



Your partner in chromatography...



**GC / LC Consumables
Product Guide
2012 - 2013**

www.chromatopak.com

Company Profile :

Established on New Year's Day 1982, Chromatopak enjoys a preeminent position among chromatographers throughout India, as the one-stop shopping for chromatographic consumables.

Chromatographers are the hub around which Chromatopak revolves. We understand and appreciate the needs of the separation scientists. We believe that we have the technical expertise, the experience and the will to provide solutions to even the most demanding chromatographer. We realize the investments that go into a Q.C and R & D Laboratory and how important it is for the chromatographer to run his applications on the GC and HPLC timely, effectively and efficiently. We hope to be your partner in chromatography while we endeavour to work proactively with you in our overwhelming desire to win your trust.

Our Strengths :

- * We have the technical expertise to understand and visualise the client's needs
- * We manufacture products that are renowned for quality
- * We distribute products of internationally well-known companies
- * We only distribute products that we are authorised to sell
- * We support both technically and commercially every sale we make
- * Finally, we are a solution provider and so your partner in chromatography

Our Mission :

- * In our quest to serve you better we will keep abreast of developments in chromatography and be in touch with the scientific community worldwide to further the interest of chromatography in India.

Our Vision :

- * To be a leading, dependable, trustworthy and most sought-after vendor of chromatography consumables.
- * We wish to be recognised as the first choice vendor for discerning customers across various industries by the way we serve the industry.

Our Partners :

CRS
Chromatography Research Supplies, Inc.

Thermo
SCIENTIFIC

HAMILTON
the measure of excellence

UPCHURCH
SCIENTIFIC

INEX
HEALTH & SCIENCE

Dr. Ehrenstorfer

ChromaNyk
ChromaNik Technologies Inc.

GS-Tek
General Separation Technologies, Inc.

SUN-SRI


COSMOSIL

Peerless

SYSTEC

RHEODYNE

Microsyringes

- Liquid – Tight Syringes in capacities ranging from 0.5 μ l to 500 μ l
- Gas-Tight Syringes in capacities ranging from 10 μ l to 100ml
- Sample-Lock Syringes
- Manual Syringes
- Autosampler Syringes
- Syringes for GC
- Syringes for HPLC
- Syringes for TLC
- Syringes for CTC Autosampler
-  Neuro-Syringes for neurosciences



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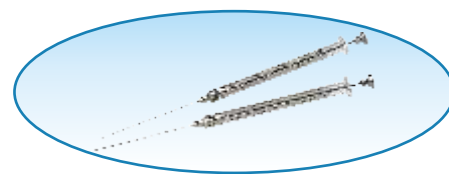
Syringe Accessories

- Spare Needles
- Plunger Guide
- Chaney Adapter for reproducible dispensing
- Syringe Valves
- Syringe Cleaning Solution
- Syringe Cleaning Wires

Hamilton Syringes For Manual Injection

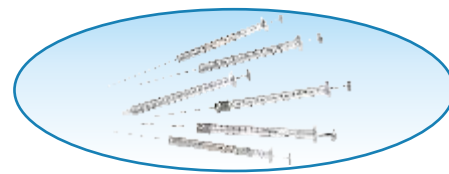
7000 Series Modified Microliter Syringes : Range 0.5 μ l - 5 μ l

- For use with Liquids
- Removable Needle
- Positive Displacement
- Sample Contained in needle
- No dead volume



700 Series Microliter Syringes : Range 5 μ l - 500 μ l

- For use with Liquids
- Removable Needle, Fixed Needle & Luer Tip
- Tight tolerances between Plunger and Barrel



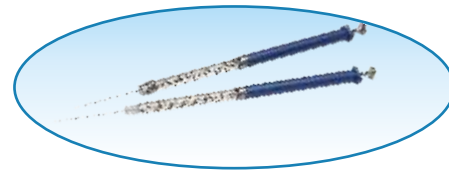
800 Series Microliter Syringes : Range 5 μ l - 250 μ l

- For use with Liquids
- Removable Needle, Fixed Needle
- Reinforced Plungers
- Plunger stop prevents plunger blow-out



900 Series Microliter Syringes : Range 5 μ l - 10 μ l

- For use with Liquids
- Removable Needle, Fixed Needle
- Reinforced Plungers
- Plunger & Syringe barrels are not interchangeable



1000 Series Microliter Syringes : Gas Tight Range 1mL - 100mL

- For use with Gases & Liquids
- Removable Needle & Fixed Needle
- Precision machined teflon-tipped plunger
- Replaceable Plunger



1700 Series Gastight Syringes : Range 10 μ l - 500 μ l

- For use with Gases & Liquids
- Removable Needle & Fixed Needle
- Precision machined teflon-tipped plunger
- Replaceable Plunger



1000 / 1700 Series Gastight Sample - Lock Syringes : Range 50 μ l - 100ml

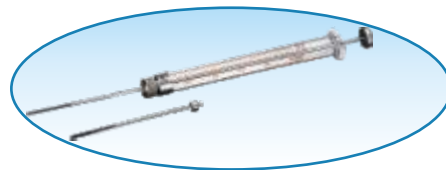
- An on/off valve is cemented to the syringe barrel
- Used for sample collection and storage



Your partner in chromatography...

TLC Syringe With Teflon Coated Needle : Range 10 μ l - 500 μ l

- Teflon Coated Needle Tip (19mm) for Reproducible sample spotting
- Removable Needle & Fixed Needle
- Replaceable Plunger, Barrels & Needles



HPLC Syringes For Manual Injection : Range 10 μ l - 500 μ l

- Syringes for Rheodyne Injector
- Needles with blunt tip
- Liquid Tight as well as Gas Tight version available



Super Syringes : Range 0.5L - 2L

- For use with gases and liquids
- For air sampling, preparing gas standards
- Clear acrylic syringe barrels



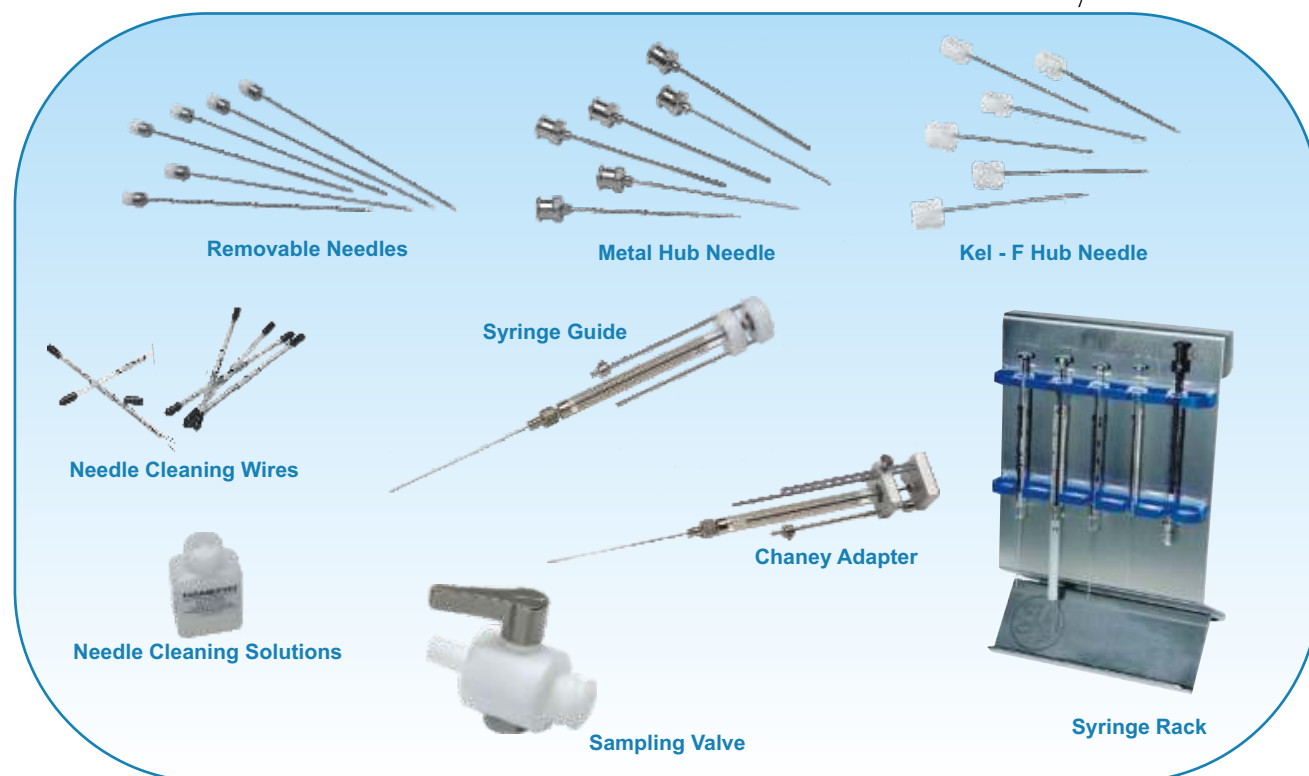
Hamilton Syringes For Autosampler

- Syringes for CTC Autosampler
- Syringes for Agilent Autosampler
- Syringes for Varian Autosampler
- Syringes for Shimadzu Autosampler
- Syringes for Thermo Scientific Autosampler
- Syringes for Perkin Elmer Autosampler
- Syringes for Waters Autosampler



Syringe Accessories

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Your partner in chromatography...

Diluter/Dispensing Instruments

Introducing the MICROLAB 600

The MICROLAB 600 is a highly precise syringe pump with a graphical user interface designed to quickly and easily dilute and dispense liquids. This positive displacement system provides better than 99% accuracy, independent of a liquid's viscosity, vapor pressure, and temperature. The inert fluid path minimizes sample carry over and is compatible with harsh chemicals.

Where is the MICROLAB 600 used?

Every laboratory has tasks that are too small to automate and too large to reliably accomplish by hand. The MICROLAB 600 is a Semi-Automated Liquid Handler designed specifically for these in-between applications. The MI600 increases throughput and consistency while reducing cost and wasted buffer. Common industries utilizing the MI600 are:

- Forensics
- Environmental Analysis
- Mining
- Manufacturing
- And many more...

Dual Syringe Diluter

The MICROLAB 600's Dual Syringe Diluter configuration uses two syringes to create up to a 1:50,000 dilution in a single step, drastically reducing preparation time and wasted buffer. The diluent washes the tubing between each sample, minimizing carryover for even the most sensitive techniques, including:

- Atomic Absorption (AA)
- Inductively Coupled Plasma Spectroscopy (ICP)
- Liquid Scintillation
- High Performance Liquid Chromatography (HPLC)
- Gas Chromatography (GC)



Controller Features

The MICROLAB 600 Controller integrates a streamlined user interface with a large touch screen display. Dilutions, dispenses, titrations and more are visually displayed in real-time with just the touch of a button.



Single, Dual and Continuous Syringe Dispensers

The MICROLAB 600 is able to dispense volumes from 100 nL to 50 mL. The ML600 uses positive displacement syringes to accurately dispense volatile, viscous, and dense liquids independent of atmospheric influences. The inert fluid path is compatible with harsh chemicals, making the MICROLAB 600 the most reliable and robust dispensing system available.

Applications

- Sample Spiking
- Titration
- Animal Dosing (oral gavage)
- Reagent Addition to Chemical Reactors
- Flow Chemistry
- Manufacturing
 - Mercury Dispensing for Light Bulbs
 - Ink Cartridge Filling
 - Glue and Epoxy Dispensing
 - Nasal Therapeutics (viscous)
 - Contact Lenses



Syringe Pump Features

The MICROLAB 600 is available as a single or dual syringe system. The high torque, precision stepper motors provide unsurpassed positional accuracy across the full range of Hamilton syringes from 10 μ L to 50 mL. The instrument communicates with the controller or a corporate network via an ethernet port.

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Autosampler Vials

- Borosilicate Glass- USP Type I, Class A in Clear and Amber
- Snap-Top Vial
- Crimp-Top Vial
- Screw-Top Vial
- Shell Vial
- High Recovery Vials
- Vials for Headspace Sampling
- Low Volume Glass Inserts
- Plastic (Polypropylene) Vials also on offer
- ISO 9002 Certified Manufacturing



Vial Accessories

- Crimpers
- Decrimpers
- Vial Closures-Assorted Caps and Seals
- Vial Racks

Properties	Clear	Amber
Linear Coefficient of Expansion	33	51
Maximum Temperature (°C)	515	535
USP Class Type	Type 1	Type 1
Light Protection	No	Yes

Screw Top Vials

Part No.

GCS-1232-08-0

GAS-1232-08-0

Standard Mouth (8 - 425) 12mm x 32mm

2ml Clear Screw Top Glass Vial (pk/100)

2ml Amber Screw Top Glass Vial (pk/100)

Closures

PKSC-08-0

Black Screw Caps (pk/100)

PKSC-08-2

Black Screw Caps with Red PTFE/Silicone Septa (pk/100)

SCS-08-2

8mm Red PTFE/Silicone Septa (pk/100)

SCS-08-3B

8mm Blue PTFE/WhiteSilicone pre-slit Septa (pk/100)



Wide Mouth (9 - 425) 12mm x 32mm

GCS-1232-09-0

2ml Clear Screw Top Glass Vial (pk/100)

GCS-1232-09-M

2ml Clear Screw Top Glass Vial with write-on spot (pk/100)

GAS-1232-09-M

2ml Amber Screw Top Glass Vial with write-on spot (pk/100)

GAS-1232-09-0

2ml Amber Screw Top Glass Vial (pk/100)

PPS-1232-09-LV5

Low Volume 500 ul capacity Polypropylene Vial (pk/100)

Closures

PBSC-09-1

Blue Screw Cap with PTFE/Red Rubber Septa (pk/100)

PBSC-09-2

Blue Screw Cap with PTFE/Silicone Septa (pk/100)

PBSC-09-3

Blue Cap with Slit PTFE/Silicone Septa (pk/100)

PBSC-09-0

Blue Open Top Screw Caps (pk/100)

PKBSC-09-3

Knurled Blue Screw Cap with Slit PTFE/Silicone Septa (pk/100)

SCS-09-3

9mm Preslit Red PTFE/White Silicone Septa (pk/100)

SCS-09-1

PTFE/Red Rubber Septa (9mm) (pk/100)

SCS-09-2

Red PTFE/White Silicone Septa (9mm) (pk/100)

309044

Blue Screw Cap with Bonded PTFE/Silicone Slit Septa (pk/100)



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GCS-1545-13-0	(13 - 425) 15mm x 45mm 4ml Clear Screw Top Vial (pk/100)
GCA-1545-13-0	4ml Amber Screw Top Vial (pk/100)

Closures

SCS-13-2	13mm Red PTFE/Silicone Septa (pk/100)
PKSC-13-2	Black Cap with PTFE/Silicone Septa (pk/100)
PKSC-13-0	13mm Black Screw Cap (pk/100)



Crimp Top Glass Vials

GCC-1232-WM-0	Wide Mouth 12mm x 32mm 2ml Clear Glass Crimp Top Vial (pk/100)
GCC-1232-WM-M	2ml Clear Glass Crimp Top Vial with write-on spot (pk/100)
GAC-1232-WM-0	2ml Amber Glass Crimp Top Vial (pk/100)
GAC-1232-WM-M	2ml Amber Glass Crimp Top Vial with write-on spot (pk/100)

Closures

ASCC-11-1	11mm Aluminium Cap with PTFE/Red Rubber Septa (pk/100)
ASCC-11-2	11mm Aluminium Cap with PTFE/Silicone Septa (pk/100)
ASCC-08-1	8mm Aluminium Cap with PTFE/Red Rubber Septa (pk/100)



Headspace Vials

GCC-2375-SM-F	20ml (23mm x 75mm) Flat Bottom Vials (pk/100)
GCC-2375-SM-R	20ml (23mm x 75mm) Round Bottom Vials (pk/100)
GCC-2346-SM-F	10ml (23mm x 46mm) Flat Bottom Vials (pk/100)
GCC-3060-SM-F	27ml (30mm x 60mm) Vial for Shimadzu (pk/100)

Closures

ASCC-20-2	20mm Tan PTFE/White Silicone Septa with Aluminium Crimp Cap (pk/100)
SCC-20-2	20mm Tan PTFE/White Silicone Septa (pk/100)
ASCC-20-2W	20mm White PTFE/White Silicone Septa with Aluminium Crimp Cap (pk/100)
SCS-18-2	18mm Blue PTFE/White Silicone Septa for Metal Screw Cap (pk/100)



Snap-Top Vial

GCN-1232-WM-0	Wide Mouth 12mm x 32mm 2ml Clear Glass Snap Top Vial (pk/100)
GCN-1232-WM-M	2ml Clear Glass Snap Top Vial with write-on spot (pk/100)
GAN-1232-WM-M	2ml Amber Glass Snap Top Vial with write-on spot (pk/100)

Closures

PCNC-12-4	Clear Polyethylene Snap Caps with Solid Polyethylene Membrane Septa (pk/100)
PCNC-12-2	Clear Polyethylene Snap Caps with Red PTFE/Silicone Septa (pk/100)
PCNC-12-1	Clear Polyethylene Snap Caps with PTFE/Red Rubber Septa (pk/100)
PCNC-12-5	Clear Polyethylene Snap Cap with Moulded Star Bust Septa (pk/100)



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Shell Vial

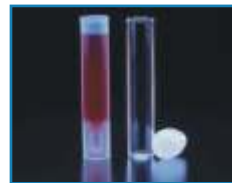
GCH-0840-08-0	1.2ml Clear Glass Shell Vial without Plug (pk/100)
GAH-0840-08-0	1.2ml Amber Glass Shell Vial without Plug (pk/100)
PCH-0840-08-0	1.2ml Polypropylene Shell Vial without Plug (pk/100)

12mm x 32mm Shell Vials

GCH-1232-12-0	2ml Clear Glass Shell Vial without Plug (pk/100)
GAH-1232-12-0	2ml Amber Glass Shell Vial without Plug (pk/100)
PCH-1232-12-0	2ml Polypropylene Shell Vial without Plug (pk/100)

Closures-Polyethylene Snap Plugs

PCNP-08-5	8mm Clear Snap Plug with Star Bust (pk/100)
PCNP-12-5	12mm Clear Snap Plug with Star Bust (pk/100)



Inserts

Low Volume inserts for 9mm thread Vials

GCI-0630-09-4	50µl Glass Insert with bottom spring (pk/100)
GCI-0630-09-3	100µl Glass Insert with spring (pk/100)
GCI-0630-09-2	250µl Glass Insert without spring (pk/100)
GCI-0630-09-1	250µl Glass Insert with bottom spring (pk/100)
GCI-0630-09-0	350µl Flat bottom insert (pk/100)

Low Volume inserts for 8mm thread standard mouth Vials

GCI-0530-08-3	50µl Glass Insert with bottom spring (pk/100)
GCI-0530-08-2	100µl Glass Insert with bottom spring (pk/100)
GCI-0530-08-1	200µl Glass Insert without bottom spring (pk/100)
GCI-0530-08-0	250µl Flat bottom insert (pk/100)



Vial Racks

PBVR-U	Universal Rack
PBVR-08-25	25 Position Vial Rack for 8mm Vials
PBVR-12-25	25 Position Vial Rack for 12mm Vials
PBVR-15-25	25 Position Vial Rack for 15mm Vials
PBVR-08-96	96 Position Vial Snap Rack for 8mm Vial
PBVR-12-50	50 position Vial Snap Rack for 12mm Vial



Crimper & Decrimper

Manual Crimper

- Size 8mm
- Size 11mm
- Size 20mm

Manual Decrimper

- Size 8mm
- Size 11mm
- Size 20mm

Plier Type Decapper

- Size 8mm
- Size 11mm
- Size 20mm



Crimping Tools

crs

Chromatography Research Supplies, Inc.

www.chromres.com



Manual Hand Crimper and Decapper

- Easily viewed adjustment knob
- Strong light-weight plastic body
- Bottom-pull handle design
- Curved high-strength plastic handles



6.4 Volt Electronic Crimping Tool

- Powerful motor with a fast cycle
- Long lasting battery with Lithium Ion technology
- Advanced charging system including warning light when recharging is necessary
- Can be operated while charging
- Convenient controls on top of unit to adjust crimp
- Optional base and mounting kit



High Power Electronic Crimping Tool

- Higher-Power version of electronic crimping tool with fixed power supply and cord. (No battery)
- Uses interchangeable jaw sets
- Stores separate programs for different caps and seals
- Strong enough for all steel and magnetic caps
- Optional base and mounting kit

The HPS crimper is faster and powerful. It is powered by a universal power supply and uses interchangeable jaws sets.

Your partner in chromatography...

SOLA SPE Products

Join the revolution

next-generation SPE

Thermo
 SCIENTIFIC

www.thermoscientific.com/sola-spe

Thermo Scientific SOLA products revolutionise Solid Phase Extraction (SPE). This first fritless SPE product range provides greater reproducibility with cleaner, more consistent extracts.

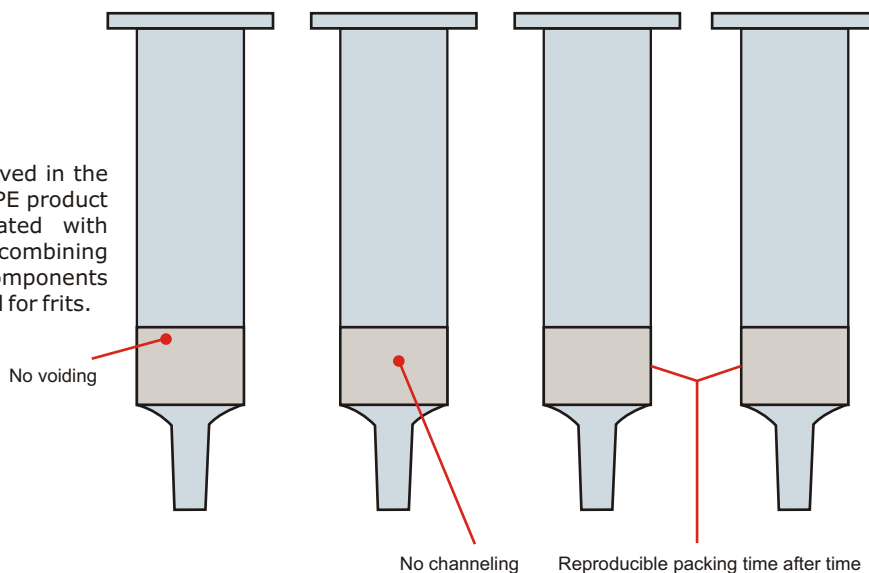
SOLA products provide unparalleled performance characteristics compared to conventional SPE, phospholipid removal and protein precipitation products.

This includes:

- Higher levels of reproducibility
- Higher levels of extract cleanliness
- Reduced solvent requirements
- Increased sensitivity

The proprietary manufacturing process involved in the production of SOLA™ products provides an SPE product which eliminates issues normally associated with conventional loose-packed SPE products, by combining the polyethylene frit material and media components into a uniform sorbent bed, removing the need for frits.

Polymeric materials for SPE application



SOLA eliminates common issues associated with conventional SPE

SOLA SPE Cartridges

Description	Bed Weight	Column Volume (mL)	Cat No.	Quantity
SOLA	10mg	1mL	60109-001	100
SOLA CX	10mg	1mL	60109-002	100
SOLA AX	10mg	1mL	60109-003	100

SOLA 96 Well Plates

Description	Bed Weight	Column Volume (mL)	Cat No.	Quantity
SOLA	10mg	2mL	60309-001	1
SOLA CX	10mg	2mL	60309-002	1
SOLA AX	10mg	2mL	60309-003	1

Your partner in chromatography...

Syringe Filters



- Traditional 13mm 25mm syringe filters
- Available in Nylon, CA-CN, PVDF, PTFE
- Color coded for easy identification
- Polypropylene housing
- Cost-effective

Specifications

Pore Size: 0.22 µm 0.45 µm
Diameter: 13 mm 25 mm

Peerless

www.chromatopak.com



Effective Filtration Area

0.63 cm² for the 13 mm
3.5 cm² for the 25 mm

Retention volume

Less Than 30 µl for the 13 mm
Less Than 100 µl for the 25 mm

Nylon Syringe Filters

- Hydrophilic surface; does not require pre-wetting
- Most of Organic solvents and Aqueous sample
- Mechanical stability is very strong
- Excellent chemical compatibility with esters, bases, and alcohols

Ordering information

Part No.	Description	Qty.
NLF13-2201-P	13mm 0.22µm Nylon	100/pk
NLF13-4501-P	13mm 0.45µm Nylon	100/pk
NLF25-2201-P	25mm 0.22µm Nylon	100/pk
NLF25-4501-P	25mm 0.45µm Nylon	100/pk

CA-CN Syringe Filters (Mixed Cellulose Acetate and Cellulose Nitrate)

- Better hydrophilicity; great water flux and better cutoff effect
- It is ideal for aqueous based samples
- A lower protein binder
- Has a lower chemical resistance

Ordering information

Part No.	Description	Qty.
MCF13-2201-P	13mm 0.22µm Mixed cellulose (CA-AN)	100/pk
MLF13-4501-P	13mm 0.45µm Mixed cellulose (CA-AN)	100/pk
MLF25-2201-P	25mm 0.22µm Mixed cellulose (CA-AN)	100/pk
MLF25-4501-P	25mm 0.45µm Mixed cellulose (CA-AN)	100/pk

PVDF Syringe Filters

- It is hydrophobic membrane. It has a broad chemical compatibility and is a low protein binder
- After being soaked with 30% alcohol, it can be used for liquid filter
- It can continuously work at high temperature

Ordering information

Part No.	Description	Qty.
PVF13-2201-P	13mm 0.22µm PVDF hydrophobic	100/pk
PVF13-4501-P	13mm 0.45µm PVDF hydrophobic	100/pk
PVF25-2201-P	25mm 0.22µm PVDF hydrophobic	100/pk
PVF25-4501-P	25mm 0.45µm PVDF hydrophobic	100/pk

PTFE Syringe Filters

- It is hydrophobic membrane.
- Very broad chemical and thermal compatibility
- It is recommended for strong acids and bases

Ordering information

Part No.	Description	Qty.
PTF13-2201-P	13mm 0.22µm PTFE hydrophobic	100/pk
PTF13-4501-P	13mm 0.45µm PTFE hydrophobic	100/pk
PTF25-2201-P	25mm 0.22µm PTFE hydrophobic	100/pk
PTF25-4501-P	25mm 0.45µm PTFE hydrophobic	100/pk

Your partner in chromatography...

Syringe Filters

Thermo

SCIENTIFIC

www.sun-sri.com



Titan Syringe Filter

Diameter: 30mm & 17mm
Porosity : 0.22µm & 0.45µm

Membrane:

- Nylon
- PTFE
- PVDF
- PES-IC Certified

TITAN
SYRINGE FILTERS

.....The Logical Step In Obtaining Superior Results.

Unique Female Luer-Lok Design
Produces Secure Connections
and Eliminates Filter "Blow-Off"

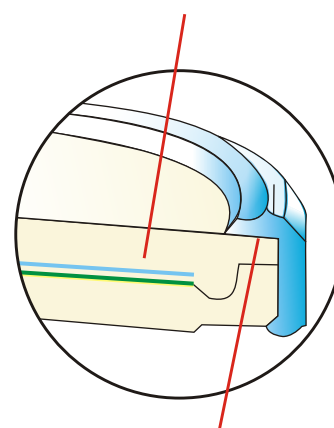
Membrane Type
and porosity
imprinted on
each filter

Standard 1µm Borosilicate
Glass Prefiltered for Hard to
Filter Samples (30mm filter only)

Sample Distribution Rings
direct sample for uniform
filtration across membrane
and speeds flow rates

Minimized Extractables
and Effective Chemical
Resistance From Virgin
Polypropylene Housing

Color-Coded Sealing
Ring Prevents Housing
Bursts and Permits
Instant Identification
of Membrane Type
and Porosity



Double Ultrasonic Weld
Ensures Housing Integrity
and Prevents Leakage

Your partner in chromatography...

GsBP GC Capillary Columns

General Separation Technologies, USA offers a wide selection of high quality GsBP series of GC Capillary Columns

- Consistent high performance w.r.t. Inertness and column bleed
- Generates high efficiency separations
- Stringent Q.C. Methods adopted
- A wide range of polysiloxane based Stationary Phases
- A wide selection of PLOT columns



GsBP-1, 100% poly (dimethylsiloxane)

- 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 thickness
- Low column bleed, inert surface and high efficiency
- Most popular for general applications
- Similar to : DB-1, BP-1, CP-Sil5CB, RTX-1, ZB-1, AT-1, HP-1, SPB-1.

GS-Tek

General Separation Technologies, Inc.

www.gs-tek.com

P/N	Description	Temp. Limit (C)
0120-1203	GsBP-1, 12m x 0.2mm x 0.33µm	-60 to 325/350
0120-2501	GsBP-1, 25m x 0.2mm x 0.11µm	-60 to 325/350
0120-2503	GsBP-1, 25m x 0.2mm x 0.33µm	-60 to 325/350
0120-2505	GsBP-1, 25m x 0.2mm x 0.50µm	-60 to 325/350
0120-5001	GsBP-1, 50m x 0.2mm x 0.11µm	-60 to 325/350
0120-5003	GsBP-1, 50m x 0.2mm x 0.33µm	-60 to 325/350
0125-1501	GsBP-1, 15m x 0.25mm x 0.10µm	-60 to 325/350
0125-1502	GsBP-1, 15m x 0.25mm x 0.25µm	-60 to 325/350
0125-1510	GsBP-1, 15m x 0.25mm x 1.0µm	-60 to 325/350
0125-3001	GsBP-1, 30m x 0.25mm x 0.1µm	-60 to 325/350
0125-3002	GsBP-1, 30m x 0.25mm x 0.25µm	-60 to 325/350
0125-3010	GsBP-1, 30m x 0.25mm x 1.00µm	-60 to 325/350
0125-6002	GsBP-1, 60m x 0.25mm x 0.25µm	-60 to 325/350
0125-6010	GsBP-1, 60m x 0.25mm x 1.00µm	-60 to 325/350
0125-0005	GsBP-1, 100m x 0.25mm x 0.5µm	60 to 325/350
0132-1502	GsBP-1, 15m x 0.32mm x 0.25µm	-60 to 325/350
0132-1510	GsBP-1, 15m x 0.32mm x 1.00µm	-60 to 325/350
0132-2501	GsBP-1, 25m x 0.32mm x 0.17µm	-60 to 325/350
0132-2505	GsBP-1, 25m x 0.32mm x 0.52µm	-60 to 325/350
0132-2510	GsBP-1, 25m x 0.32mm x 1.05µm	-60 to 325/350
0132-3001	GsBP-1, 30m x 0.32mm x 0.10µm	-60 to 325/350
0132-3002	GsBP-1, 30m x 0.32mm x 0.25µm	-60 to 325/350
0132-3005	GsBP-1, 30m x 0.32mm x 0.5µm	-60 to 325/350
0132-3010	GsBP-1, 30m x 0.32mm x 1.0µm	-60 to 325/350
0132-3030	GsBP-1, 30m x 0.32mm x 3.0µm	-60 to 260/280
0132-3040	GsBP-1, 30m x 0.32mm x 4.00µm	-60 to 260/280
0132-3050	GsBP-1, 30m x 0.32mm x 5.00µm	-60 to 260/280
0132-5001	GsBP-1, 50m x 0.32mm x 0.17µm	-60 to 325/350
0132-5005	GsBP-1, 50m x 0.32mm x 0.52µm	-60 to 325/350
0132-5010	GsBP-1, 50m x 0.32mm x 1.05µm	-60 to 325/350
0132-6002	GsBP-1, 60m x 0.32mm x 0.25µm	-60 to 325/350
0132-6010	GsBP-1, 60m x 0.32mm x 1.00µm	-60 to 325/350
0132-6050	GsBP-1, 60m x 0.32mm x 5.00µm	-60 to 260/280

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0153-0501	GsBP-1, 5m x 0.53mm x 0.15µm	-60 to 320/360
0153-0508	GsBP-1, 5m x 0.53mm x 0.88µm	-60 to 300/320
0153-0526	GsBP-1, 5m x 0.53mm x 2.65µm	-60 to 260/280
0153-0750	GsBP-1, 7.5m x 0.53mm x 5.00µm	-60 to 260/280
0153-1008	GsBP-1, 10m x 0.53mm x 0.88µm	-60 to 300/320
0153-1026	GsBP-1, 10m x 0.53mm x 2.65µm	-60 to 260/280
0153-1501	GsBP-1, 15m x 0.53mm x 0.15µm	-60 to 320/360
0153-1515	GsBP-1, 15m x 0.53mm x 1.50µm	-60 to 300/320
0153-1530	GsBP-1, 15m x 0.53mm x 3.00µm	-60 to 260/280
0153-1550	GsBP-1, 15m x 0.53mm x 5.00µm	-60 to 260/280
0153-3008	GsBP-1, 30m x 0.53mm x 0.88µm	-60 to 300/320
0153-3015	GsBP-1, 30m x 0.53mm x 1.50µm	-60 to 300/320
0153-3026	GsBP-1, 30m x 0.53mm x 2.65µm	-60 to 260/280
0153-3030	GsBP-1, 30m x 0.53mm x 3.00µm	-60 to 260/280
0153-3050	GsBP-1, 30m x 0.53mm x 5.00µm	-60 to 260/280
0153-6050	GsBP-1, 60m x 0.53mm x 5.00µm	-60 to 260/280

GsBP-1MS, 100% poly(dimethylsiloxane)

- Identical selectivity to GsBP-1 but with much lower column bleed
- Ideal for GC-MS analysis and first choice for new method development
- Similar to : DB-1MS, BPX-1, CP-Sil5CB Low Bleed, RTX-1MS.

1120-2503	GsBP-1MS, 25m x 0.20mm x 0.33µm	-60 to 325/350
1125-1502	GsBP-1MS, 15m x 0.25mm x 0.25µm	-60 to 325/350
1125-3001	GsBP-1MS, 30m x 0.25mm x 0.10µm	-60 to 325/350
1125-3002	GsBP-1MS, 30m x 0.25mm x 0.25µm	-60 to 325/350
1125-3005	GsBP-1MS, 30m x 0.25mm x 0.50µm	-60 to 325/350
1125-3010	GsBP-1MS, 30m x 0.25mm x 1.00µm	-60 to 325/350
1125-6002	GsBP-1MS, 60m x 0.25mm x 0.25µm	-60 to 325/350
1132-1502	GsBP-1MS, 15m x 0.32mm x 0.25µm	-60 to 325/350
1132-2505	GsBP-1MS, 25m x 0.32mm x 0.52µm	-60 to 325/350
1132-3001	GsBP-1MS, 30m x 0.32mm x 0.10µm	-60 to 325/350
1132-3002	GsBP-1MS, 30m x 0.32mm x 0.25µm	-60 to 325/350
1132-3010	GsBP-1MS, 30m x 0.32mm x 1.00µm	-60 to 325/350
1132-6002	GsBP-1MS, 60m x 0.32mm x 0.25µm	-60 to 325/350

GsBP-5, 5% phenyl 95% dimethyl polysiloxane

- 5% phenyl, 95% methylpolysiloxane, bonded and crosslinked
- Non-polar, equivalent to USP phase G27
- Solvent rinseable 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 to : DB-5, BP-5, CP-Sil8CB, RTX-5, ZB-5, AT-5, HP-5, SPB-5.

0520-1203	GsBP-5, 12m x 0.20mm x 0.33µm	-60 to 325/350
0520-2501	GsBP-5, 25m x 0.20mm x 0.11µm	-60 to 325/350
0520-2503	GsBP-5, 25m x 0.20mm x 0.33µm	-60 to 325/350
0520-2505	GsBP-5, 25m x 0.20mm x 0.50µm	-60 to 325/350
0520-5001	GsBP-5, 50m x 0.20mm x 0.11µm	-60 to 325/350
0520-5003	GsBP-5, 50m x 0.20mm x 0.33µm	-60 to 325/350
0520-5005	GsBP-5, 50m x 0.20mm x 0.50µm	-60 to 325/350
0525-1502	GsBP-5, 15m x 0.25mm x 0.25µm	-60 to 325/350
0525-1510	GsBP-5, 15m x 0.25mm x 1.00µm	-60 to 325/350
0525-3001	GsBP-5, 30m x 0.25mm x 0.10µm	-60 to 325/350
0525-3002	GsBP-5, 30m x 0.25mm x 0.25µm	-60 to 325/350
0525-3010	GsBP-5, 30m x 0.25mm x 1.00µm	-60 to 325/350
0525-6002	GsBP-5, 60m x 0.25mm x 0.25µm	-60 to 325/350
0525-6010	GsBP-5, 60m x 0.25mm x 1.00µm	-60 to 325/350



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0532-1502	GsBP-5, 15m x 0.32mm x 0.25µm	-60 to 325/350
0532-1510	GsBP-5, 15m x 0.32mm x 1.00µm	-60 to 325/350
0532-2501	GsBP-5, 25m x 0.32mm x 0.17µm	-60 to 325/350
0532-2505	GsBP-5, 25m x 0.32mm x 0.52µm	-60 to 325/350
0532-2510	GsBP-5, 25m x 0.32mm x 1.05µm	-60 to 325/350
0532-3001	GsBP-5, 30m x 0.32mm x 0.10µm	-60 to 325/350
0532-3002	GsBP-5, 30m x 0.32mm x 0.25µm	-60 to 325/350
0532-3005	GsBP-5, 30m x 0.32mm x 0.50µm	-60 to 325/350
0532-3010	GsBP-5, 30m x 0.32mm x 1.00µm	60 to 300/320
0532-5001	GsBP-5, 50m x 0.32mm x 0.17µm	-60 to 325/350
0532-5005	GsBP-5, 50m x 0.32mm x 0.52µm	-60 to 325/350
0532-5010	GsBP-5, 50m x 0.32mm x 1.05µm	-60 to 300/320
0532-6002	GsBP-5, 60m x 0.32mm x 0.25µm	-60 to 325/350
0532-6010	GsBP-5, 60m x 0.32mm x 1.00µm	-60 to 325/350
0553-1026	GsBP-5, 10m x 0.53mm x 2.65µm	-60 to 260/280
0553-1515	GsBP-5, 15m x 0.53mm x 1.50µm	-60 to 300/320
0553-1550	GsBP-5, 15m x 0.53mm x 5.00µm	-60 to 260/280
0553-3008	GsBP-5, 30m x 0.53mm x 0.88µm	-60 to 300/320
0553-3015	GsBP-5, 30m x 0.53mm x 1.50µm	-60 to 300/320
0553-3026	GsBP-5, 30m x 0.53mm x 2.65µm	-60 to 260/280
0553-3050	GsBP-5, 30m x 0.53mm x 5.00µm	-60 to 260/280

GsBP-5MS, 5% phenyl 95% dimethyl polysiloxane

- Identical selectivity to GsBP-5 but with much lower column bleed
- Best surface inertness for wide range of compounds
- Ideal for GC-MS analysis or for new method development
- Similar to : DB-5MS, BPX-5, CP-Sil8CB Low Bleed, RTX-5MS, AT-5MS.

1520-1203	GsBP-5MS, 12m x 0.20mm x 0.33µm	-60 to 325/350
1520-2503	GsBP-5MS, 25m x 0.20mm x 0.33µm	-60 to 325/350
1520-5003	GsBP-5MS, 50m x 0.20mm x 0.33µm	-60 to 325/350
1525-1501	GsBP-5MS, 15m x 0.25mm x 0.10µm	-60 to 325/350
1525-1502	GsBP-5MS, 15m x 0.25mm x 0.25µm	-60 to 325/350
1525-1505	GsBP-5MS, 15m x 0.25mm x 0.50µm	-60 to 325/350
1525-1510	GsBP-5MS, 15m x 0.25mm x 1.00µm	-60 to 325/350
1525-3001	GsBP-5MS, 30m x 0.25mm x 0.10µm	-60 to 325/350
1525-3002	GsBP-5MS, 30m x 0.25mm x 0.25µm	-60 to 325/350
1525-3005	GsBP-5MS, 30m x 0.25mm x 0.50µm	-60 to 325/350
1525-3010	GsBP-5MS, 30m x 0.25mm x 1.00µm	-60 to 325/350
1525-6001	GsBP-5MS, 60m x 0.25mm x 0.10µm	-60 to 325/350
1525-6002	GsBP-5MS, 60m x 0.25mm x 0.25µm	-60 to 325/350
1525-6005	GsBP-5MS, 60m x 0.25mm x 0.50µm	-60 to 325/350
1525-6010	GsBP-5MS, 60m x 0.25mm x 1.00µm	-60 to 325/350
1532-1501	GsBP-5MS, 15m x 0.32mm x 0.10µm	-60 to 325/350
1532-1502	GsBP-5MS, 15m x 0.32mm x 0.25µm	-60 to 325/350
1532-1505	GsBP-5MS, 15m x 0.32mm x 0.50µm	-60 to 325/350
1532-1510	GsBP-5MS, 15m x 0.32mm x 1.00µm	-60 to 325/350
1532-2505	GsBP-5MS, 25m x 0.32mm x 0.52µm	-60 to 325/350
1532-3001	GsBP-5MS, 30m x 0.32mm x 0.10µm	-60 to 325/350
1532-3002	GsBP-5MS, 30m x 0.32mm x 0.25µm	-60 to 325/350
1532-3005	GsBP-5MS, 30m x 0.32mm x 0.50µm	-60 to 325/350
1532-3010	GsBP-5MS, 30m x 0.32mm x 1.00µm	-60 to 325/350
1532-6001	GsBP-5MS, 60m x 0.32mm x 0.10µm	-60 to 325/350
1532-6002	GsBP-5MS, 60m x 0.32mm x 0.25µm	-60 to 325/350
1532-6005	GsBP-5MS, 60m x 0.32mm x 0.50µm	-60 to 325/350
1532-6010	GsBP-5MS, 60m x 0.32mm x 1.00µm	-60 to 325/350



GS-Tek
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GsBP-35MS, 35% phenyl 65% methyl polysiloxane

- Bonded and Crosslinked 35% Phenyl 65% dimethylsiloxane phase
- Equivalent to USP phase G-42
- Inert to many active compounds
- Low column bleed to improve sensitivity and quantitation
- Applications : Aroclors, PCBs, amines, pesticides, pharmaceutical molecules.
Good confirmation analysis of active compounds on GsBP-5MS columns
- Similiar to : DB-35MS, BPX-35.

3520-1503	GsBP-35MS, 15m x 0.20mm x 0.33µm	40 to 320/340
3520-2503	GsBP-35MS, 25m x 0.20mm x 0.33µm	40 to 320/340
3525-1502	GsBP-35MS, 15m x 0.25mm x 0.25µm	40 to 320/340
3525-3001	GsBP-35MS, 30m x 0.25mm x 0.15µm	40 to 320/340
3525-3002	GsBP-35MS, 30m x 0.25mm x 0.25µm	40 to 320/340
3525-6002	GsBP-35MS, 60m x 0.25mm x 0.25µm	40 to 320/340
3532-1502	GsBP-35MS, 15m x 0.32mm x 0.25µm	40 to 320/340
3532-3002	GsBP-35MS, 30m x 0.32mm x 0.25µm	40 to 320/340
3532-6002	GsBP-35MS, 60m x 0.32mm x 0.25µm	40 to 320/340
3553-1510	GsBP-35MS, 15m x 0.53mm x 1.00µm	40 to 300/320
3553-3005	GsBP-35MS, 30m x 0.53mm x 0.50µm	40 to 280/300
3553-3010	GsBP-35MS, 30m x 0.53mm x 1.00µm	40 to 280/300

GsBP-50+MS, 50% phenyl 50% methyl polysiloxane

- Bonded and crosslinked 50% phenyl 50% dimethylsiloxane phase
- Equivalent to USP phase G-3
- Inert to many active compounds
- Low column bleed to improve detection sensitivity and quantitation
- Applications : Common drug screens, phenols, PAHs, free steroids, pesticides, herbicides. Good confirmation of the analysis of active compounds on GsBP-5MS or GsBP-35MS columns
- Similiar to : DB-17MS, BPX-50, RTX-50, SPB-50, AT-50.

5020-1201	GsBP-50+MS, 12m x 0.20mm x 0.16µm	40 to 320/340
5020-1203	GsBP-50+MS, 12m x 0.20mm x 0.31µm	40 to 320/340
5020-2501	GsBP-50+MS, 25m x 0.20mm x 0.16µm	40 to 320/340
5020-2503	GsBP-50+MS, 25m x 0.20mm x 0.31µm	40 to 320/340
5020-5003	GsBP-50+MS, 50m x 0.20mm x 0.31µm	40 to 320/340
5025-1501	GsBP-50+MS, 15m x 0.25mm x 0.15µm	40 to 320/340
5025-1502	GsBP-50+MS, 15m x 0.25mm x 0.25µm	40 to 320/340
5025-1505	GsBP-50+MS, 15m x 0.25mm x 0.50µm	40 to 320/340
5025-3001	GsBP-50+MS, 30m x 0.25mm x 0.15µm	40 to 320/340
5025-3002	GsBP-50+MS, 30m x 0.25mm x 0.25µm	40 to 320/340
5025-3005	GsBP-50+MS, 30m x 0.25mm x 0.50µm	40 to 320/340
5025-6002	GsBP-50+MS, 60m x 0.25mm x 0.25µm	40 to 320/340
5032-1501	GsBP-50+MS, 15m x 0.32mm x 0.15µm	40 to 320/340
5032-1502	GsBP-50+MS, 15m x 0.32mm x 0.25µm	40 to 320/340
5032-1505	GsBP-50+MS, 15m x 0.32mm x 0.50µm	40 to 320/340
5032-3001	GsBP-50+MS, 30m x 0.32mm x 0.15µm	40 to 320/340
5032-3002	GsBP-50+MS, 30m x 0.32mm x 0.25µm	40 to 320/340
5032-3005	GsBP-50+MS, 30m x 0.32mm x 0.50µm	40 to 320/340
5032-6002	GsBP-50+MS, 60m x 0.32mm x 0.25µm	40 to 320/340
5032-6005	GsBP-50+MS, 60m x 0.32mm x 0.50µm	40 to 320/340
5053-1510	GsBP-50+MS, 15m x 0.53mm x 1.00µm	40 to 280/300
5053-3005	GsBP-50+MS, 30m x 0.53mm x 0.50µm	40 to 280/300
5053-3010	GsBP-50+MS, 30m x 0.53mm x 1.00µm	40 to 280/300



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GsBP-1701, 14% cyanopropylphenyl 86% methyl polysiloxane

- Bonded crosslinked 14% Cyanopropyl-phenyl 86% dimethylsiloxane phase
- Low to mid polarity
- Equivalent to USP Phase G-46.
- Inert to many active compounds
- Applications : pesticides, herbicides, halogenates. Good confirmation of analysis of active compounds on GsBP-5MS or GsBP-50+MS columns
- Similar to : DB-1701, BP-10, CP-Sil9CB, SPB-1701, ZB-1701.

6120-2502	GsBP-1701, 25m x 0.20mm x 0.20µm	-20 to 280/300
6125-1501	GsBP-1701, 15m x 0.25mm x 0.15µm	-20 to 280/300
6125-1502	GsBP-1701, 15m x 0.25mm x 0.25µm	-20 to 280/300
6125-1510	GsBP-1701, 15m x 0.25mm x 1.00µm	-20 to 280/300
6125-3001	GsBP-1701, 30m x 0.25mm x 0.15µm	-20 to 280/300
6125-3002	GsBP-1701, 30m x 0.25mm x 0.25µm	-20 to 280/300
6125-3010	GsBP-1701, 30m x 0.25mm x 1.00µm	-20 to 280/300
6125-6001	GsBP-1701, 60m x 0.25mm x 0.15µm	-20 to 280/300
6125-6002	GsBP-1701, 60m x 0.25mm x 0.25µm	-20 to 280/300
6125-6010	GsBP-1701, 60m x 0.25mm x 1.00µm	-20 to 280/300
6132-1501	GsBP-1701, 15m x 0.32mm x 0.15µm	-20 to 280/300
6132-1502	GsBP-1701, 15m x 0.32mm x 0.25µm	-20 to 280/300
6132-1510	GsBP-1701, 15m x 0.32mm x 1.00µm	-20 to 280/300
6132-3001	GsBP-1701, 30m x 0.32mm x 0.15µm	-20 to 280/300
6132-3002	GsBP-1701, 30m x 0.32mm x 0.25µm	-20 to 280/300
6132-3010	GsBP-1701, 30m x 0.32mm x 1.00µm	-20 to 280/300
6132-5010	GsBP-1701, 50m x 0.32mm x 1.00µm	-20 to 280/300
6132-6001	GsBP-1701, 60m x 0.32mm x 0.15µm	-20 to 280/300
6132-6002	GsBP-1701, 60m x 0.32mm x 0.25µm	-20 to 280/300
6132-6010	GsBP-1701, 60m x 0.32mm x 1.00µm	-20 to 280/300
6153-1502	GsBP-1701, 15m x 0.53mm x 0.25µm	-20 to 260/280
6153-1505	GsBP-1701, 15m x 0.53mm x 0.50µm	-20 to 260/280
6153-1510	GsBP-1701, 15m x 0.53mm x 1.00µm	-20 to 260/280
6153-3002	GsBP-1701, 30m x 0.53mm x 0.25µm	-20 to 260/280
6153-3005	GsBP-1701, 30m x 0.53mm x 0.50µm	-20 to 260/280
6153-3010	GsBP-1701, 30m x 0.53mm x 1.00µm	-20 to 260/280
6153-3015	GsBP-1701, 30m x 0.53mm x 1.50µm	-20 to 260/280
6153-6010	GsBP-1701, 60m x 0.53mm x 1.00µm	-20 to 260/280
6153-6015	GsBP-1701, 60m x 0.53mm x 1.50µm	-20 to 260/280



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GsBP-1301, 6% cyanopropylphenyl 94% methyl polysiloxane

- 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 GsBP-5MS or GsBP-35MS columns
- Similar to : DB-1301, RTX-1301.

6025-1502	GsBP-1301, 15m x 0.25mm x 0.25µm	-20 to 280/300
6025-1510	GsBP-1301, 15m x 0.25mm x 1.00µm	-20 to 280/300
6025-3002	GsBP-1301, 30m x 0.25mm x 0.25µm	-20 to 280/300
6025-3010	GsBP-1301, 30m x 0.25mm x 1.00µm	-20 to 280/300
6025-6002	GsBP-1301, 60m x 0.25mm x 0.25µm	-20 to 280/300
6025-6010	GsBP-1301, 60m x 0.25mm x 1.00µm	-20 to 280/300
6032-1502	GsBP-1301, 15m x 0.32mm x 0.25µm	-20 to 280/300
6032-1510	GsBP-1301, 15m x 0.32mm x 1.00µm	-20 to 280/300
6032-3002	GsBP-1301, 30m x 0.32mm x 0.25µm	-20 to 280/300

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6032-6002	GsBP-1301, 60m x 0.32mm x 0.25µm	-20 to 280/300
6032-6010	GsBP-1301, 60m x 0.32mm x 1.00µm	-20 to 280/300
6053-1510	GsBP-1301, 15m x 0.53mm x 1.00µm	-20 to 260/280
6053-3010	GsBP-1301, 30m x 0.53mm x 1.00µm	-20 to 260/280
6053-3015	GsBP-1301, 30m x 0.53mm x 1.50µm	-20 to 260/280

GsBP-624 proprietary polysiloxane stationary phase

- Bonded and crosslinked specially designed stationary phase for EPA methods
- Low Polarity
- Equivalent to USP phase G-43 6% cyanopropylphenyl 94% methyl polysiloxane
- Inert to many active compounds
- Applications : EPA methods : 501.3, 502.2, 503.1, 524.2, 601, 602, 8010, 8015, 8020, 8240, 8260
- Similiar to : DB-624, BP-624, RTX-624, ZB-624.

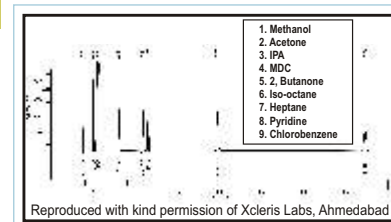
6220-2511	GsBP-624, 25m x 0.20mm x 1.12µm	-20 to 260
6225-3014	GsBP-624, 30m x 0.25mm x 1.40µm	-20 to 260
6225-6014	GsBP-624, 60m x 0.25mm x 1.40µm	-20 to 260
6232-3018	GsBP-624, 30m x 0.32mm x 1.80µm	-20 to 260
6232-6018	GsBP-624, 60m x 0.32mm x 1.80µm	-20 to 260
6253-3030	GsBP-624, 30m x 0.53mm x 3.00µm	-20 to 260
6253-6030	GsBP-624, 60m x 0.53mm x 3.00µm	-20 to 260
6253-7530	GsBP-624, 75m x 0.53mm x 3.00µm	-20 to 260

GsBP-INOWAX, Bonded polyethylene glycol

- Bonded and crosslinked Polyethylene glycol (PEG)
- Solvent rinseable
- 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
- Similiar to : DB-WAX, HP-Innowax, BP-20, CP-WAX52CB, Supelcowax-10, Stabilwax, ZB-WAX.

2020-2502	GsBP-INOWAX, 25m x 0.20mm x 0.20µm	40 to 260/280
2020-2504	GsBP-INOWAX, 25m x 0.20mm x 0.40µm	40 to 260/280
2020-5002	GsBP-INOWAX, 50m x 0.20mm x 0.20µm	40 to 260/280
2020-5004	GsBP-INOWAX, 50m x 0.20mm x 0.40µm	40 to 260/280
2025-1502	GsBP-INOWAX, 15m x 0.25mm x 0.25µm	40 to 260/280
2025-1505	GsBP-INOWAX, 15m x 0.25mm x 0.50µm	40 to 260/280
2025-3001	GsBP-INOWAX, 30m x 0.25mm x 0.15µm	40 to 260/280
2025-3002	GsBP-INOWAX, 30m x 0.25mm x 0.25µm	40 to 260/280
2025-3005	GsBP-INOWAX, 30m x 0.25mm x 0.50µm	40 to 260/280
2025-6001	GsBP-INOWAX, 60m x 0.25mm x 0.15µm	40 to 260/280
2025-6002	GsBP-INOWAX, 60m x 0.25mm x 0.25µm	40 to 260/280
2025-6005	GsBP-INOWAX, 60m x 0.25mm x 0.50µm	40 to 260/280
2032-1502	GsBP-INOWAX, 15m x 0.32mm x 0.25µm	40 to 260/280
2032-1505	GsBP-INOWAX, 15m x 0.32mm x 0.50µm	40 to 260/280
2032-3001	GsBP-INOWAX, 30m x 0.32mm x 0.15µm	40 to 260/280
2032-3002	GsBP-INOWAX, 30m x 0.32mm x 0.25µm	40 to 260/280
2032-3005	GsBP-INOWAX, 30m x 0.32mm x 0.50µm	40 to 260/280
2032-6001	GsBP-INOWAX, 60m x 0.32mm x 0.15µm	40 to 260/280
2032-6002	GsBP-INOWAX, 60m x 0.32mm x 0.25µm	40 to 260/280
2032-6005	GsBP-INOWAX, 60m x 0.32mm x 0.50µm	40 to 260/280
2053-1510	GsBP-INOWAX, 15m x 0.53mm x 1.00µm	40 to 240/250
2053-3010	GsBP-INOWAX, 30m x 0.53mm x 1.00µm	40 to 240/250
2053-6010	GsBP-INOWAX, 60m x 0.53mm x 1.00µm	40 to 240/250

Analysis of Standard Solvent Mix on GsBP-624 Column



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GsBP-CarBoWax 20M, polyethylene glycol

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

2220-2501	GsBP-CarBoWax 20M, 25m x 0.20mm x 0.10µm	60 to 220
2220-5001	GsBP-CarBoWax 20M, 50m x 0.20mm x 0.10µm	60 to 220
2225-3002	GsBP-CarBoWax 20M, 30m x 0.25mm x 0.25µm	60 to 220
2232-2503	GsBP-CarBoWax 20M, 25m x 0.32mm x 0.30µm	60 to 220
2232-5003	GsBP-CarBoWax 20M, 50m x 0.32mm x 0.30µm	60 to 220
2253-1013	GsBP-CarBoWax 20M, 10m x 0.53mm x 1.33µm	60 to 210
2253-3013	GsBP-CarBoWax 20M, 30m x 0.53mm x 1.33µm	60 to 210

GsBP-FFAP, bonded acid modified polyethylene glycol

- 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
- Similiar to : DB-FFAP, Stabilwax-DA, CP-Wax58CB.

2120-2503	GsBP-FFAP, 25m x 0.20mm x 0.30µm	50 to 260
2120-5003	GsBP-FFAP, 50m x 0.20mm x 0.30µm	50 to 260
2125-1502	GsBP-FFAP, 15m x 0.25mm x 0.25µm	50 to 260
2125-3002	GsBP-FFAP, 30m x 0.25mm x 0.25µm	50 to 260
2132-1502	GsBP-FFAP, 15m x 0.32mm x 0.25µm	50 to 260
2132-2505	GsBP-FFAP, 25m x 0.32mm x 0.50µm	50 to 260
2132-3002	GsBP-FFAP, 30m x 0.32mm x 0.25µm	50 to 260
2132-3005	GsBP-FFAP, 30m x 0.32mm x 0.50µm	50 to 260
2132-5005	GsBP-FFAP, 50m x 0.32mm x 0.50µm	50 to 260
2153-1010	GsBP-FFAP, 10m x 0.53mm x 1.00µm	50 to 250
2153-1510	GsBP-FFAP, 15m x 0.53mm x 1.00µm	50 to 250
2153-3010	GsBP-FFAP, 30m x 0.53mm x 1.00µm	50 to 250

GsBP-PONA: 100% dimethylpolysiloxane

- Bonded and Cross-linked.
- High Resolution Analysis of hydrocarbons.
- Specifically configured for the analysis of Petroleum process products (PONA, PIANO etc.)
- Similiar to : HP-PONA, PetrocolDH, DB-Petro100.

9002-PONA	GsBP-PONA 50m x 0.20mm x 0.5µm	-60 to 325/350
9006-PONA	GsBP-PONA 100m x 0.25mm x 0.5µm	-60 to 325/350

GsBP-502.2, proprietary phase

- Bonded and Cross-linked.
- Excellent Peak Shapes for Volatile Organic Compounds.

6325-6014	GsBP-502.2 60m x 0.25mm 1.4µm	0 to 260/280
6332-6018	GsBP-502.2 60m x 0.32mm 1.8µm	0 to 260/280
6353-0530	GsBP-502.2 105m x 0.53mm 3.0µm	0 to 260



GS-Tek
General Separation Technologies, Inc.

GsBP-PLOT Al₂O₃ "KCL"

- Least selective Olefins ("polar") aluminium 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 for hydrocarbon separation
- Similar to : GS-Alumina KCL, CP-AI2O3/KCL, RT-AluminaPLOT

8125-2505	GsBP-PLOT Al ₂ O ₃ "KCL", 25m x 0.25mm x 5.00µm	-60 to 200/250
8125-3005	GsBP-PLOT Al ₂ O ₃ "KCL", 30m x 0.25mm x 5.00µm	-60 to 200/250
8132-1508	GsBP-PLOT Al ₂ O ₃ "KCL", 15m x 0.32mm x 8.00µm	-60 to 200/250
8132-3008	GsBP-PLOT Al ₂ O ₃ "KCL", 30m x 0.32mm x 8.00µm	-60 to 200
8132-5008	GsBP-PLOT Al ₂ O ₃ "KCL", 50m x 0.32mm x 8.00µm	-60 to 200
8153-1515	GsBP-PLOT Al ₂ O ₃ "KCL", 15m x 0.53mm x 15.0µm	-60 to 200/250
8153-3015	GsBP-PLOT Al ₂ O ₃ "KCL", 30m x 0.53mm x 15.0µm	-60 to 200
8153-5015	GsBP-PLOT Al ₂ O ₃ "KCL", 50m x 0.53mm x 15.0µm	-60 to 200
8153-6015	GsBP-PLOT Al ₂ O ₃ "KCL", 60m x 0.53mm x 15.0µm	-60 to 200

GsBP-PLOT Al₂O₃ "S"

- Good selective Olefins (mid "polar") aluminium oxide phase
- Deactivated with Na₂SO₄ salt
- Excellent baseline separation of C1 to C10 hydrocarbons, excellent of C3, C4 isomer baseline separation
- Less accurate quantitations of dienes and halocarbons
- ASTM recommended phase
- Preferred choice for hydrocarbon separation
- Similar to : HP-PLOT Al₂O₃'S', CP-AI2O3 PLOT Na2SO4

8225-2505	GsBP-PLOT Al ₂ O ₃ "S", 25m x 0.25mm x 5.00µm	-60 to 200/250
8225-3005	GsBP-PLOT Al ₂ O ₃ "S", 30m x 0.25mm x 5.00µm	-60 to 200/250
8232-1508	GsBP-PLOT Al ₂ O ₃ "S", 15m x 0.32mm x 8.00µm	-60 to 200/250
8232-3008	GsBP-PLOT Al ₂ O ₃ "S", 30m x 0.32mm x 8.00µm	-60 to 200
8232-5008	GsBP-PLOT Al ₂ O ₃ "S", 50m x 0.32mm x 8.00µm	-60 to 200
8253-1515	GsBP-PLOT Al ₂ O ₃ "S", 15m x 0.53mm x 15.0µm	-60 to 200/250
8253-3015	GsBP-PLOT Al ₂ O ₃ "S", 30m x 0.53mm x 15.0µm	-60 to 200
8253-5015	GsBP-PLOT Al ₂ O ₃ "S", 50m x 0.53mm x 15.0µm	-60 to 200
8253-6015	GsBP-PLOT Al ₂ O ₃ "S", 60m x 0.53mm x 15.0µm	-60 to 200



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GsBP-PLOT Al₂O₃ "M"

- Strong selective Olefins (most "polar") aluminium 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 for hydrocarbon separation
- Similar to : HP-PLOT Al₂O₃M

8325-2505	GsBP-PLOT Al ₂ O ₃ "M", 25m x 0.25mm x 5.00µm	-60 to 200/250
8325-3005	GsBP-PLOT Al ₂ O ₃ "M", 30m x 0.25mm x 5.00µm	-60 to 200/250
8332-1508	GsBP-PLOT Al ₂ O ₃ "M", 15m x 0.32mm x 8.00µm	-60 to 200/250
8332-3008	GsBP-PLOT Al ₂ O ₃ "M", 30m x 0.32mm x 8.00µm	-60 to 200
8332-5008	GsBP-PLOT Al ₂ O ₃ "M", 50m x 0.32mm x 8.00µm	-60 to 200
8353-1515	GsBP-PLOT Al ₂ O ₃ "M", 15m x 0.53mm x 15.0µm	-60 to 200/250
8353-3015	GsBP-PLOT Al ₂ O ₃ "M", 30m x 0.53mm x 15.0µm	-60 to 200
8353-5015	GsBP-PLOT Al ₂ O ₃ "M", 50m x 0.53mm x 15.0µm	-60 to 200
8353-6015	GsBP-PLOT Al ₂ O ₃ "M", 60m x 0.53mm x 15.0µm	-60 to 200

Your partner in chromatography...

GsBP-PLOT MoleSieve, molecular sieves, 5A type

- Molecular Sieve, Zeolite, 5A
- Thin and thick coatings for push limit separations, e.g. Ar/O₂ separation at 35C, O₂/N₂ within 15sec
- Truly immobilize 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 250C for 3hr
- ASTM recommended phase
- Noble gas, air from methane, fuel gas, etc
- Often used with other PLOT columns for fixed gas separation from sample matrix
- Similiar to : HP-PLOT MoleSieve., CP-Moleseive 5A

8432-0512	GsBP-PLOT MoleSieve, 5m x 0.32mm x 12.0µm	-80 to 300
8432-1512	GsBP-PLOT MoleSieve, 15m x 0.32mm x 12.0µm	-80 to 300
8432-3012	GsBP-PLOT MoleSieve, 30m x 0.32mm x 12.0µm	-80 to 300
8432-1525	GsBP-PLOT MoleSieve, 15m x 0.32mm x 25.0µm	-80 to 300
8432-3025	GsBP-PLOT MoleSieve, 30m x 0.32mm x 25.0µm	-80 to 300
8453-0525	GsBP-PLOT MoleSieve, 5m x 0.53mm x 25.0µm	-80 to 300
8453-1525	GsBP-PLOT MoleSieve, 15m x 0.53mm x 25.0µm	-80 to 300
8453-3025	GsBP-PLOT MoleSieve, 30m x 0.53mm x 25.0µm	-80 to 300
8453-1550	GsBP-PLOT MoleSieve, 15m x 0.53mm x 50.0µm	-80 to 300
8453-3050	GsBP-PLOT MoleSieve, 30m x 0.53mm x 50.0µm	-80 to 300

GsBP-PLOT GasPro, proprietary porous silica coating

- 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
- Minimum effect of water on retention time
- Regeneration of performance from water adsorptions at 250C for 3hr
- ASTM recommended phase
- GC-MS applicable
- Similiar to : GS-Gas Pro, CP-Silica PLOT

8532-0505	GsBP-PLOT GasPro, 5m x 0.32mm x 5.0µm	-80 to 260/300
8532-1505	GsBP-PLOT GasPro, 15m x 0.32mm x 5.0µm	-80 to 260/300
8532-3005	GsBP-PLOT GasPro, 30m x 0.32mm x 5.0µm	-80 to 260/300
8532-6005	GsBP-PLOT GasPro, 60m x 0.32mm x 5.0µm	-80 to 260/300

GsBP-PLOT Q, porous divinylbenzene polymer

- Divinylbenzene polymer particle, nonpolar, 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, upto 280/300°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 stability 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°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
- Similiar to : HP-PLOT Q, CP-PoraPLOT Q, RT-Q PLOT



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8632-1515	GsBP-PLOT Q, 15m x 0.32mm x 15.0µm	-80 to 280/290
8632-3015	GsBP-PLOT Q, 30m x 0.32mm x 15.0µm	-80 to 280/290
8653-1530	GsBP-PLOT Q, 15m x 0.53mm x 30.0µm	-80 to 280/290
8653-3030	GsBP-PLOT Q, 30m x 0.53mm x 30.0µm	-80 to 280/290

GsBP-PLOT U, porous ethylene glycol dimethacrylate copolymer

- Divinylbenzene and Ethylene glycol dimethacrylate copolymer particle, polar
- 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 stability 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 to : PoraPLOT U, RT-U PLOT

8732-1510	GsBP-PLOT U, 15m x 0.32mm x 10.0µm	-80 to 190/200
8732-3010	GsBP-PLOT U, 30m x 0.32mm x 10.0µm	-80 to 190
8732-3020	GsBP-PLOT U, 30m x 0.32mm x 20.0µm	-80 to 190
8753-1520	GsBP-PLOT U, 15m x 0.53mm x 20.0µm	-80 to 190/200
8753-3020	GsBP-PLOT U, 30m x 0.53mm x 20.0µm	-80 to 190

GsBP-Blood Alcohol Column, proprietary PLOT phase

- Proprietary PLOT phase
- Reliable blood alcohol analysis
- Tolerance of direct sample injection
- Excellent confirmation column against other blood alcohol columns using t-butanol as internal standard
- Similar to : DB-ALC1, RTX-BAC1

8932-0710	GsBP-Blood Alcohol Column, 7.5m x 0.32mm x 10.0µm	260/280
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Deactivated Guard Column

9120-0100	Deactivated Tubing, 1m, ID 0.2mm, OD 0.34mm
9120-0500	Deactivated Tubing, 5m, ID 0.2mm, OD 0.34mm
9120-1000	Deactivated Tubing, 10m, ID 0.2mm, OD 0.34mm
9125-0100	Deactivated Tubing, 1m, ID 0.25mm, OD 0.35mm
9125-0500	Deactivated Tubing, 5m, ID 0.25mm, OD 0.35mm
9125-1000	Deactivated Tubing, 10m, ID 0.25mm, OD 0.35mm
9132-0100	Deactivated Tubing, 1m, ID 0.32mm, OD 0.43mm
9132-0500	Deactivated Tubing, 5m, ID 0.32mm, OD 0.43mm
9132-1000	Deactivated Tubing, 10m, ID 0.32mm, OD 0.43mm
9153-0100	Deactivated Tubing, 1m, ID 0.53mm, OD 0.67mm
9153-0500	Deactivated Tubing, 5m, ID 0.53mm, OD 0.67mm
9153-1000	Deactivated Tubing, 10m, ID 0.53mm, OD 0.67mm



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 - TR-BioDiesel (G) for Glycerols
 - TR-BioDiesel (F) for FAMES
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 - Prepared diluted standards
 - Documented method instructions
- EN14103/5/10 & ASTM D6584 Biodiesel Method Kits
- EN14103/5/10 & ASTM D6584 Biodiesel Method Kits

TRACE GC Columns for Dioxin & PCB Analysis
Ensures optimum performance for high resolution GC-MS

- Exceptional stability
- Very low bleed at high temperature
- Wide coverage of congeners with highest toxicological significance

GENERIC COLUMN

- TR-1 (100% dimethyl polysiloxane) USP Listing: G-1/G-2
- TR-1MS (100% dimethylpolysiloxane) USP Listing: G-1/G-2
- TR-5 (5% diphenyl, 95% methylpolysiloxane) USP Listing: G-27
- TR-5MS (5% diphenyl, 95% methylpolysiloxane) USP Listing: G-27
- TR-5ht(5% diphenyl, 95% methylpolysiloxane) USP Listing: G-27
- TR-FAME (70% cyanopropyl polysilphenylene-siloxane) for Analysis of Fatty Acid Methyl Esters.
- TR-35MS (35% phenyl polysilphenylene siloxane) USP Listing: G-42
- TR-50MS(50% phenyl, 50% methylpolysiloxane) USP Listing: G-3
- TR-1701(14% cyanopropylphenyl,86% methylpolysiloxane) USP Listing: G-46
- TR-V1(6% cyanopropylphenyl, 94% methylpolysiloxane) USP Listing: G-43
- TR-FFAP (A Phase for the analysis of Free Fatty Acid) USP Listing: G-35
- TR-WAX (Bonded Polyethylene Glycol) USP Listing: G-14
- TR-Wax MS (Bonded Polyethylene Glycol) high temperature limit USP Listing: G-14

TRACE GOLD COLUMN

- TG-1MS (100% dimethyl polysiloxane) USP Listing: G-1/G-2
- TG-XLBMS
- TG-5MS (5% diphenyl, 95% methylpolysiloxane) USP Listing: G-27
- TG-5MS AMINE
- TG-5HT (5% diphenyl, 95% methylpolysiloxane) USP Listing: G-27
- TG-35MS AMINE
- TG-35MS (35% phenyl polysilphenylene siloxane) USP Listing: G-42
- TG-17MS (50% phenyl, 50% methylpolysiloxane) USP Listing: G-3
- TG-1701 MS (14% cyanopropylphenyl, 86% methylpolysiloxane) USP Listing: G-46
- TG-624 (6% cyanopropylphenyl, 94% methylpolysiloxane) USP Listing: G-43
- TG-WaxMS A (A Phase for the analysis of Free Fatty Acid) USP Listing: G-35
- TG-WaxMS B (Based Deactivated Bonded Polyethylene Glycol)
- TG-WaxMS (Bonded Polyethylene Glycol) high temperature limit USP Listing: G-14
- TG-225MS (50% Cyanopropylphenyl Polysiloxane) USP Listing: G7, G19
- TG-200MS (Trifluoropropylmethyl Polysiloxane) USP Listing: G6
- TG-POLAR (Cyanopropylphenyl Polysiloxane) USP Listing: G8, G48

APPLICATION SPECIFIC COLUMN

- TR-BioDiesel (M) for determination of methanol in Biodiesel
- TR-BioDiesel (G) for determination of glycerols in Biodiesel
- TR-BioDiesel (F) for determination of FAMES in Biodiesel
- TR-Dioxin for Dioxin Analyses
- TR-DoA35 Column for Drugs of Abuse
- TR-524 for US EPA Drinking Water Test Method 524
- TR-525 for US EPA Drinking Water Test Method 525
- TR-527 for US EPA Drinking Water Test Method 527
- TR-8270 for US EPA Solid Waste Test Method 8270
- TR-8095 for US EPA Explosive residues Test Method 8095
- TR-PCB for PCB Analyses
- TR-SimDist for simulated distillation analysis of higher hydrocarbons

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- Extended temperature range, low-bleed
- Maximum temperature 400°C
- Virtually eliminates injection-port sticking
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- Each batch GC-FID tested
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Septa BTO is Bleed and Temperature Optimized for today's most demanding GC and GC/MS applications. Septa BTO is formulated to extend low-bleed and outstanding mechanical properties of premium GC septa to the highest-temperature applications. It retains remarkable softness and pierceability at high temperatures, with extremely low bleed. Septa are 3 mm thick, except Shimadzu-style plug septa, and are packaged in glass vials.



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- Maximum temperature 400°C

The CRS Advanced Green 3 Septum was specifically created to combine significantly longer injection life, low bleed and low injection port adhesion. The result is a green septum you can use for all your critical analyses. Advanced Green 3 Septa are packaged in glass vials for high purity. Septa are 3 mm thick, except Shimadzu-style plug septa.

Marathon™ Septa

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- Virtually eliminates injection-port sticking
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- Maximum temperature setting 400°C

The CRS Marathon septum typically achieves 400 injections without failure, when used with a rounded-tip (Agilent-style) needle and autosampler or needle guide. The CenterGuide versions of Marathon are pre-pierced to channel the needle through the same spot with each injection, which helps eliminate the common type of coring that occurs on the first injection. The Marathon septum is also ideal for standard manual-injection GC and GC/MS. Septa are 3 mm thick, except Shimadzu-style plug septa. Septa are packaged in glass jars.

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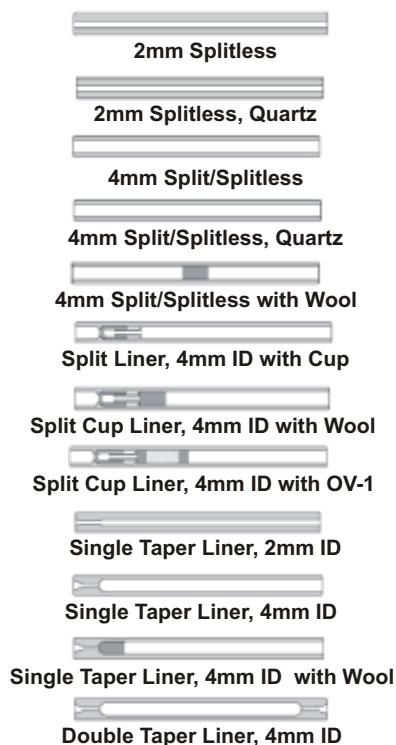
Injector Liner

Injection Port Liners

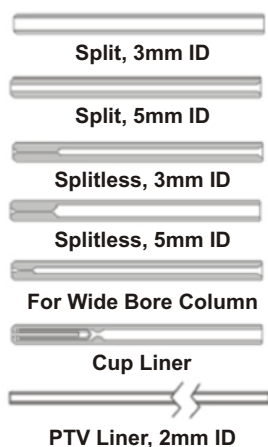
- Polysiloxane deactivated borosilicate glass (quartz where noted)
- Guaranteed inert for phenols, organic acids and bases
- Glass wool is deactivated



For Agilent Capillary GCs



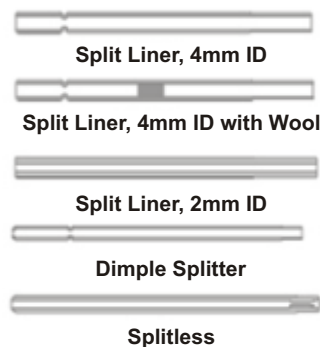
For Thermo Scientific GCs



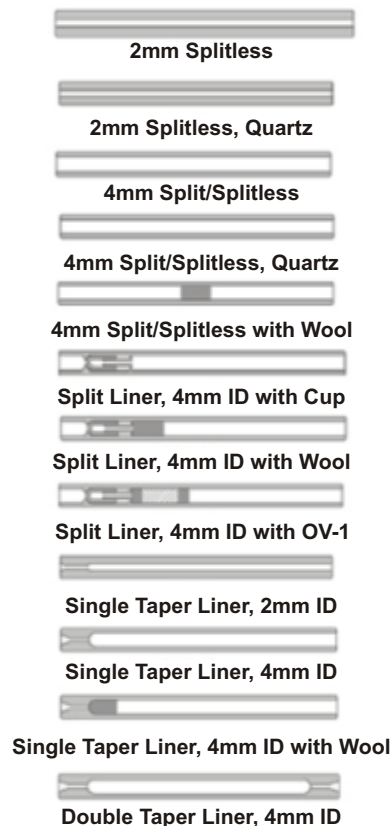
For Shimadzu Capillary GCs



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Capillary Ferrules

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- Upper temperature limit: 350°C
- 100% high temperature DuPont polyimide
- Precision-drilled ID; no imperfections from molding
- One-piece design requires no back ferrules
- Fairly hard; tends to seal permanently to the column



Vespel[®] Ferrules

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- Reusable if not overtightened
- One-piece design requires no back ferrule



Graphite Ferrules

Vespel[®]/Graphite Ferrules - Sold in packages of 10

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- Made from quality DuPont polyimide/graphite blend
- Recommended for GC/MS interface applications
- One-piece design requires no back ferrule
- Precision drilled ID



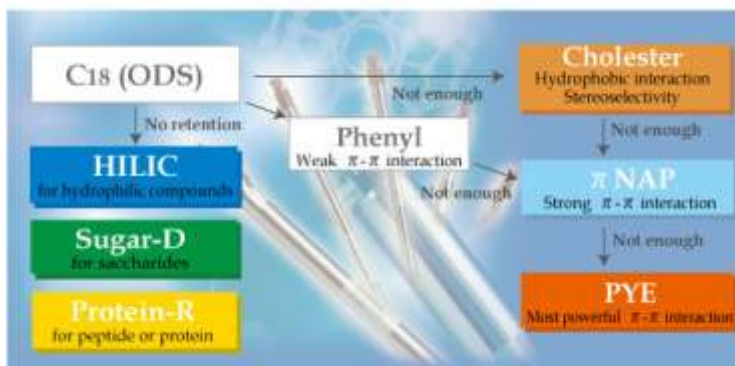
Vespel[®]/Graphite Ferrules

Note : To ensure compatibility, the Make and Model of your GC needs to be specified.

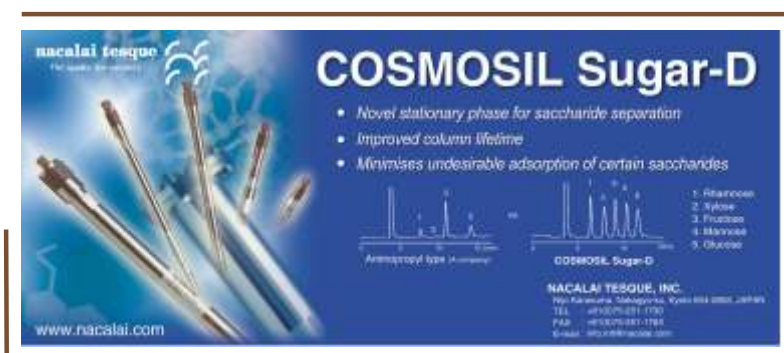
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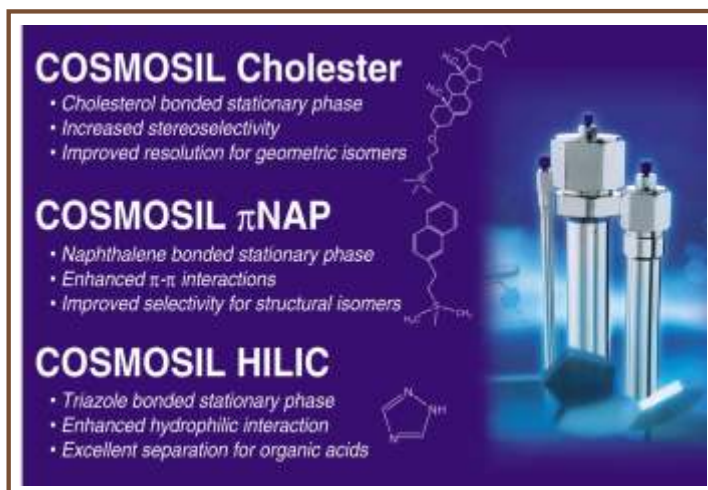
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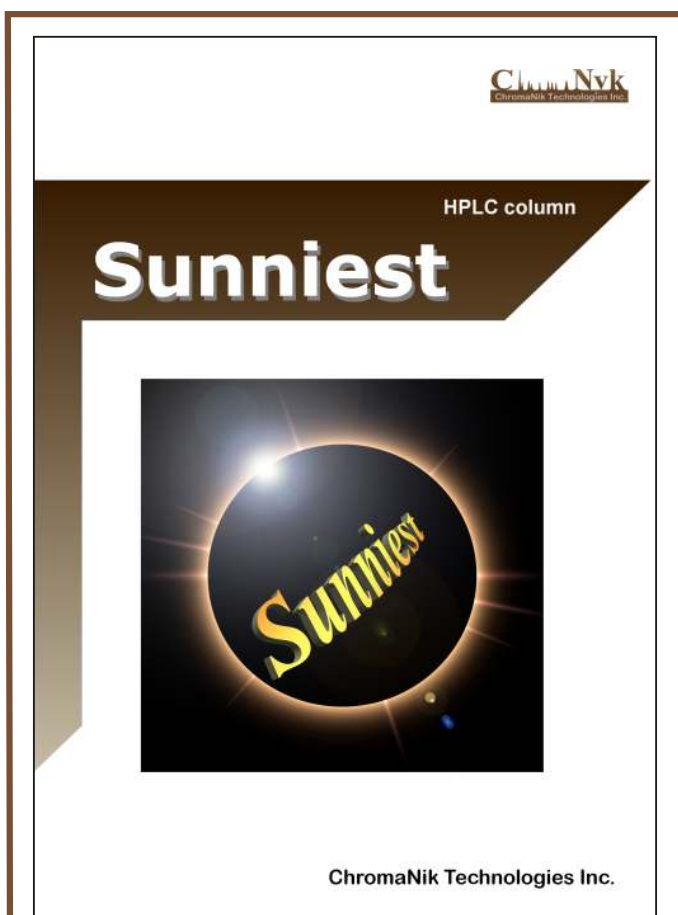
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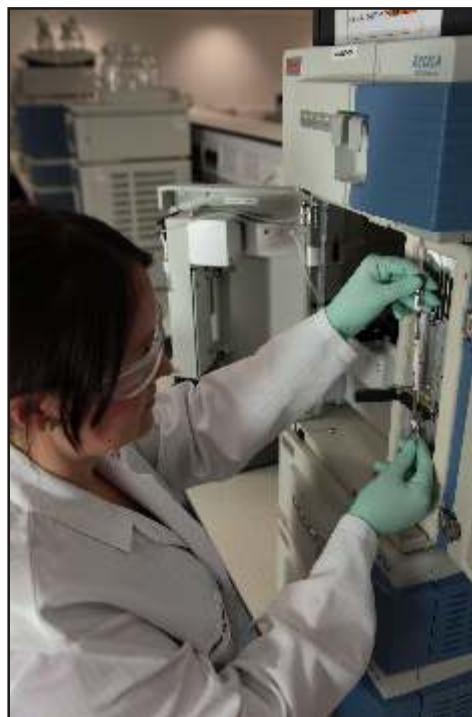
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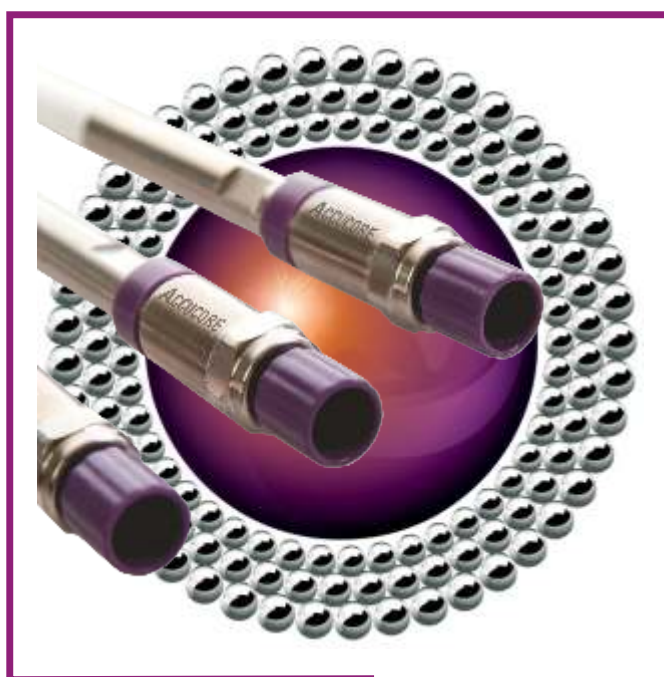
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New Generation HPLC Columns

Accucore HPLC Columns

Thermo
SCIENTIFICwww.thermoscientific.com/chromatography

Ultimate Core Performance to Maximize Your Investment



Accucore RP-MS
Accucore C18
Accucore C8
Accucore aQ
Accucore Phenyl-Hexyl
Accucore PFP
Accucore HILIC

Core Enhanced Technology

- 2.6 μm superficially porous tightly controlled particles
- Higher throughput - Faster analyses
- Low solvent consumption
- Equivalent Performance to Sub-2 μm with Lower Back Pressure

Your partner in chromatography...

Legacy HPLC Columns



Thermo

SCIENTIFIC

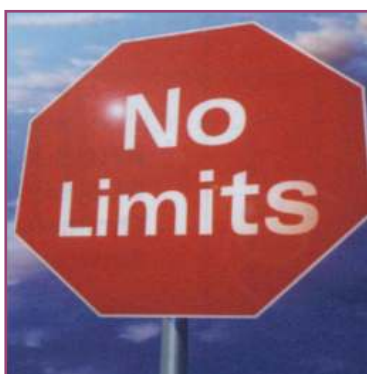
www.thermoscientific.com/chromatography

Hypurity™ - Ultra High Pure Silica



- Hypurity™ C18
- Hypurity™ C8
- Hypurity™ CN
- Hypurity™ Advance
- Hypurity™ Aquastar

The Range with Unlimited Possibilities



- Betasil™ - High Carbon
- Extended Chemistry: C1, C6
- BetaBasic™ - Extended pH Range
- BetaMax™ - A Truly Hydrophobic Phase

Hypersil™ - The Most Referenced and Trusted Column Worldwide

Robust and rugged, delivering excellent reproducibility and peak symmetry



Hypersil BDS

- ◆ Base Deactivated Silica
- ◆ Excellent Reproducibility
- ◆ Reduced Tailing
- ◆ Very robust and rugged
- ◆ Long column lifetimes
- ◆ Excellent peak symmetry for basic and acid compounds

Hypersil Classical

- ◆ Excellent Reproducibility
- ◆ Very robust and rugged
- ◆ Long column lifetimes
- ◆ Wide range of chemistries and particle sizes
- ◆ Economical, general purpose columns
- Hypersil ODS, MOS, CPS, Phenyl, Amino

Your partner in chromatography...

Premiere HPLC Columns

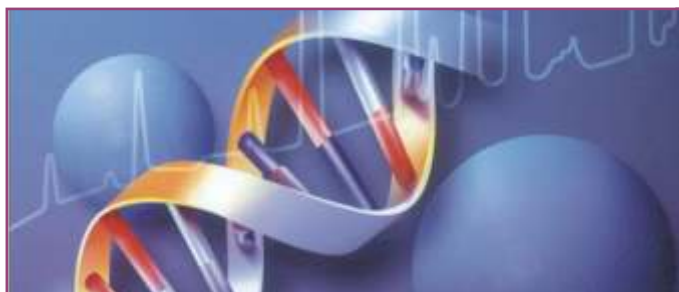


Thermo

SCIENTIFIC

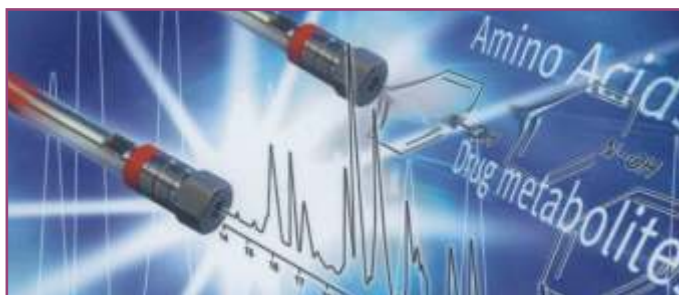
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BioBasic™ - 300°A Silica...The Answer for Separating Biomolecules



RP Range	SEC Range	IE Range
BioBasic™18	BioBasic™SEC60	BioBasic™SCX
BioBasic™8	BioBasic™SEC120	BioBasic™AX
BioBasic™4	BioBasic™SEC300	
BioBasic™CN	BioBasic™SEC1000	
BioBasic™Phenyl		

Hypercarb™ - The Solution for Problem Separations



A Unique Stationary Phase

- Porous Graphitic Carbon
- pH Compatibility 1-12
- Excellent For Polar Compounds

New 3 μm

Hypersil™ Gold - The Key to Unsurpassed Peak Shape



- Hypersil™ GOLD (C18)
- Hypersil™ GOLD C8
- Hypersil™ GOLD C4
- Hypersil™ GOLD aQ
- Hypersil™ GOLD Phenyl
- Hypersil™ GOLD Amino
- Hypersil™ GOLD AX
- Hypersil™ GOLD SAX
- Hypersil™ GOLD Silica
- Hypersil™ GOLD HILIC
- Hypersil™ GOLD CN
- Hypersil™ GOLD PFP

New 1.9 μm

Your partner in chromatography...

Polymeric HPLC Columns

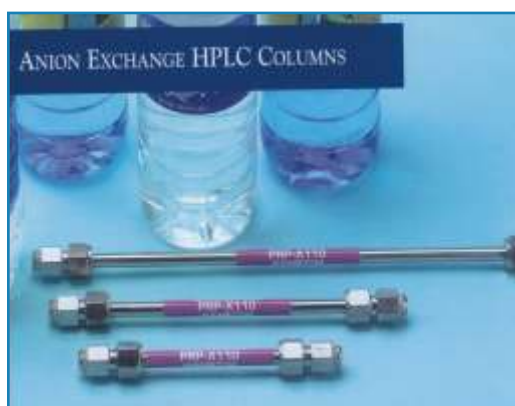


HAMILTON
the measure of excellence

www.hamiltoncompany.com

Reversed Phase
PRP-1
PRP-3
PRP-Infinity

Anion Exchange
PRP-X100
PRP-X110
PRP-X110S
PRP-X500
PRP-X600
RCX-10
RCX-30



Ion Exclusion
PRP-X300



Cation Exchange
PRP-X200
PRP-X400
HC-40
HC-75Ca
HC-75H⁺
HC-75Pb



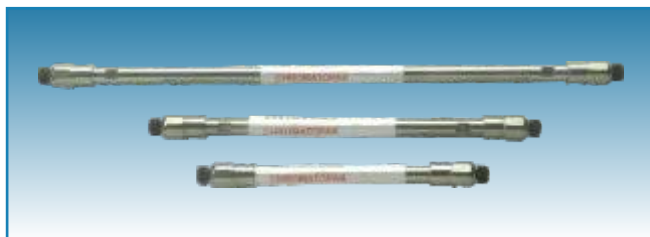
Your partner in chromatography...

HPLC Columns

Peerless® HPLC Column

Peerless®

www.chromatopak.com



A family of HPLC Columns for the Discerning Chromatographer...

PeerlessBasic

- ▲ Type B Ultra High Purity Spherical Silica (99.999%)
- ▲ Excellent for Basic, Acidic and Neutral Compounds.
- ▲ High Carbon Load.
- ▲ Extremely Reproducible.
- ▲ Highly Efficient and Reproducible.
- ▲ Family- Basic C18, Basic C8,
- ▲ Long Column Lifetimes.

Peerless

- ▲ Based on High-Purity Spherical Silica. (99.99%)
- ▲ Excellent for Acidic and Neutral compound.
- ▲ Totally Porous, Rigid, Spherical Particles.
- ▲ Moderate Carbon Load.
- ▲ Family - Silica, C18, C8, C4, Phenyl, Cyano, Amino, Diol.
- ▲ Long Column Lifetimes.

Peerless LC

- ▲ Based on Type A Spherical Silica
- ▲ Good General Purpose column.
- ▲ Low Carbon Load.
- ▲ Silica Deactivated for Bases.
- ▲ Family - C18, C8, Phenyl.
- ▲ Long Column Lifetimes.

Peerless Basic :

Ultra High Purity Silica

Peerless Basic HPLC Columns uses ultra-high purity silica (99.999% pure) for the stationary phase that eliminates the negative effects that metal contaminants can have on chromatographic separations. The silica also has a very homogeneous surface chemistry of low-activity silanols thereby making for an inert support, ideal for bonding of the alkyl ligand. Surface metal ions act as chelating agents to retain analyte molecules with multiple polar groups. Even subtle differences in metal content or relative acidity of the silica surface can have a significant effect on retention times, peak shapes and resolution. Because of its inherent silica purity, we can guarantee excellent peak shapes for basic and acidic compounds leading to high resolution separation of complex mixtures in a rugged, robust method.

High Carbon Load / Proprietary End Capping

The totally porous, rigid and spherical silica is densely bonded using advanced bonding technologies that effectively covers the silica surface. Because of its high surface area (450m²/g) and high Carbon coverage the Peerless Basic C18 provides a truly hydrophobic surface. Any potentially interfering silanol group that remain after the bonding process are effectively blocked from interacting with polar solutes by a very efficient double endcapping process. Compared to other reversed phase columns, Peerless Basic Columns have significantly less silanol activity and therefore measurably better peak shapes. Because Peerless Basic generates excellent peak shapes for even basic and acidic compounds it can be used for high resolution separation of complex mixtures.

Highly Efficient and Reproducible

Carefully sized micro porous, spherical and rigid silica particles go into producing the stationary phase support. These high performance particles are packed using updated technology. High efficiency columns, typically of the order of 100,000 theoretical plates per metre are not uncommon for these columns. The combination of an inherently high efficiency column, inert silica and a high carbon load bonding of the ligand makes for a reversed phase column that outperforms the competition when analysing basic compounds. The base silica is highly characterised and controlled so that batch-to-batch variations are to a minimum. It is due to this that one can expect excellent column-to-column reproducibility.

Your partner in chromatography...

Peerless :

Peerless packings are made with high purity spherical silica and consistent bonding techniques to yield a surface that offers best price/performance ratio. Optimum physical parameters have been chosen for the silica to offer exceptional efficiency, consistent selectivity and long column life times. Peerless columns are available in a variety of bonded phases, particle sizes and column geometries to overcome challenging separation problems. Fig. 3 shows a typical test mixture analysed on Peerless C18 column.

Peerless LC :

Peerless LC Columns have been designed for not so demanding applications. The traditional Type A Silica is deactivated towards base to offer a surface optimised for the chromatography of basic analytes. Low carbon load offers less retention and therefore low analyses times.

Evaluating The Column

Peerless HPLC Columns is the result of extensive testing in third party Laboratories. Fig. 1 is a chromatogram generated using the Test Mix 870 specified by the National Institute of Standards and Technology (NIST), USA for characterising RP HPLC Column performance with reference to efficiency, metal activity, and silanol interaction. The excellent symmetrical peak shapes for both Quinizarin (a metal chelating agent) and Amitriptylene (a basic compound) is an indication of the inertness of the Peerless Basic HPLC Column. Comparison studies were made on two different columns in the market, both of which use Types B silica. The results are summarized in Table 1.

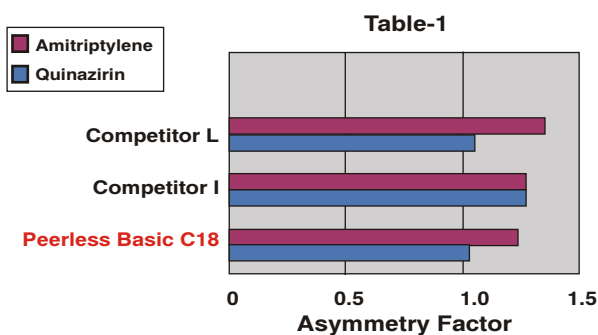
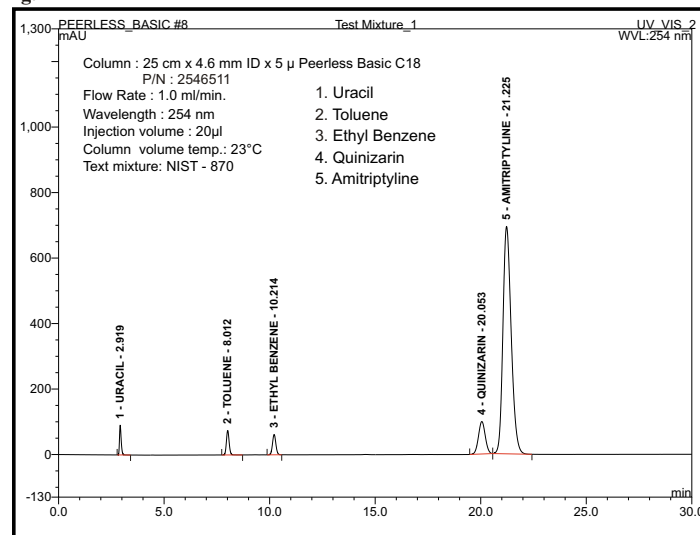


Fig. -1



NIST Test Mix 870 on Peerless Basic C18

Physical Characteristics Of The Peerless Range Of HPLC Column

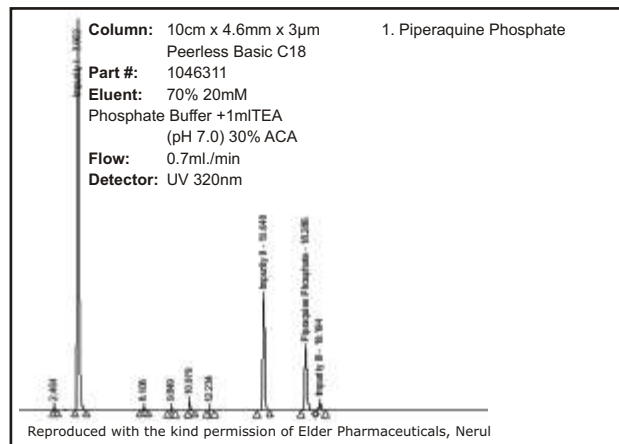
Phase	Silica Type	Family	% C	Pore Size Å	Particle Sizes (µm)	End-Capped Yes/No	Surface Area m ² /g	USP Code
<i>Peerless HT</i>	Type B (99.999%)	C18	15%	120	1.8	Y	300	L-1
	Type B (99.999%)	C8	11%	120	1.8	Y	300	L-7
<i>Peerless Basic</i>	Type B (99.999%)	C18	17%	100	3,5,10	Y	450	L-1
	Ultra High Purity	C8	12%	100	3,5,10	Y	450	L-7
<i>Peerless 120</i>	Type B (99.999%)	C18	17%	120	3,5,10	Y	300	L-1
	Ultra High Purity	C8	9%	120	3,5,10	Y	300	L-7
<i>Peerless</i>	Type B (99.99%) High Purity	Silica	--	100	3,5,10	--	280	L-3
		C18	15%	100	3,5,10	Y	280	L-1
		C8	8%	100	3,5	Y	280	L-7
		C4	5%	100	5	Y	280	L-26
		Phenyl	9%	100	5	Y	280	L-11
<i>Peerless LC</i>	Type A (Deactivated for Bases)	Amino	3%	100	3,5	N	280	L-8
		Diol	3%	100	5	N	280	L-20
		C18	11%	120	3,5	Y	180	L-1
		C8	7%	120	3,5	Y	180	L-7
		Phenyl	5%	120	5	Y	180	L-11

Your partner in chromatography...

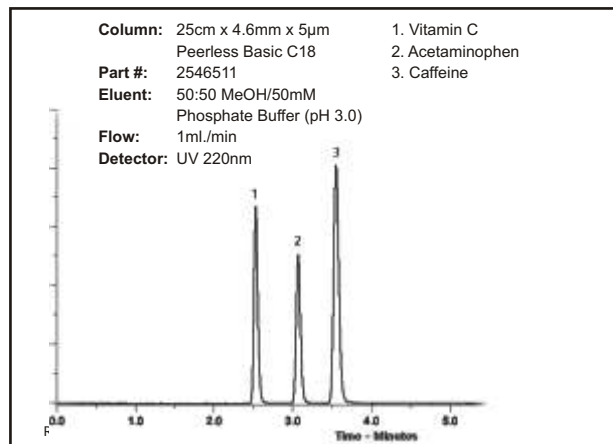
HPLC Columns

Applications on *Peerless*® HPLC Column

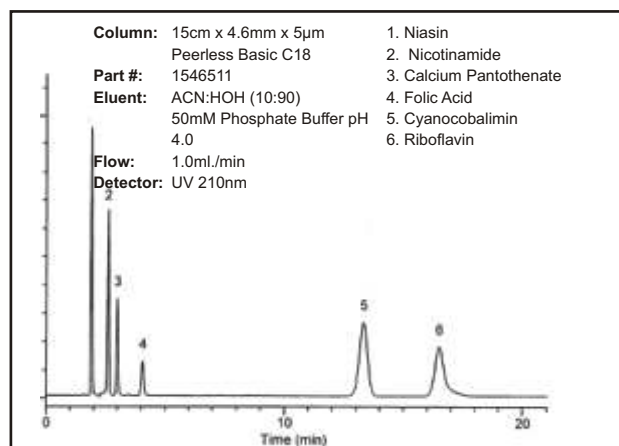
Analysis of Piperazine



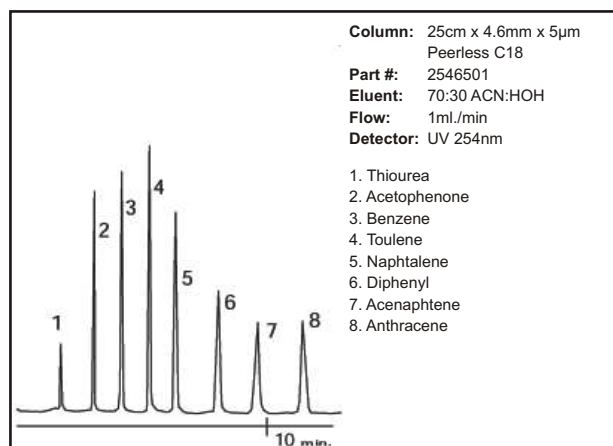
Analysis of Caffeine



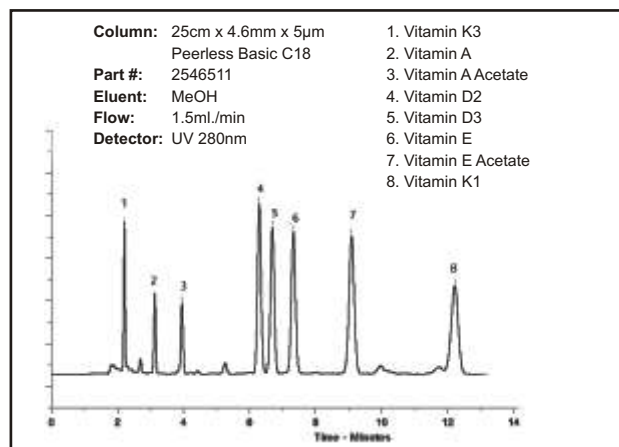
Analysis of Water Soluble Vitamins



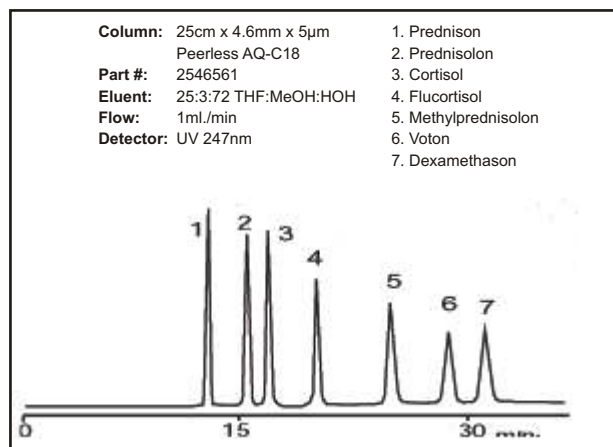
Analysis of Aromatic Compounds



Analysis of Fat Soluble Vitamins



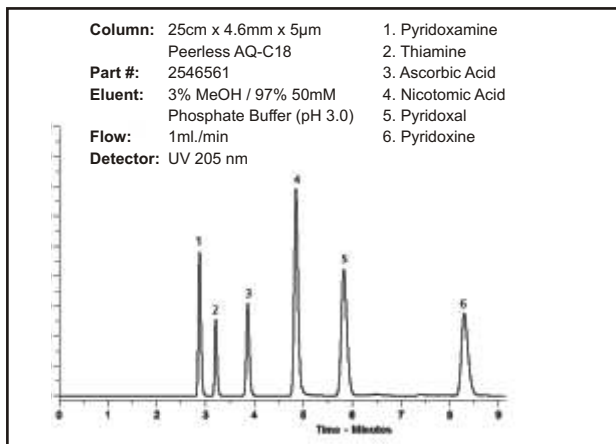
Analysis of Corticoides



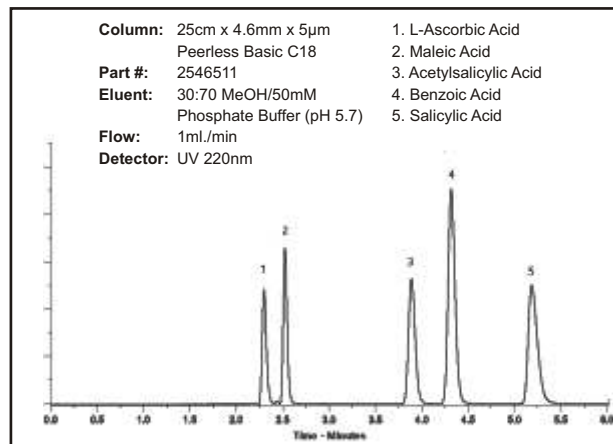
HPLC Columns

Applications on *Peerless*® HPLC Column

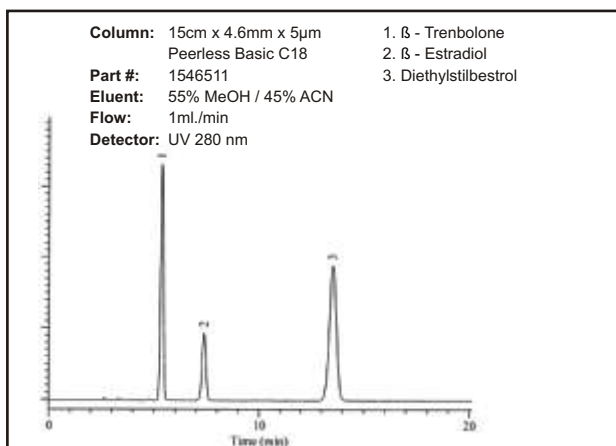
Analysis of Water Soluble Vitamins



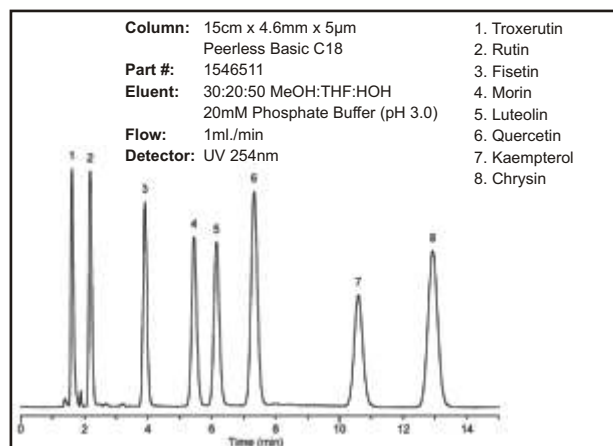
Analysis of Organic Acids



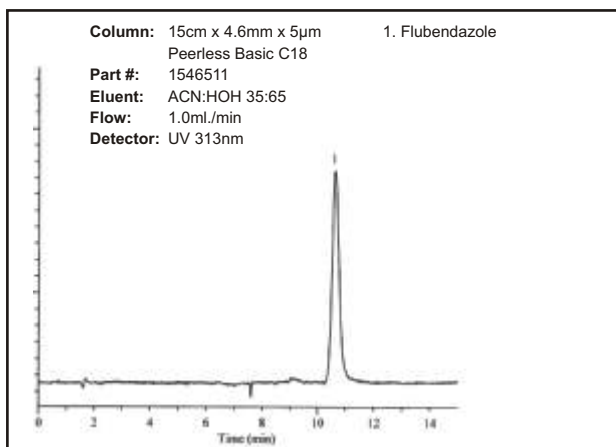
Analysis of Steroids



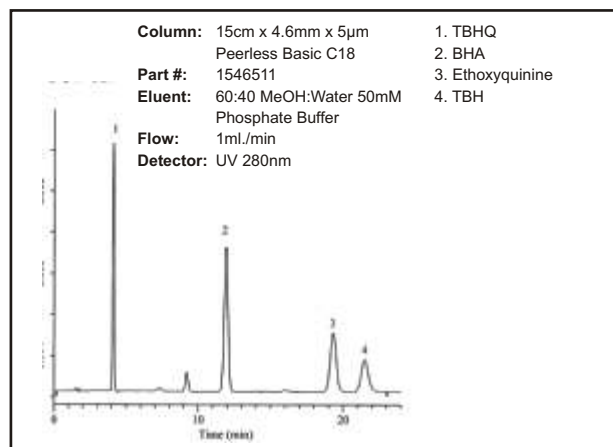
Analysis of Flavonoids



Analysis of Flubendazole



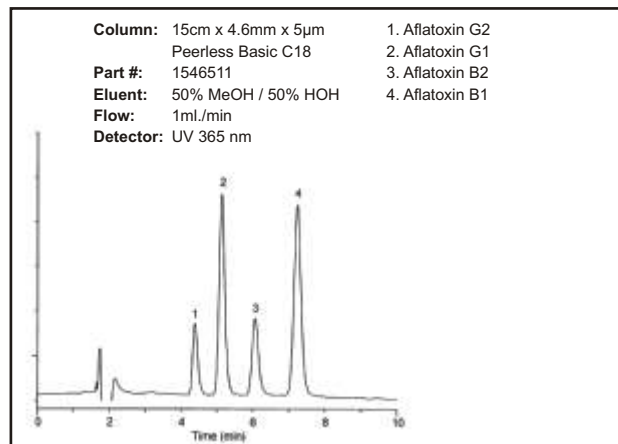
Analysis of Food Additives



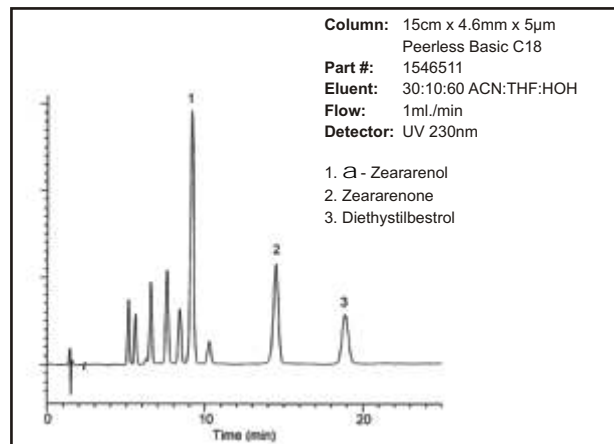
HPLC Columns

Applications on *Peerless*® HPLC Column

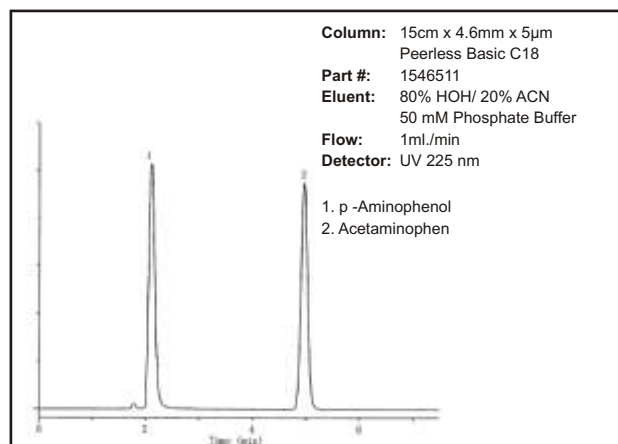
Analysis of Aflatoxin



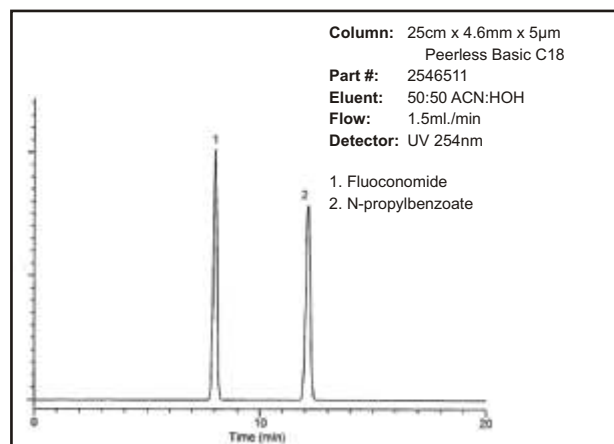
Analysis of Hormones



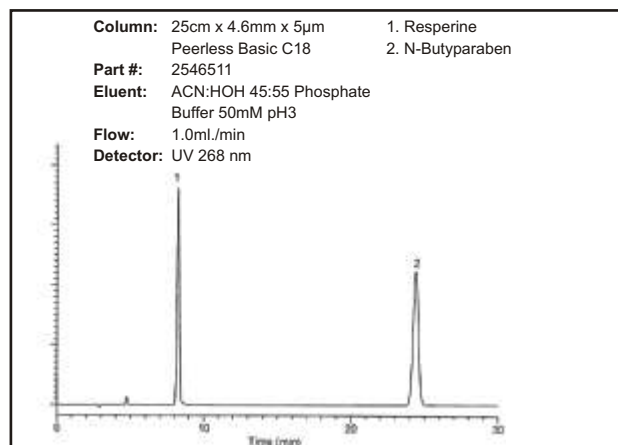
Analysis of Acetaminophen



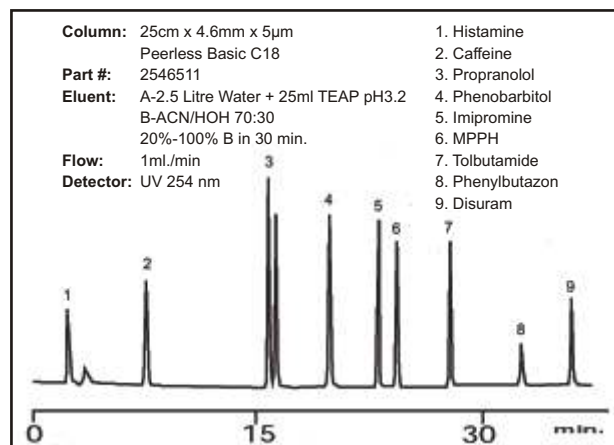
Analysis of Fluocinonide



Analysis of Reserpine



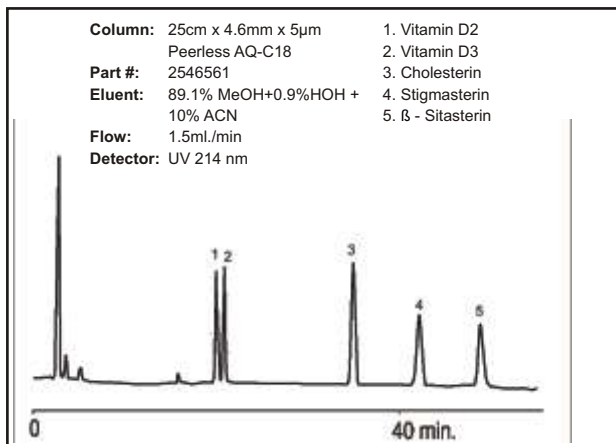
Analysis of Pharmaceutical Products



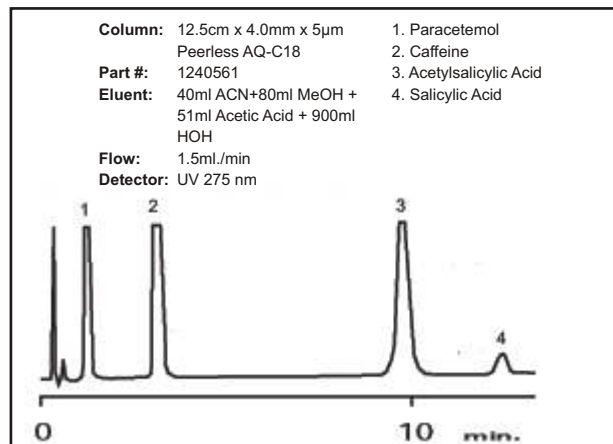
HPLC Columns

Applications on *Peerless*® HPLC Column

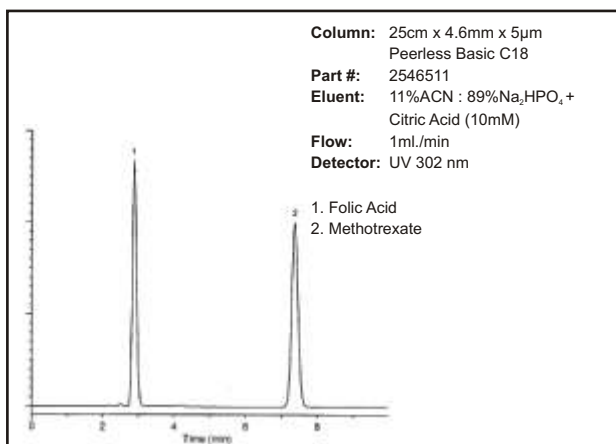
Analysis of Steroids



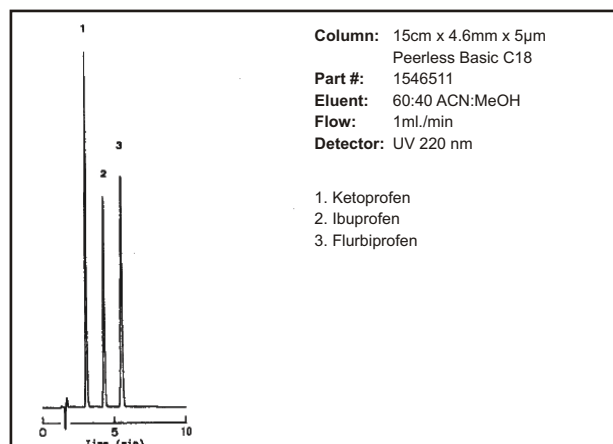
Analysis of Pharmaceutical Products



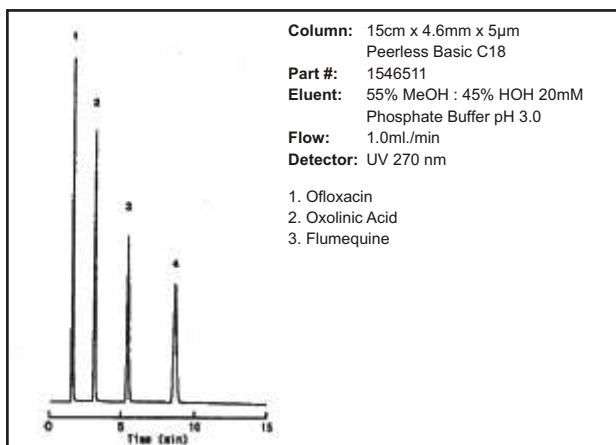
Analysis of Methotrexate



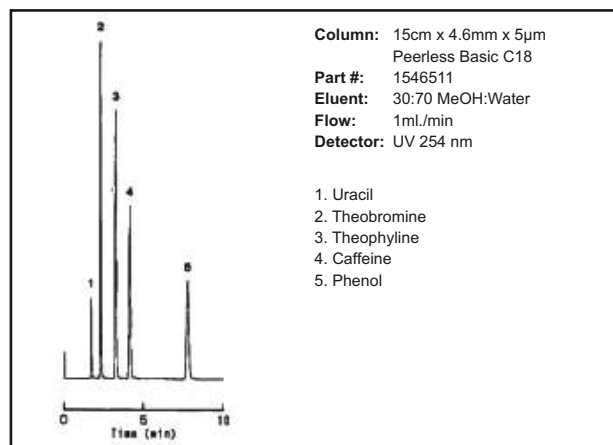
Analysis of Profens



Analysis of Antibacterials



Analysis of Bronchodilators



HPLC Columns

Ordering Information

1.8µm Columns For High Throughput, High Efficiency, High Sensitivity

Part No.	Range
0546201-HT	50mm x 4.6mm ID x 1.8µm Peerless HT-C18
1046201-HT	100mm x 4.6mm ID x 1.8µm Peerless HT-C18
0546202-HT	50mm x 4.6mm ID x 1.8µm Peerless HT-C8
1046202-HT	100mm x 4.6mm ID x 1.8µm Peerless HT-C8

Peerless Basic (Premium HPLC Column)

Part No.	Range
2546511	25cm x 4.6mm x 5µm Peerless Basic C18
1046511	10cm x 4.6mm x 5µm Peerless Basic C18
0546511	5cm x 4.6mm x 5µm Peerless Basic C18
1546311	15cm x 4.6mm x 3µm Peerless Basic C18
1046311	10cm x 4.6mm x 3µm Peerless Basic C18
0546311	5cm x 4.6mm x 3µm Peerless Basic C18
1546511	15cm x 4.6mm x 5µm Peerless Basic C18
0446311	3.3cm x 4.6mm x 3µm Peerless Basic C18
2546512	25cm x 4.6mm x 5µm Peerless Basic C8
1546512	15cm x 4.6mm x 5µm Peerless Basic C8
1046512	10cm x 4.6mm x 5µm Peerless Basic C8
0546512	5cm x 4.6mm x 5µm Peerless Basic C8
1546312	15cm x 4.6mm x 3µm Peerless Basic C8
1046312	10cm x 4.6mm x 3µm Peerless Basic C8
0546312	5cm x 4.6mm x 3µm Peerless Basic C8

Peerless LC (Deactivated For Bases)

Part No.	Range
2546521	25cm x 4.6mm x 5µm Peerless LC-C18
1546521	15cm x 4.6mm x 5µm Peerless LC-C18
1046521	10cm x 4.6mm x 5µm Peerless LC-C18
0546521	5cm x 4.6mm x 5µm Peerless LC-C18
1546321	15cm x 4.6mm x 3µm Peerless LC-C18
1046321	10cm x 4.6mm x 3µm Peerless LC-C18
0546321	5cm x 4.6mm x 3µm Peerless LC-C18
2546522	25cm x 4.6mm x 5µm Peerless LC-C8
1546522	15cm x 4.6mm x 5µm Peerless LC-C8
1046522	10cm x 4.6mm x 5µm Peerless LC-C8
0546522	5cm x 4.6mm x 5µm Peerless LC-C8
1546322	15cm x 4.6mm x 3µm Peerless LC-C8
1046322	10cm x 4.6mm x 3µm Peerless LC-C8
0546322	5cm x 4.6mm x 3µm Peerless LC-C8
2546525	25cm x 4.6mm x 5µm Peerless LC-Phenyl
1546525	15cm x 4.6mm x 5µm Peerless LC-Phenyl
1046525	10cm x 4.6mm x 5µm Peerless LC-Phenyl
0546525	5cm x 4.6mm x 5µm Peerless LC-Phenyl
1546325	15cm x 4.6mm x 3µm Peerless LC-Phenyl
1046325	10cm x 4.6mm x 3µm Peerless LC-Phenyl
0546325	5cm x 4.6mm x 3µm Peerless LC-Phenyl

Peerless 120 Columns

Part No.	Range
2546571	250mm x 4.6mm ID x 5µm Peerless 120-C18
1546571	150mm x 4.6mm ID x 5µm Peerless 120-C18
1046571	100mm x 4.6mm ID x 5µm Peerless 120-C18
2546572	250mm x 4.6mm ID x 5µm Peerless 120-C8
1546572	150mm x 4.6mm ID x 5µm Peerless 120-C8
1046572	100mm x 4.6mm ID x 5µm Peerless 120-C8

Peerless

Part No.	Range
2546500	25cm x 4.6mm x 5µm Peerless Silica
1546500	15cm x 4.6mm x 5µm Peerless Silica
1046500	10cm x 4.6mm x 5µm Peerless Silica
0546500	5cm x 4.6mm x 5µm Peerless Silica
1546300	15cm x 4.6mm x 3µm Peerless Silica
1046300	10cm x 4.6mm x 3µm Peerless Silica
0546300	5cm x 4.6mm x 3µm Peerless Silica
2546501	25cm x 4.6mm x 5µm Peerless C18
1546501	15cm x 4.6mm x 5µm Peerless C18
1046501	10cm x 4.6mm x 5µm Peerless C18
0546501	5cm x 4.6mm x 5µm Peerless C18
1546301	15cm x 4.6mm x 3µm Peerless C18
1046301	10cm x 4.6mm x 3µm Peerless C18
0546301	5cm x 4.6mm x 3µm Peerless C18
0446301	3.3cm x 4.6mm x 3µm Peerless C18
2546502	25cm x 4.6mm x 5µm Peerless C8
1546502	15cm x 4.6mm x 5µm Peerless C8
1046502	10cm x 4.6mm x 5µm Peerless C8
0546502	5cm x 4.6mm x 5µm Peerless C8
1546302	15cm x 4.6mm x 3µm Peerless C8
1046302	10cm x 4.6mm x 3µm Peerless C8
0546302	5cm x 4.6mm x 3µm Peerless C8
2546503	125cm x 4.6mm x 5µm Peerless C4
1546503	15cm x 4.6mm x 5µm Peerless C4
1046503	10cm x 4.6mm x 5µm Peerless C4
0546503	5cm x 4.6mm x 5µm Peerless C4
2546504	25cm x 4.6mm x 5µm Peerless CN
1546504	15cm x 4.6mm x 5µm Peerless CN
1046504	10cm x 4.6mm x 5µm Peerless CN
0546504	5cm x 4.6mm x 5µm Peerless CN
2546505	25cm x 4.6mm x 5µm Peerless Phenyl
1546505	15cm x 4.6mm x 5µm Peerless Phenyl
1046505	10cm x 4.6mm x 5µm Peerless Phenyl
0546505	5cm x 4.6mm x 5µm Peerless Phenyl
2546506	25cm x 4.6mm x 5µm Peerless Amino
1546506	15cm x 4.6mm x 5µm Peerless Amino
1046506	10cm x 4.6mm x 5µm Peerless Amino
0546506	5cm x 4.6mm x 5µm Peerless Amino
2546507	25cm x 4.6mm x 5µm Peerless Diol
1546507	15cm x 4.6mm x 5µm Peerless Diol
1046507	10cm x 4.6mm x 5µm Peerless Diol
0546507	5cm x 4.6mm x 5µm Peerless Diol

These columns are also offered in other geometries.
Please enquire with us for unlisted part numbers.

Your partner in chromatography...

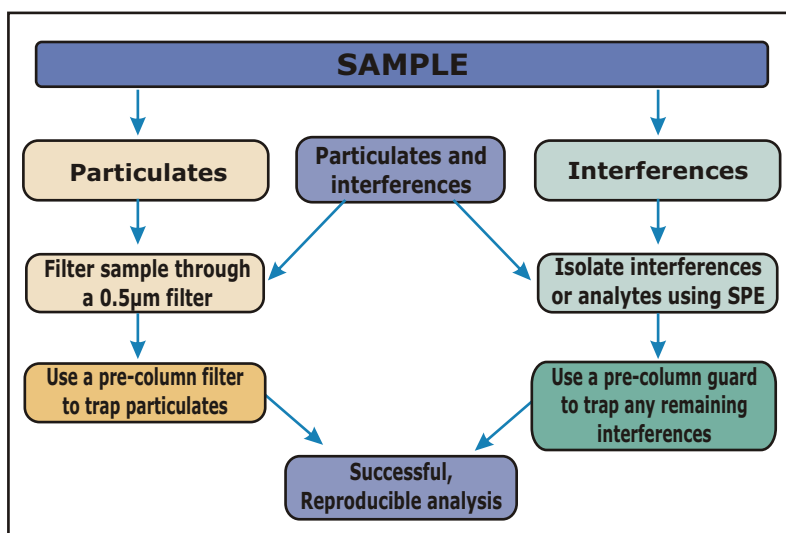
HPLC Columns Protection

Guards and Filters to Protect Your Analytical Column

To extend the lifetime and performance of your analytical and preparative columns, we recommend that they be protected from contamination by sample and solvent debris and interferences from the sample matrix. The most cost-effective and efficient way of trapping these unwanted system components is by use of filter or packed guards. Column performance should not be affected by adding a guard or filter unit to the HPLC system.

Drop-in Guard Cartridges

Drop-in guard cartridges and holders offer convenience, economy and effective protection for extending analytical column lifetimes. Drop-in guard cartridges are available in all popular stationary phases, as well as other phases. Once contaminated, they should be disposed of and replaced with a new cartridge rather than performing a clean up. This ensures that your analytical column will perform at its optimum level and remain free from contamination.



Inlet Solvent Filters



Guard Cartridge Column



Inline Filters



Gas Handling Solutions

Gas Purification & Control

The Chromatopak Economy Gas Station is a unit to control and purify N₂, H₂, Air, and He gases (as required) for subsequent use for Gas Chromatography. Each of the four gases has a designated powdercoated control panel for purification and control of the designated gas with specifications as under. The unit as a whole is wall-mountable.



Economy Gas Station

The Panel Designated As Nitrogen & Helium

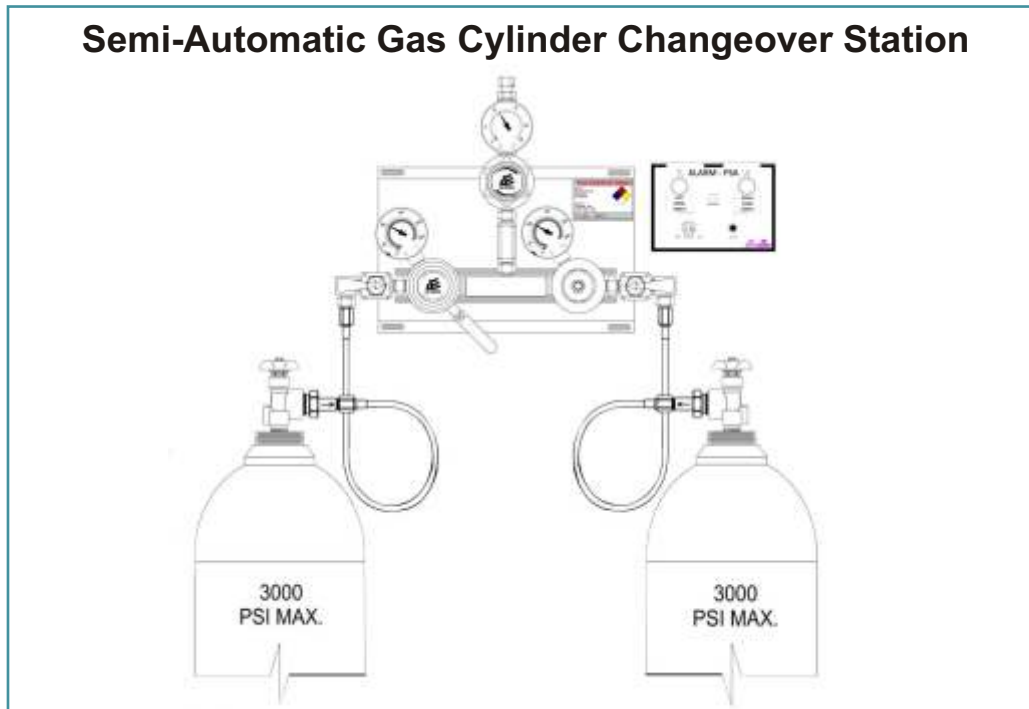
- Inlet toggle Valve (Brass) rated at 10 kg / cm²
- Inlet & Outlet Pressure Gauge (0-10 kg / cm²).
- Outlet Pressure Regulator with a locking arrangement (0-10 kg / cm²)
- Gas Filters (Capable of removing oxygen, moisture and hydrocarbons from N₂ / Helium).
 - Oxygen Trap (CRS USA, Make) (Oxygen removal Capacity 600 cc) capable of filtering out oxygen to a level of 15 ppb. Pressure Rating: 10kg / cm² MOC: Aluminium.
 - Moisture Trap: A combination of Indicating Silicagel and Molecular Sieve-for drying the gas (self - indicating). Pressure Rating : 10kg / cm² MOC: Acrylic
 - Hydrocarbon Trap: A Filter consisting of Activated carbon to adsorb traces of hydrocarbons present in the gas. Pressure Rating : 10kg / cm² MOC: Acrylic
- Polycarbonate Filter Shield.
- 1/8" Inlet / Outlet Fitting.
- Wall - Mountable, Powder - Coated Enclosure
- Dimensions: H: 500 x W175 mm
- Weight: 3.5 kg.

Panel Designated As Air And Hydrogen

- Inlet toggle Valve (Brass) rated at 10 kg / cm².
- Inlet & Outlet Pressure Gauge (0-10 kg / cm²).
- Outlet Pressure Regulator with a locking arrangement (0-10 kg / cm²)
- Gas Filters (Capable of removing moisture and hydrocarbons from the gas).
 - Moisture Trap: A combination of Indicating Silicagel and Molecular Sieve - for drying the gas in acrylic tube (self - Indicating type) Pressure Rating: 10kg / cm² MOC: Acrylic
 - Hydrocarbon Trap: A Filter consisting of Activated carbon to adsorb traces of hydrocarbons present in the gas. Pressure Rating: 10kg / cm² MOC: Acrylic
- Polycarbonate Filter Shield.
- 1/8" Inlet / Outlet Fitting.
- Wall - Mountable - Powder - Coated Enclosure.
- Dimensions: H: 500 x W 175mm.
- Weight: 3.25kg.

Your partner in chromatography...

Gas Handling Solutions



Accessories



Your partner in chromatography...

Laboratory Gas Generator

Combined Nitrogen-Air Generator

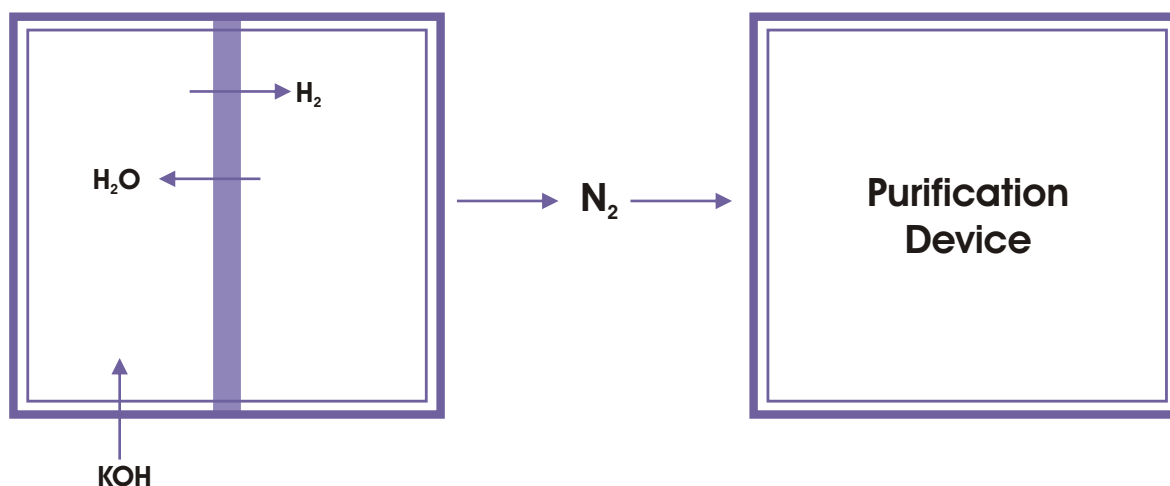
Peerless

www.chromatopak.com

The *Peerless* Nitrogen-Air Generator produces nitrogen gas simply and cost-effectively from compressed air. It is designed to meet the purity and pressure requirements of GC/GC-MS instruments.

Atmospheric air which is a mixture of mainly Nitrogen and Oxygen, is pumped into the Generator by a built-in air compressor. This air is then passed into a catalytic chamber where in the presence of PCAN carrier and noble metal catalyst it gets ionized. The ionized air is then fed into an electrolytic bath where water is being disassociated into hydrogen and oxygen ions (see Figure 1). The hydrogen ions combine with the oxygen present in the air to form water thus effectively separating the oxygen from the air to provide almost oxygen-free (<5ppm O₂) nitrogen. The alkali KOH is used to neutralize traces of CO, CO₂ that may be present in the air. The moisture-laden nitrogen is passed through a desiccant to deliver ultra-pure nitrogen at a constant pressure. The advantages of this unique technology is that the process is simpler than the existing PSA technology, higher purity levels are achieved, less air loss and higher recovery.

The compressed Air is further purified to yield high purity Air for use as a fuel gas for GC detector.



Features

- Nitrogen Purity: 99.9995% (Oxygen < 5ppm)
- Unique Technology
- Built-in Air Compressor
- Noise Level < 35 db
- Compact, Light Weight Design
- CE Certification

Benefits

- Replaces Nitrogen & Air Gas Cylinder
- Convenience...Gas on demand
- Consistent Purity
- Safe...Very low volume stored at a max 5kgs/cm²

Models	Flowrate cc/min		Pressure	Voltage Vac	Electrical Consumption	Dimension (mm)			Weight kg
	N ₂	Air				A	B	C	
NA-300	300	2000	5 kg/cm ²	220	275W	470	250	380	30
NA-500	500	2000	5 kg/cm ²	220	275W	470	250	380	30

Your partner in chromatography...

Laboratory Gas Generator

Hydrogen Generator

The *Peerless* Hydrogen Generator produces a continuous flow of ultra-pure hydrogen gas reliably and cost-effectively for subsequent use as a carrier gas/fuel gas in Gas Chromatography. Utilising a patented SPE (Solid Polymer Electrolyte) technology to split water into its components by electrolysis, the generator is backed by almost 18 years of research. Hydrogen is only generated on demand and is stored at low GC operating pressures making it a safe proposition for laboratories. Three models are available with flow rates ranging from 150 ml/min to 500 ml/min.

Features

- Hydrogen Purity: 99.999%
- SPE Technology...No Alkali
- Overpressure Alarm and Cut-Off
- Water Level Alarm
- Compact, Light Weight Design
- CE Certification

Benefits

- Replaces Hydrogen Gas Cylinder
- Convenience...Gas on demand
- Consistent Purity
- Safe...Very low volume stored at a max 4kgs/cm²
- Environmental Friendly..No alkali used, no internal corrosion and pollution



Models	Flowrate cc/min	Pressure	Voltage Vac	Electrical Consumption	Dimension (mm)			Weight kg
					A	B	C	
QL-150	150	5 kg/cm ²	220	90W	431	228	343	13
QL-300	300	5 kg/cm ²	220	150W	431	228	343	13
QL-500	500	5 kg/cm ²	220	200W	431	228	343	13

Air Generator

The *Peerless* Air Generator produces a continuous flow of purified air from the built-in air compressor. The gas is filtered by two Activated Carbon traps. This gas is good for use as a fuel gas in GC/FID.



Features

- Built-in Air Compressor
- Noise Level <35 db
- Compact, Light Weight Design
- CE Certification

Benefits

- Replaces Air Gas Cylinder
- Convenience...Gas on demand
- Consistent Purity
- Safe...Very low volume stored at a max 5kgs/cm²

Models	Flowrate cc/min	Pressure	Voltage Vac	Electrical Consumption	Dimension (mm)			Weight kg
					A	B	C	
SPB-20	2000	5 kg/cm ²	220	175W	420	250	350	20
SPB-50	5000	5 kg/cm ²	220	275W	420	250	350	20

Your partner in chromatography...

Fluid Handling Solutions



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High Pressure Fittings

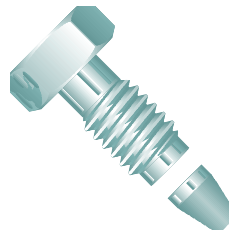
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Your partner in chromatography...

Water Purification Systems



www.adrona.lv

Crystal E Ultrapure Water Purification System

Crystal E Ultrapure systems produce ultrapure water with resistivity 18.2 MΩ*cm (conductivity 0.055 µS/cm). Water quality exceeds requirements of all the relevant standards (ISO3696 Grade 1, ASTM Type I, CLSI Type I). Purified water is collected in a storage tank. Recirculation system ensures consistent quality of water and low level of organic content (TOC). TOC is 5-10 ppb for "Trace" configuration and <2ppb for "HPLC" and "Bio" configurations.

All systems have graphic LCD display that assures clear indication of water quality and provides all the information about system status as well as pre-filter life. Crystal E has all necessary safety functions including tank filling control, tap water pressure control as well as protection from tank sensor failure. All cartridge and filter replacement can be done by the operator and no tools are required.

Running costs can be decreased even more by ordering an 8L deionisation module option.

The operator can dispense either high-quality ultrapure water (Grade 1) at flow rate of 2 L/min or pure water (Grade 2). Crystal E allows quick and convenient dispensing of pure water directly from storage tank. Pure water can be used for labware washing, wet chemistry methods, flame spectrometers, etc. Dispense flow rate of pure water is 4L/min.

Crystal E systems include:

- Boost pump
- Pre-filter
- RO module
- Deionisation module
- Polishing module
- 25L storage tank with integrated Grade 2 dispense pump
- Recirculation system
- Point-of-use final filter:
- 0.22 µm micfilter for Crystal E Trace and HPLC systems
- Ultrafilter for Crystal E Biosystems
- Photo-oxidation module for reduction of organics (HPLC and Bio configurations)
- UV sterilisation module (Bio configuration)



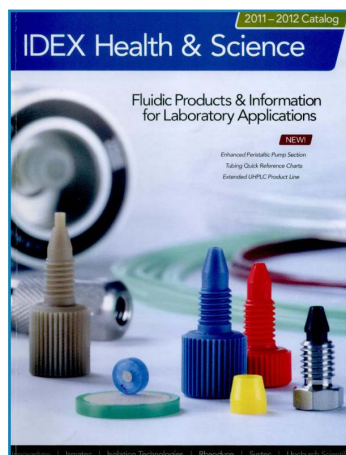
Applications

Application	Crystal E Trace	Crystal E HPLC	Crystal E Bio
Reagent Preparation	•	•	•
Ion Chromatography	•	•	•
ICP-MS	•	•	•
Atomic Absorption	•	•	•
ICP-OES	•	•	•
HPLC	-	•	•
Gas Chromatography	-	•	•
Total Organic Carbon	-	•	•
Flow Cytometry	-	-	•
Cell and Tissue Culture	-	-	•
Molecular Biology	-	-	•

Your partner in chromatography...

Resources

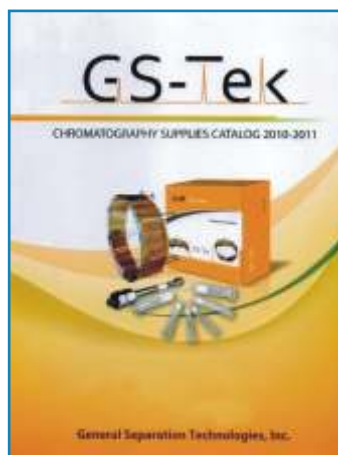
The following Catalogues / Brochures are available as technical literature resources on request.



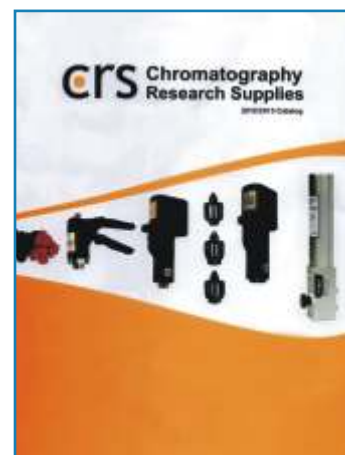
Upchurch Fluid Components Catalogue



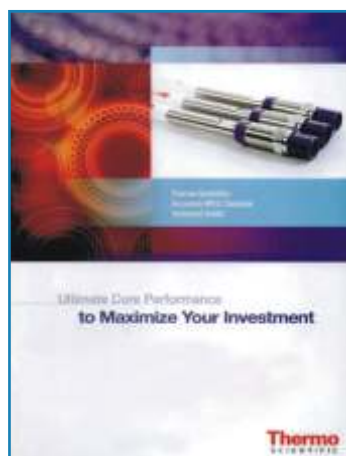
Thermo Chromatography Consumables Catalogue



GS-Tek GC Capillary Columns Catalogue



CRS GC Consumable Catalogue



Thermo Scientific Accucore HPLC Columns Catalogue



Thermo Scientific Hypersil GOLD HPLC Columns Catalogue



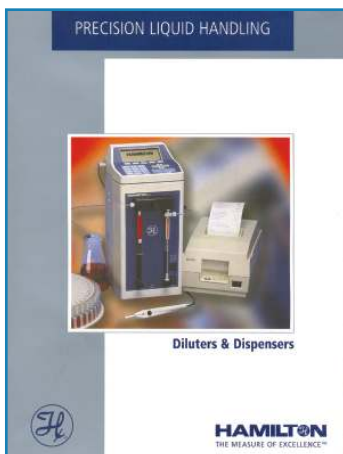
HPLC Analysis of Biomolecules Technical Guide



Thermo Scientific SOLA SPE Brochure



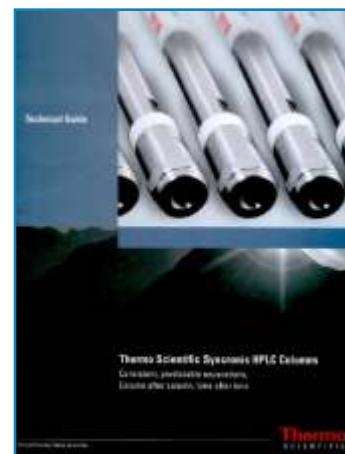
Hamilton HPLC Column Brochure



Hamilton Diluters & Dispensers Brochure



Cosmosil HPLC Columns Brochure

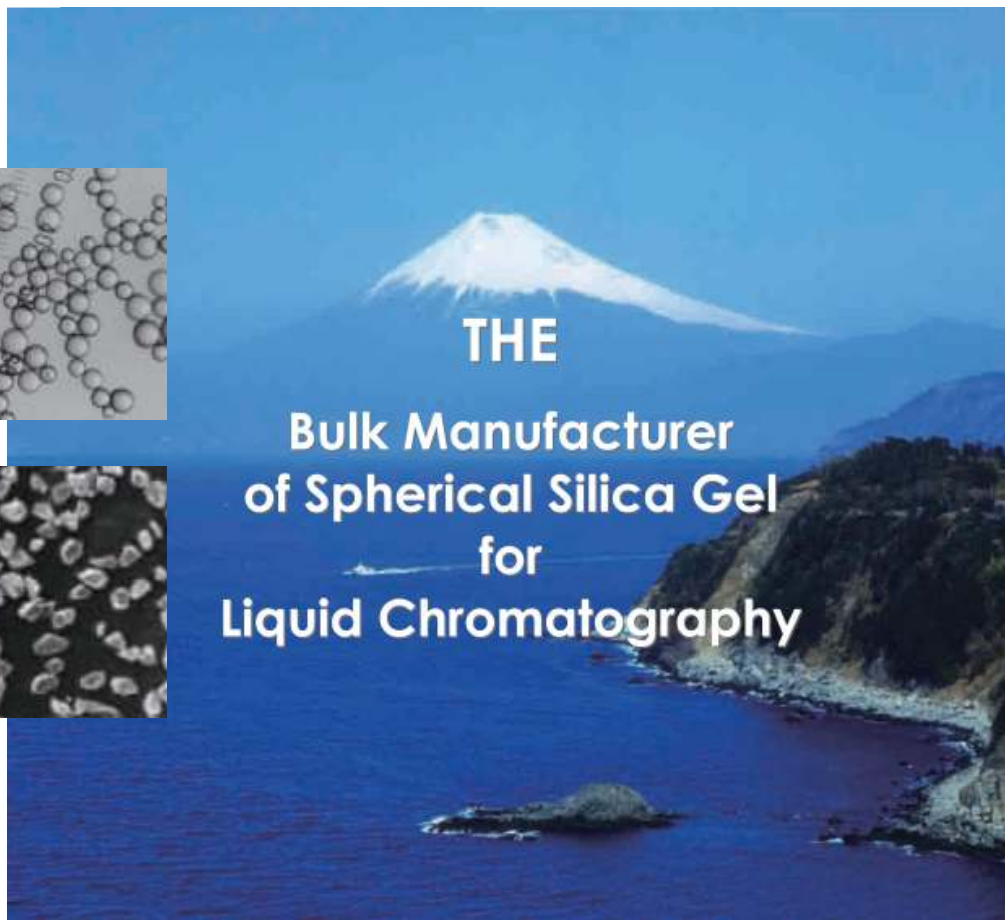
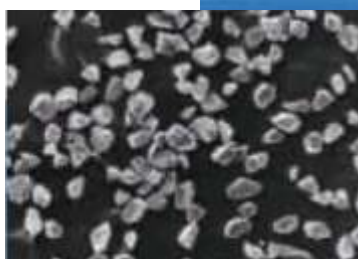


Thermo Scientific Synchronis HPLC Columns Catalogue

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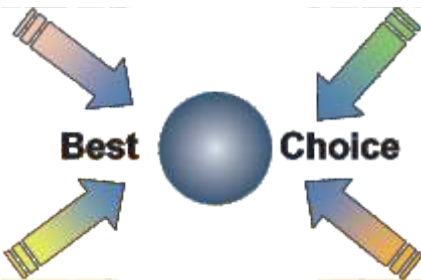
- 7 nm
- 10 nm
- 15 nm
- 20 nm
- 30 nm
- 50 nm
- 80 nm
- 100 nm

Average Particle Size

- Analytical HPLC:
3 & 5 μm
- Preparative HPLC:
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- Flash and Industrial
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200/500 μm

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- C18A31, C8A31, C4A31
- NH, CN, Diol
- Phenyl
- COOH, SO₃H
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