degrees) across the column to lightly score the fused silica. Bend the column opposite the score and the column separate cleanly.

Ordering Information

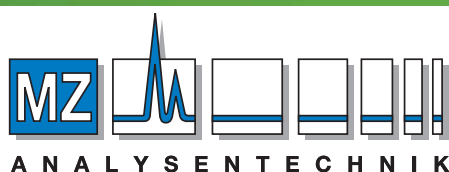
Cat.No.	Description
B02-1006	Column Scribe, 10 / pk

1/32" Ultra Low Mass External Unions

For capillary tubing 0.1 to 0.32 mm I.D. It has very low mass and can be hand-tightened to seal. Use only with 1/32" fused silica adapters; metal ferrules cannot be used.

Ordering Information

Cat.No.	Description
B02-4001	1/32" Union, Bore 0.25 mm
B02-4002	1/32" Union, Bore 0.50 mm
B02-4003	1/32" Union, Bore
B02-4004	1/32" 1/32" Fused Silica Tubing Adapter Tubing o.d.<0.25 mm
B02-4005	1/32" Fused Silica Tubing Adapter Tubing o.d. 0.25-0.4 mm
B02-4006	1/32" Fused Silica Tubing Adapter Tubing o.d. 0.5 mm



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