

VERIFY. QUANTIFY. SIMPLIFY.

The Flexar SQ 300 MS

Ideal for a variety of analyses, this single quadrupole detector brings the unsurpassed sample insight of mass spectrometry to liquid chromatography applications. The Flexar SQ 300 MS™ is an integral part of the powerful and flexible Flexar LC product line. It features a revolutionary interchangeable probe and unique multi-stage ion path for exceptional sensitivity.

Measuring has never been easier with the Flexar SQ 300 MS. It provides the simplest route to exactly the information you need — quickly. As part of the Flexar LC platform, labs can expect exceptional chromatography coupled with an innovative rugged single quadrupole mass spectrometer that offers:

- Exceptional front-end chromatographic separation capabilities
- Flexible, modular components to suit any LC/MS analytical need
- The widest selection of operating pressures to address throughput needs

The Flexar SQ 300 MS has three ion source options that allow you to specifically address your analytical needs:

- Ultraspray™ Electro spray Interface (ESI)
- Dual-probe Ultraspray2™ ESI
- Atmospheric Pressure Chemical ionization (APCI)

Powered by the PerkinElmer Chromera® software, instrument control and data acquisition are faster and easier than ever.

Flexar SQ 300 MS

Description	Part No.
Flexar SQ 300 MS	N2910801
Flexar SQ 300 MS with Diverter Valve	N2910800



Spare Probe Assemblies / Dielectric Capillary

Description	Part No.
ESI Probe and Capillary Entrance Cone Kit	MZ300503
Capillary Entrance Cone	MZ105094
ESI Probe	MZ109197
Dielectric Capillary	MZ105057-60180
Quartz Tube for APCI	MZ109004
Corona Needle for APCI	MZ301193

Calibration solutions are required for instrument installation and for routine operations.

Calibration Solutions

Description	Part No.
Calibration Mix LC/MS (+) ION Mix	MZ301198
Calibration Mix LC/MS (-) ION Mix	MZ301199

Test Kits

Description	Part No.
SQ300 Installation Performance Test Kit	MZ300061
SQ300 Customer Performance Test Kit	MZ300085
SQ300 ESI Positive and Negative Test Kit	MZ300096

Spare Syringes and Needles (for Syringe Pump)

Description	Part No.
Hamilton 500uL Gas Tight Syringe (No Needle)	09220120
Hamilton Replacement 6-pack of Needles	09220122



Sound Reducing Pump Box

This pump is made from noise adsorbing material, which is oil and water resistant.

- Average 12 dB sound level decrease at 1.5 meters (by comparison: decreasing sound by 10 dB results in a 50% sound reduction).
- Heat exchange is controlled by two internal silent fans guaranteeing efficient air circulation (about 200 m³/h).
- No tools needed to access the pump compartment making routine maintenance and oil change easy to be performed.

Description	Part No.
Sound Reducing Pump Box	MZ301123

LCMS Filtration System

High Capacity Hydrocarbon Trap

- Contains 750 cc of preconditioned activated charcoal.
- Stainless steel body. ¼" brass compression fittings with ferrules for installation.
- Maximum pressure 200 psi.
- Recommended flow rate up to 2 L per minute.
- Will remove hydrocarbon impurities (50 ppm or less) from inert gases, nitrogen and hydrogen at room temperature to low ppb range.
- Capacity of 67 g of hydrocarbons C5 and heavier.
- 10 µ stainless steel porous frits protect gas stream from particulates.
- Individually helium leak tested. Shipped filled with helium.



Description	Part No.
LCMS Filtration System	N9301208

Custom Benches

Description	Part No.
120V Bench with Ventilated, Sound Dampened Pump Enclosure	N2911197
120V Bench with Monitor/Keyboard Arm, Side Shelf and Ventilated, Sound Dampened Pump Enclosure	N2911196
230V Bench with Ventilated, Sound Dampened Pump Enclosure	N2911199
230V Bench with Monitor/Keyboard Arm, Side Shelf and Ventilated, Sound Dampened Pump Enclosure	N2911198
Roughing Pump Box with Acoustically Insulated Pump Enclosure	N8141230
Uninterrupted Power Supply (UPS)	N0777511

Certified LC Clean Easy-to-Order Convenience Kits

Description	Pkg	Part No.
Certified LC Clean Non-slit Cap/Vial Convenience Kit		N9300707
9 mm 2 mL Screw Top Clear Vial	100	
9 mm Blue Screw Top Cap with Clear Non-slit PTFE/Silicone (LC Clean)	100	
Certified LC Clean Pre-slit Cap/Clear Vial Convenience Kit		N9300708
9 mm 2 mL Screw Top Clear Vial with 9 mm Gray Screw Top Cap	100	
9 mm Gray Screw Top Cap with Clear Pre-slit PTFE/Silicone (LC Clean)	100	
Certified LC Clean Non-slit CapAmber Vial Convenience Kit		N9300719
9 mm 2 mL Screw Top Amber Vial	100	
9 mm Blue Screw Top Cap with Clear Non-slit PTFE/Silicone (LC Clean)	100	
Certified LC Clean Pre-Slit Cap/Amber Vial Convenience Kit		N9300720
9 mm 2 mL Screw Top Amber Vial	100	
9 mm Gray Screw Top Cap with Clear Pre-slit PTFE/Silicone (LC Clean)	100	

LCMS Caps

Description	Pkg	Part No.
9 mm Screw Cap Blue PTFE (Natural)/Silicone (White) Ultra-low Bleed, Non-slit	100	N9306362
9 mm Screw Cap Blue PTFE (Natural)/Silicone (White) Ultra-low Bleed, Non-slit	1,000	N9306363
9 mm Screw Cap Blue PTFE (Natural)/Silicone (white) Ultra-low Bleed, Slit	100	N9306364
9 mm Screw Cap Blue PTFE (Natural)/Silicone (white) Ultra-low Bleed, Slit	1,000	N9306365

NEW



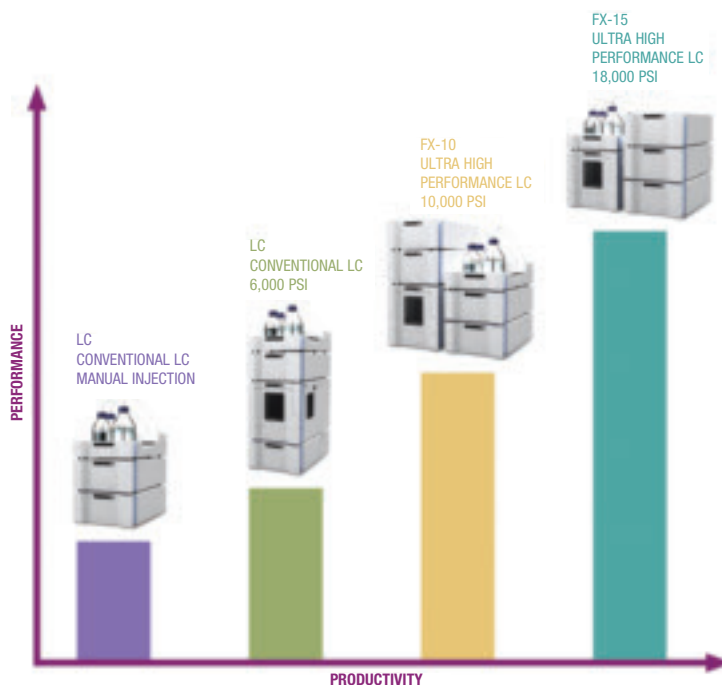
POWER AND FLEXIBILITY IN UHPLC

NEW FLEXAR™ UHPLC SYSTEM FROM PERKINELMER

With Flexar UHPLC, you'll be able to transfer your existing methods to achieve faster, more predictable results while reducing your solvent consumption by up to 90%. The FX-15's patented, dual reciprocating, 18,000 psi pump offers the widest operating range with exceptional compositional accuracy and retention time repeatability. The value and performance of the FX-10 microbinary pump offers minimal disruption in your method development phase and analytical approach so you can easily port your existing methods. And with the powerfully easy new Chromera® software, instrument control is taken to a whole new level. Performance, flexibility and predictability — Flexar.

Benefits of Flexar UHPLC

- Improved separation efficiency
- Up to 90% reduction in solvent consumption — saving you money
- Up to 10x productivity gains — helping you do more in less time



Flexar UHPLC Systems

Description	Part No.
Flexar FX-10 UHPLC Platform	NFLR0210
Flexar FX-10 UHPLC Pump	N2910640
Flexar FX-10 UHP Pump Master	N2910641
"Flexar Bottle Manager, 3-channel Vacuum Degassing" Tubing Kit	N2600581

Flexar UHPLC Systems

Description	Part No.
Flexar FX-15 UHPLC Platform	NFLR0215
Flexar FX-15 UHPLC Pump	N2910531
"Flexar Bottle Manager, 3-channel Vacuum Degassing" Tubing Kit	N2600581

High Pressure Analytical Static Mixers

Static Mixers are important in facilitating complete mobile phase blending, resulting in improved retention performance. These mixers should be used as part of FX10, or FX15 LC systems, where high pressure blending is required. Mixers incorporate a highly efficient cross-flow shearing mechanism which produces vortex shear mixing over a wide range of volumes. They are now offered in 18,000 psi pressure max flavor.

A good first choice selection is a volume of about half the flow rate volume. For example, when pumping at a 0.5 mL/min flow rate, a 350 µL mixer provides good mixing with very good baseline stability.

Description	Part No.
50 µL In-Line High Pressure Mixer Assembly, SS	N2911200
150 µL In-Line High Pressure Mixer Assembly, SS	N2911201
250 µL In-Line High Pressure Mixer Assembly, SS	N2911202
350 µL In-Line High Pressure Mixer Assembly, SS	N2911205
500 µL In-Line High Pressure Mixer Assembly, SS	N2911203
150 µL High Pressure Binary High Pressure Mixing-T, SS	N2911206
10 µL Binary Mixing-T, SS	N2911170
Binary High Pressure T-Mixer, SS, 50 µL	N2911212
Binary High Pressure T-Mixer, SS, 350 µL	N2911210
Binary High Pressure T-Mixer, SS, 500 µL	N2911211
T-connector, SS	N2911127

Syringes and Kits

PerkinElmer syringe kits for high pressure applications are manufactured for precise liquid delivery. All of these glass syringes come with precision stainless steel plungers. They are used for sampling and flushing and are available in a large variety of sizes.

Syringes

Description	Part No.
Sample Needle w/Fittings	N2936009
Air Guide Needle (62 mm)	N2936000
Bio Compatible Sample Needle w/Tubing Connector	N2936010
Needle (80 mm)	N2936342

Syringe Kits

Dimension	Buffer Tubing	Part No.
100 µL	200 µL	N2936051
250 µL	500 µL	N2936052
500 µL	1,000 µL	N2936053
1,000 µL	2,000 µL	N2936054
2,500 µL	2,000 µL	N2936055

FX-15 UHPLC Pump Accessories

Description	Part No.
Replacement 0.5 µm Filter Frits for FX-15 (4-pack)	N2911224
High Pressure FX-15 Piston Seal Kit (Need 4 per FX-15)	N2911221
Piston Wash Bottle Kit	N2601616
2,500 µL Sample Syringe Starting Kit	N2930313

FX-10 and FX-15 UHPLC System Accessories

Description	Color	Size	Part No.
ID PEEK Tubing			
0.004"	Black	50 cm	N2916200
0.005"	Red	50 cm	N2916056
0.004"	Black	76 cm	N2916260
0.005"	Red	66 cm	N2916262
Connector Tubing, Stainless Steel			
Flexar ISO/Binary/Quaternary Pump to Autosampler			N2916210
Dual Mixer Connection (≤ 250 µL)			N2916216
Dual Mixer Connection (≥350 µL)			N2916217
FX-10 Pump A (Upper) to T-mixer			N2916213
FX-10 Pump B (Lower) to T-mixer			N2916214
FX-10 Purge Valve to Filter/Scavenger			N2916212
FX-10 Injector to Column			N2916215
FX-10 Pump A (Upper) to Dual Mixers			N2916218
FX-10 Pump B (Lower) to Dual Mixers			N2916219
FX-15 Pump to In-line Mixer			N2916222
FX-15 Pump to Dual Mixers			N2916224
FX-15 Injector to Column, Standard			N2916223
FX-15 Injector to Column, 33 cm			N2916201
3 cm Scavenger Cartridge Holder			02580178
Spheri5 Scavenger Columns (5-pack)			02580202
30 mL Priming Syringe			09904849
FX-15 C18 Scavenger Column Kit			N2910765
FX-15 C18 Scavenger Columns (2/pkg)			02580223

Microsyringes (For Manual Injection)

Syringes are used for accurate and precise liquid delivery. Each syringe is hand-fitted to assure maximum accuracy. Our syringes are composed of glass barrels and precision stainless steel needles. The needle features a blunt tip, required for use with a Rheodyne injector.

Description	Part No.
10 µL Syringe	09904937
25 µL Syringe	09904823
50 µL Syringe	09904941
100 µL Syringe	09904822
Rheodyne 22-gauge Blunt Needle with Luer Hub	09904943

INJECT WITH GREATER PRECISION

Flexar Autosamplers

Best-in-class cycle time. Wide injection volume range. Excellent injection reproducibility. Precisely what you need to increase your sample throughput and efficiency.

Features and Benefits

- Injects sample volumes as little as 1 μL at pressures up to 18,000 psi with the FX UHPLC Autosampler
- Loads sample in only 8 seconds (in partial fill mode)
- Three injection modes: full loop, partial fill and μL -pickup with no sample waste
- Peltier cooling/heating mode option for operation at 4 °C to 40 °C. Will reach 4 °C \pm 2 °C, achievable even at ambient temperatures up to 25 °C.

All Flexar autosamplers can be upgraded in the field for Peltier cooling and heating. All Flexar autosamplers include:

- 100-sample tray
- 100 2 mL vials
- 100 2 mL screw top cap with cross slit vial septum
- Tubing to connect to waste reservoir
- I/O cable (Pump Start/Ready-In)
- Service Manager SW CD
- User's Manual
- Nuts and ferrules
- All fuses for 120–240 V
- All cables required for connection to a TotalChrom or Chromera Operating Environment



Flexar or Series 225/275 Autosampler Trays and Accessories

Description	Part No.
25-Position 6 mL Vial Sample Tray	N2936045
80-Position 2 mL Vial plus (5) 6 mL Vial Tray (for derivatization)	N2936046
80-Position 2 mL Vial Tray with Dilution Tray	N2930676
96-well Microtiter Adapter	N9302562
96-well 'Deep-well' Microtiter Adapter	N9302560
96-well 7 mm Pre-slit Silicone Plate Mat/Seal	N9302555
96-well 'Deep' Microtiter Plate Adaptor (Supports Dual Microtiter Plates)	N2936048
96-well 'Shallow' Microtiter Plate Adaptor (Supports Dual Microtiter Plates)	N2936049
384-well Microtiter Adapter	N2936050
100-Position 2 mL Vial Sample Tray	N2936042
(200) 0.2 mL Microvial plus (5) 2 mL Vial Tray	N2936043
250 μL Syringe Tip Replacements (10/pkg)	N2936003
Flexar/225 Biocompatible Upgrade Kit (w/valve)	N2930675
1/16" OD x 0.038" ID Teflon Tubing (AS Transfer Line)	02506495

Flexar Autosamplers and Upgrade Kits

Description	Part No.
Flexar LC Autosampler High throughput autosampler with exceptionally low carryover. Operates up to 6,100 psi (420 bar). Provides flexible injection modes: full-loop, partial-fill and μL -Pickup (no sample waste). Peltier cooling and heating options available as field upgrades. Comes standard with 100 μL loop and 250 μL sample flush syringe.	N2930660
Flexar Peltier LC Autosampler High throughput autosampler with exceptionally low carryover. Operates up to 6,100 psi (420 bar). Provides flexible injection modes: full-loop, partial-fill and μL -Pickup (no sample waste). Built-in Peltier cooling comes standard. Peltier heating option available as field upgrade. Comes standard with 100 μL loop and 250 μL sample flush syringe.	N2930661
Flexar FX UHPLC Autosampler High throughput UHPLC autosampler with exceptionally low carryover. Operates up to 18,000 psi (1,241 bar). Provides flexible injection modes: full-loop, partial-fill and μL -Pickup (no sample waste). Built-in Peltier cooling comes standard. Peltier heating option available as field upgrade. Comes standard with 10 μL loop and 250 μL sample flush syringe.	N2930664
Field Upgrade Peltier Kits	
Flexar and Series 225 Upgrade Kit (from standard to Peltier Cooling option)	N2930672
Flexar and Series 225 Upgrade Kit (from standard to Peltier Cooling and Heating option)	N2930673
Flexar and Series 225 Upgrade Kit (from Peltier Cooling to Peltier Cooling and Heating option)	N2930669

CHROMERA[®] CHROMATOGRAPHY DATA SYSTEM

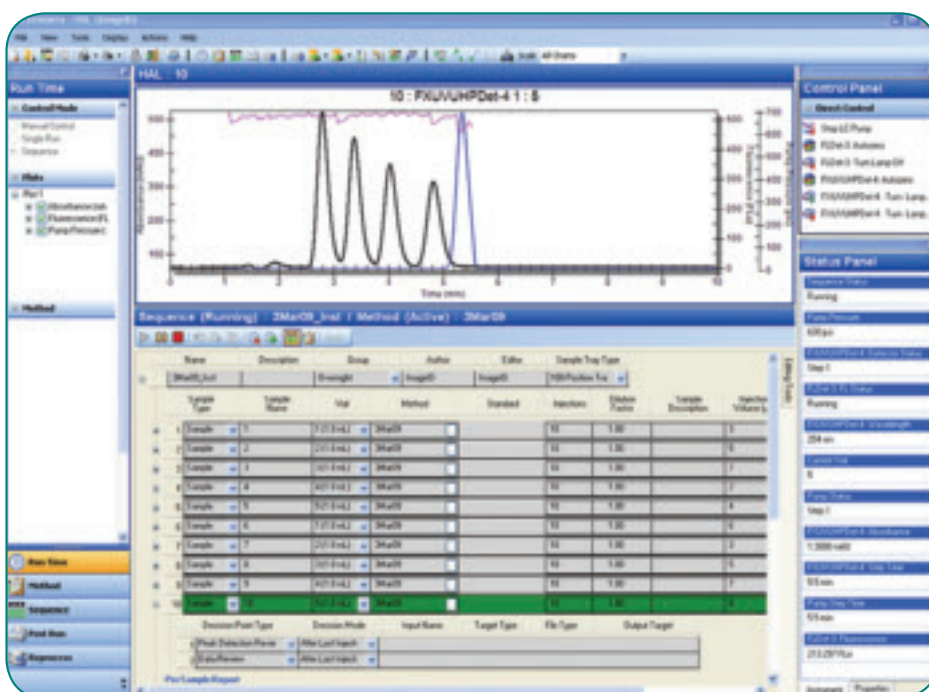
NEW



THE POWERFULLY EASY CDS

One click and you'll see: CDS doesn't get any easier than Chromera. Combining intuitive ease of use with powerful functionality and configurability, Chromera delivers the most streamlined way to get from the analysis you need to the information your enterprise demands. It's powerfully easy.

Information-rich Desktop offers instrument control at-a-glance



Features and Benefits

Powerful

- Instrument Control: NEW patented "Device Descriptors" control instruments. No channels limitation, trackable instrument status
- Designed for UHPLC: interactive graphical methods optimization environment with immediate feedback; ability to overlay pressure profile run after run. Extend runtime of chromatogram in real time
- Graphics: Multichannel graphics for multiple signal channel monitoring (including system status channels to get 'the pulse of the system' real-time)
- Feedback: Instrument-at-a-glance status panel provides real-time feedback of complete LC system
- Batch Sequencing: all the functions for setting up and reviewing a sequence and results are within a single environment

Easy

- Shallow footprint GUI: Most functions only one or two clicks away, using familiar Microsoft™ Outlook user interface
- Simple and obvious method editor: a single-point access to all instrument parameters, regardless of how complex the instrument configuration; Convenient tools for point-and-click method optimization
- Intuitive Sequence Wizard: Create complex sample tables easily; Convenient auto-fill and other editing functions; Decision Points for real-time and post-processing data evaluation
- Peak Integration Wizard: Makes integration process easy and straight forward
- Report Wizard: allows creating numerous styles of reports and printouts using the same tool

LC VIALS, CAPS AND SEPTA KITS

PerkinElmer Supplies – Tested and Approved

We have expanded our product selection to include additional vial types, new version caps and mating septa in a kit format for easier customer ordering. The following pages contain both current and new product information. Tested to meet your application requirements and guaranteed for fit and compatibility.

LC Vials, Caps and Septa Kits

PerkinElmer offers a variety of vials, caps and septa to fulfill your application needs. Our screw thread vial caps use the revolutionary Inter-Seal®. Using a process that bonds silicone/PTFE and other elastomeric compounds directly into thermoplastic closures eliminates liner fallout, while still providing the excellent resealability and multiple injection capability. No adhesives are used in this process, bonding the cap and septa at the molecular level of plastic and rubber. These septa have a very broad chemical resistance and can be used in many markets including: environmental, diagnostic packaging, pharmaceutical packaging, cosmetic and food packaging.

2.0 mL Glass Vials*

Description	Pkg.	Part No.
2 mL 11 mm Clear Glass Crimp Vials	100	N9301385
2 mL 11 mm Clear Crimp Wide Opening Vials with Write-On Patch and Fill Lines	100	N9306223
2 mL 11 mm Amber Glass Crimp Vials	100	N9302680
2 mL 11 mm Amber Crimp Wide Opening Vials with Write-On Patch and Fill Lines	100	N9302679
2 mL 11 mm Clear Snap Top Vial	100	N9303418
2 mL 11 mm Clear Snap Wide Opening Vials with Write-On Patch and Fill Lines	100	N9306207
2 mL 11 mm Amber Snap Wide Opening Vials with Write-On Patch and Fill Lines	100	N9306208
2 mL 8 mm Screw Top Clear Glass Vials	100	N9302945
2 mL 9 mm Clear Screw Top Vials	100	N9306201
2 mL 9 mm Screw Top Amber Vials	100	N9306220
2 mL 9 mm Clear Screw Top Vial with Write-On Patch and Fill Lines	100	N9307801
2 mL 9 mm Screw Top Amber Vials with Write-On Patch and Fill Lines	100	N9307802
2 mL 10 mm Clear Glass Screw Top Vials with Write-On Label and Fill Lines	100	N9306053
2 mL 10 mm Amber Glass Screw Top Vials with Write-On Label and Fill Lines	100	N9306057



2.0 mL Caps and Septa*

Description	Pkg.	Part No.
11 mm Snap Cap Polyethylene Cross-cut Slit (no Septum)	1,000	04978532
11 mm Snap Cap Polyethylene Single Slit (no Septum)	1,000	N9307023
8 mm Black Screw Caps (without septa)	100	N9303441
8 mm SEPTA-PTFE Red Rubber No CAP (for Cap N9303441)	100	N9303442
8 mm Screw Cap PTFE/Silicone Septa	100	N9303449
9 mm PTFE/Silicone Screw Cap Blue	100	N9306202
10 mm PTFE/Red Rubber Screw Cap Black	100	N9306206
10 mm PTFE/Silicone Single Slit Screw Cap Black	100	N9306052
10 mm PTFE/Silicone No Slit Screw Cap Black	100	N9306205
11 mm Crimp Green Aluminum Cap w/Teflon® Rubber Septa	100	N9302684
11 mm Crimp Red Aluminum Cap w/Teflon® Rubber Septa	100	N9302685
11 mm Crimp Blue Aluminum Cap w/Teflon® Rubber Septa	100	N9302686
11 mm Crimp Silver Aluminum Cap w/Teflon® Rubber Septa	100	N9306015
11 mm Crimp Silver Red Rubber	100	N9306230
11 mm Crimp Silver PTFE/Silicone	100	N9306228
11 mm Crimp Silver PTFE/Silicone/PTFE	100	N9306229

* Also see Convenience Kits for additional vials and caps, sold separately.

0.2 mL Micro Vials, Caps and Septa

Description	Pkg.	Part No.
Caps/Septa		
8 mm Silver Aluminum Crimp Cap PTFE/Rubber	1,000	03300806
PTFE/Pre-Slit White Silicone Polyethylene Press-On Cross-Slit Cap for 8 mm Vials	1,000	N9302141
Crimp Top Vials		
Glass Microvials, Tapered, 0.2 mL, 8 mm o.d. Top**	500	N9302136
Autosampler Vial Sleeve		
12 x 32 Glass Vial Support Sleeve for 2 mL 8 mm Micro Vials (N9302136)	25	N9307027
Micro Vial Kit		
Polyethylene Includes 300 µL Tapered Vial, Blue Polypropylene Cap with Bonded Silicone/PTFE Septa	500	N9306080

** To be used with Glass Vial Support Sleeve (N9307027).

UHPLC – General Starter Kit

Description	Part No.
UHPLC – General Starter Kit	N2930801

Contents	Qty/Pack	Part No.
Open-End Wrench	2	09907233
Adjustable Wrench	1	N9301326
Reversible Screw Driver	1	N9301480
Parker-Hannifin ZDV SS Union	1	09903289
Parker-Hannifin Medium-Stem SS Nuts	10	09903980
1/16" Parker-Hannifin SS Ferrules	10	00873032
1/16" Valco SS Ferrules	6	09903891
Finger-Tight Fittings, PEEK, 5.5K psi Max. (5/pk)	1	N9307822
Optimize Technologies EZP (Hand-Tight Fitting to 13K psi, Wrench-tight to 20K psi)	1	N9306301
1/16" Tefzel Nuts	2	09920381
1/16" Tefzel Reverse Ferrules	2	09920382
1/8" Tefzel Nuts	4	N2601189
1/8" Tefzel Reverse Ferrules	4	09903771
PEEK Tubing Cutter (Includes 5 Extra Blades)	1	N9307820
50 cm x 0.005" ID 1/16" SS Tubing	3	02507060
5' x 0.004" ID 1/16" PEEK Tubing, Black	1	N2916261
5' x 0.005" ID 1/16" PEEK Tubing, Red	1	N2916262
30 mL Priming Syringe	1	09904849
2 mL Clear Write-On Vials w/10 mm Pre-Slit PTFE/Silicone Caps; 100/pk	1	N9300695
Cable/Tubing Organizer Clip	3	NX598006

HPLC – General Starter Kit

Description	Part No.
HPLC – General Starter Kit	N2930802

Contents	Qty/Pack	Part No.
Open-End Wrench	2	09907233
Adjustable Wrench	1	N9301326
Reversible Screw Driver	1	N9301480
Parker-Hannifin ZDV SS Union	1	09903289
Parker-Hannifin Medium-Stem SS Nut	10	09903980
1/16" Parker-Hannifin SS Ferrule	10	00873032
1/16" Valco SS Ferrules	6	09903891
Rheodyne SS Nut, Short Stem	2	09904956
Rheodyne SS Nut, Long Stem	2	09904974
1/16" Rheodyne SS Ferrule	4	09904947
1/16" Tefzel Nuts	2	09920381
1/16" Tefzel Reverse Ferrules	2	09920382
1/8" Tefzel Nuts	4	N2601189
1/8" Tefzel Reverse Ferrules	4	09903771
Finger-Tight Fittings, PEEK, 4K psi Max.	6	09920513
PEEK Tubing Cutter (Includes 5 Extra Blades)	1	N9307820
50 cm x 0.005" ID 1/16" SS Tubing	1	02507060

Contents	Qty/Pack	Part No.
50 cm x 0.007" ID 1/16" SS Tubing	2	00891480
5' x 0.007" ID 1/16" PEEK Tubing, Yellowish-Tan	1	N9302650
5' x 0.005" ID 1/16" PEEK Tubing, Red	1	N2916262
30 mL Priming Syringe	1	09904849
2 mL clear write-on vials w/10 mm Pre-Slit PTFE/Silicone Caps; 100/pk	1	N9300695
Cable/Tubing Organizer Clip	3	NX598006



Autosampler Vial Glass Inserts

Description	Pkg.	Part No.
Vial Glass Inserts:		
6 mm x 29 mm Clear Glass Insert, Rimless Pulled Point with Bottom Spring, 250 µL Usable Volume	100	N9300703
6 mm x 31 mm Clear Glass Flat Bottom Insert, 400 µL Usable Volume	100	N9300704
Use with: 10 mm 2 mL Amber Screw Top Vial w/White "P" Icon w/Patch		N9306057
10 mm 2 mL Clear Screw Top Vial w/White "P" Icon w/Patch		N9306053
11 mm Clear Large Opening Snap Ring Vial w/Black "P" Icon		N9303418
11 mm Clear Large Opening Crimp Vial w/Black "P" Icon		N9306231
9 mm 2 mL Amber Screw Top Vial w/Black "P" Icon		N9306220
9 mm 2 mL Clear Screw Top Vial w/Black "P" Icon		N9306201
5 mm x 29 mm Clear Glass Insert, Rimless Pulled Point with Bottom Spring, 150 µL Usable Volume	100	N9300705
5 mm x 31 mm Clear Glass Flat Bottom Insert, 200 µL Usable Volume	100	N9300706
Use with: 11 mm Standard Amber Crimp Vial w/Black "P" Icon		N9302680
11 mm Standard Clear Crimp Vial w/Black "P" Icon		N9301385
8 mm 2 mL Clear Screw Top Vial w/Black "P" Icon		N9302945

6 mL Vials and Caps

6 mL Glass Large-Volume Vials with 20 mm o.d. Top	125	N9302134
Polyethylene Press-On Slit Caps/Septa or 20 mm o.d. Top Vials	25	N2936083

Micro Vial Kit and Polypropylene Vial/Cap Kits

Description	Pkg.	Part No.
Polyethylene Micro Vial Kit – Pkg/500 Includes: 300 µL Tapered Screw Top Vials (Pkg/500) Blue Polypropylene 9 mm Caps w/Bonded Silicone/PTFE Septa (Pkg/500)	500	N9306080
1.5 mL Polypropylene Screw Top Amber Vial With Fill Lines, Teflon®/Silicone Septa and Cap With Single Slit	100	N9301735
1.5 mL Polypropylene Screw Top Clear Vial With Fill Lines, Teflon®/Silicone Septa and Cap With Single Slit	100	N9301736

EASY-TO-ORDER CONVENIENCE KITS

Certified LC Clean™ Kits (Vials and Caps/Septa sold separately.)

NEW

Description	Pkg.	Part No.
Certified LC Clean™ Non-Slit Cap/Vial Convenience Kit (Pkg. of 100) 9 mm 2 mL Screw Top Clear Vial with 9 mm Blue Screw Top Cap Clear Non-Slit PTFE/Silicone (LC Clean™)	100	N9300707
Certified LC Clean™ Pre-Slit Cap/Vial Convenience Kit (Pkg. of 100) 9 mm 2 mL Screw Top Clear Vial with 9 mm Gray Screw Top Cap Clear Pre-Slit PTFE/Silicone (LC Clean™)	100	N9300708
NEW Certified LC Clean™ Non-Slit Cap/Vial Convenience Kit (Pkg. of 100) 9 mm 2 mL Screw Top Amber Vial with 9 mm Blue Screw Top Cap Clear Non-Slit PTFE/Silicone (LC Clean™)	100	N9300719
NEW Certified LC Clean™ Pre-Slit Cap/Vial Convenience Kit (Pkg. of 100) 9 mm 2 mL Screw Top Amber Vial with 9 mm Gray Screw Top Cap Clear Pre-Slit PTFE/Silicone (LC Clean™)	100	N9300720

Convenience Kits (Vials and Caps/Septa sold separately.)

Description	Pkg.	Part No.
9 mm Pre-Slit PTFE/Silicone Screw Cap Convenience Kit (Pkg. of 100)		N9300701
9 mm Pre-Slit PTFE/Silicone Screw Cap Assembly (Pkg. of 100)	1	N9306203
9 mm 2 mL Clear Screw Vial Kit (Pkg. of 100)	1	N9306201
9 mm Red Rubber/Screw Cap Convenience Kit (Pkg. of 100)		N9300699
9 mm Red Rubber/Screw Cap Assembly (Pkg. of 100)	1	N9306200
9 mm Clear 2 mL Vial Kit (Pkg. of 100)	1	N9306201
9 mm PTFE/Silicone Screw Cap Convenience Kit (Pkg. of 100)		N9300700
9 mm PTFE/Silicone Screw Cap Assembly (Pkg. of 100)	1	N9306202
9 mm Clear 2 mL Vial Kit (Pkg. of 100)	1	N9306201
11 mm Pre-Slit PTFE/Silicone Snap Convenience Kit (Pkg. of 100)		N9300697
11 mm Pre-Slit PTFE/Silicone Snap Cap Assembly (Pkg. of 100)	1	N9303416
11 mm 2 mL Clear Snap Vial Kit (Pkg. of 100)	1	N9303418
11 mm PTFE/Silicone/PTFE Snap Convenience Kit (Pkg. of 100)		N9300698
11 mm PTFE/Silicone/PTFE Clear Snap Cap Assembly (Pkg. of 100)	1	N9303417
11 mm 2 mL Clear Snap Vial Kit (Pkg. of 100)	1	N9303418
10 mm Clear Pre-Slit PTFE/Silicone Screw Cap Convenience Kit (Pkg. of 100)		N9300695
10 mm Pre-Slit PTFE/Silicone Screw Cap Assembly (Pkg. of 100)	1	N9306052
10 mm 2 mL Clear Screw Vials with Write-On Patch and Fill Lines (Pkg. of 100)	1	N9306053
10 mm Amber Pre-Slit PTFE/Silicone Screw Cap Convenience Kit (Pkg. of 100)		N9300696
10 mm Pre-Slit PTFE/Silicone Screw Cap Assembly (Pkg. of 100)	1	N9306052
10 mm 2 mL Amber Screw Top Vials with Write-On Patch and Fill Lines (Pkg. of 100)	1	N9306057
11 mm PTFE/Silicone Snap Convenience Kit (Pkg. of 100)		N9300702
11 mm PTFE/Silicone Snap Cap Assembly (Pkg. of 100)	1	N9303419
11 mm 2 mL Clear Snap Vial Kit (Pkg. of 100)	1	N9303418
11 mm Red Rubber Crimp Convenience Kit (Pkg. of 100)		N9300502
11 mm Red Rubber/Silver Crimp Assembly (Pkg. of 100)	1	N9306230
11 mm 2 mL Clear Vial Kit (Pkg. of 100)	1	N9306231
11 mm Red Rubber Crimp Convenience Kit (Pkg. of 500)		N9300503
11 mm Red Rubber/Silver Crimp Assembly (Pkg. of 100)	5	N9306230
11 mm 2 mL Clear Vial Kit (Pkg. of 100)	5	N9306231
11 mm PTFE/Silicone Crimp Convenience Kit (Pkg. of 100)		N9300500
11 mm PTFE/Silicone Crimp Assembly (Pkg. of 100)	1	N9306228
11 mm 2 mL Clear Vial Kit (Pkg. of 100)	1	N9306231
11 mm PTFE/Silicone/PTFE Crimp Convenience Kit (Pkg. of 100)		N9300501
11 mm PTFE/Silicone/PTFE Crimp Assembly (Pkg. of 100)	1	N9306229
11 mm 2 mL Clear Vial Kit (Pkg. of 100)	1	N9306231

SYRINGE FILTERS, DISPOSABLE SYRINGES, MICRO-VIALS, BOTTLE KITS



Vials with Fused Glass Sample Inserts

Description	Pkg	Part No.
2 mL 11 mm Large Opening Crimp Top Clear 0.3 mL Insert	100	N9300709
2 mL 11 mm Large Opening Crimp Top Amber 0.3 mL Insert	100	N9300710
2 mL 11 mm Large Opening Snap Top Ring Clear 0.3 mL Insert	100	N9300711
2 mL 11 mm Large Opening Snap Top Ring Amber 0.3 mL Insert	100	N9300712
2 mL 8 mm Screw Top Clear 0.1 mL Insert	100	N9300713
2 mL 8 mm Amber Screw Top 0.1 mL Insert	100	N9300714
2 mL 9 mm Large Opening Screw Top Clear 0.3 mL Insert	100	N9300715
2 mL 9 mm Large Opening Screw Top Amber 0.3 mL Insert	100	N9300716
2 mL 10 mm Large Opening Screw Top Clear 0.3 mL Insert	100	N9300717
2 mL 10 mm Large Opening Screw Amber 0.3 mL Insert	100	N9300718

Liquid Chromatography Laboratory Bottle Kits

Description	Part No.
1x5L Bottle with Cap and Teflon Insert, 2m PTFE 1/8" Tubing and 1x10um SS Solvent Frit	N2601610
1x2L Bottle with Cap and Teflon Insert, 1m PTFE 1/8" Tubing and 1x10um SS Solvent Frit	N2601611
1x1 L Bottle with Cap and Teflon Insert, 1m PTFE 1/8" Tubing and 1x10um SS Solvent Frit	N2601612
1x0.5L Bottle with Cap and Teflon Insert, 1m PTFE 1/16" Tubing and 1x40um SS Solvent Frit	N2601613
1 Cap with Teflon Insert, 1m PTFE 1/8" Tubing and 1x10um SS Solvent Frit	N2601614
1 Cap with Teflon Insert, 1m PTFE 1/16" Tubing and 1x40um SS Solvent Frit	N2601615
1x0.5L Bottle with Cap and Dual Teflon Insert, 2 pcs of 1m PTFE 1/8" Tubing (Piston Wash Function)	N2601616
1 Cap with Dual Teflon Insert, 2 pcs of 1 m PTFE 1/8" Tubing and 1x10um SS Solvent Frit (Piston Wash Function)	N2601617

Disposable Syringes

Description	Part No.
Disposable Syringes, Luer-Lock Tips, 1 mL (100PK)	02542890
Disposable Syringes, Luer-Lock Tips, 3 mL (200PK)	02542891
Disposable Syringes, Luer-Lock Tips, 5 mL (100PK)	02542892
Disposable Syringes, Luer-Lock Tips, 10 mL (100PK)	02542893

Syringe Filters

Size	Color	Pkg	Part No.
Nylon			
0.22 µm, 4 mm	Clear	200	02542900
0.45 µm, 4 mm	Clear	200	02542901
0.22 µm, 13 mm	Purple	100	02542902
0.45 µm, 13 mm	Purple	100	02542903
0.22 µm, 17 mm	Yellow	100	02542881
0.45 µm, 17 mm	Yellow	100	02542880
0.22 µm, 25 mm	Purple	100	02542904
0.45 µm, 25 mm	Purple	100	02542905
0.22 µm, 30 mm	Yellow	100	02542883
0.45 µm, 30 mm	Yellow	100	02542882
PTFE (Hydrophobic)			
0.22 µm, 4 mm	Clear	200	02542906
0.45 µm, 4 mm	Clear	200	02542907
0.22 µm, 13 mm	Red	100	02542908
0.45 µm, 13 mm	Red	100	02542909
0.22 µm, 17 mm	Red	100	02542884
0.45 µm, 17 mm	Red	100	02542910
0.22 µm, 25 mm	Red	100	02542911
0.45 µm, 25 mm	Red	100	02542912
0.22 µm, 30 mm	Red	100	02542886
0.45 µm, 30 mm	Red	100	02542885
PVDF			
0.22 µm, 4 mm	Clear	200	02542913
0.45 µm, 4 mm	Clear	200	02542914
0.22 µm, 13 mm	Yellow	100	02542915
0.45 µm, 13 mm	Yellow	100	02542783
0.22 µm, 17 mm	Maroon	100	02542916
0.45 µm, 17 mm	Maroon	100	02542917
0.22 µm, 25 mm	Yellow	100	02542918
0.45 µm, 25 mm	Yellow	100	02542919
0.22 µm, 30 mm	Maroon	100	02542920
0.45 µm, 30 mm	Maroon	100	02542921
PTFE (Hydrophilic)			
0.22 µm, 4 mm	Clear	200	02542922
0.45 µm, 4 mm	Clear	200	02542923
0.22 µm, 13 mm	Red	100	02542924
0.45 µm, 13 mm	Red	100	02542925
0.22 µm, 25 mm	Red	100	02542926
0.45 µm, 25 mm	Red	100	02542927
0.22 µm, 30 mm	Red	100	02542928
0.45 µm, 30 mm	Red	100	02542929

SUPERIOR REPRODUCIBILITY SUPERIOR RESULTS

Supra-Clean and Supra-Poly SPE Solutions

Manufactured for guaranteed reproducibility and superior performance, this innovative line of SPE solutions includes the Supra-Clean® silica based and Supra-Poly® polymer based line of spherical media SPE cartridges and columns.

Both utilize Precise Bed Technology® allowing columns to be evenly and consistently filled with particles sized for optimum distribution. This homogeneous filling yields a +/- 1% variation in bed volume precision, ensuring you experience repeatability and optimized recovery reproducibility.

Ideal for a broad array of analytes and matrices, SPE solutions are available in a variety of formats including Large Reservoir Capacity (LRC) columns, Polypropylene (PP) columns and cartridges, and glass columns. Each technology is offered with a wide selection of polymer and silica sorbents, and large and small sample volumes (50µL-1L) allow you to perform scalable analyses depending upon your required detection limits.

Each finished product is delivered with an individual quality certificate.

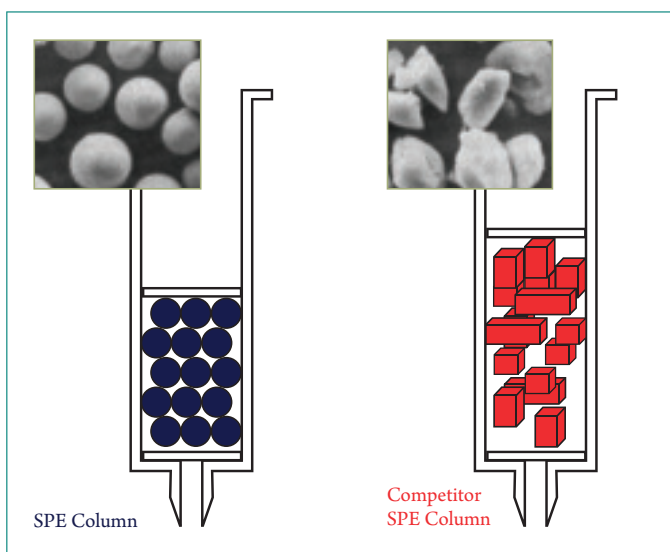


SPE Manifolds, Selection Kits and Application Packs

For greater method development simplicity and sample throughput, PerkinElmer offers a variety of pre-prepared column selection kits as well as application kits for you to choose from.

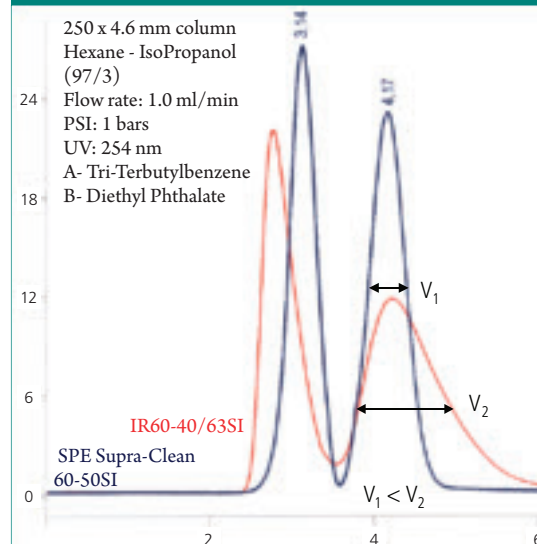
SPE Manifolds:

- Allow you to process up to 24 samples simultaneously
- Seamlessly integrate with columns to extend the system's performance and reproducibility
- Feature polypropylene or stainless steel needle valves and tips with minimum dead volume
- Rugged stopcocks are reusable and provide independent flow control



Spherical media and consistent particle distribution enable smaller elution volumes and better, more reproducible extraction, purification, concentration and recovery.

Performance Comparison of PerkinElmer Spherical SPE Media vs. Leading Irregular SPE Silica.



PerkinElmer's smaller, more homogeneous, spherical media deliver sharper, narrower peaks for faster, more accurate sample analysis.

Manifolds, Selection Kits and Application Packs to Streamline Your Sample Preparation

For greater method development simplicity and sample throughput, PerkinElmer offers a variety of pre-prepared kits and column manifolds.

Features and Benefits

- Allow you to process up to 24 samples simultaneously
- Seamlessly integrate with columns to extend the system's performance and reproducibility
- Feature polypropylene or stainless steel needle valves and tips with minimum dead volume
- Rugged stopcocks are reusable and provide independent flow control

SPE Manifolds and Accessories

Description	Pkg	Part No.
Cover, Gasket, 12 Stopcocks	12	N9306621
Cover, Gasket, 24 Stopcocks	24	N9306628
Drying Attachment 12 Positions	12	N9306625
Drying Attachment 24 Positions	24	N9306632
Glass Chamber 12 Positions	12	N9306620
Glass Chamber 24 Positions	24	N9306627
Needles Polypropylene 12 Positions	12	N9306622
Needles Polypropylene 24 Positions	24	N9306629
Needles Stainless Steel 12 Positions	12	N9306623
Needles Stainless Steel 24 Positions	24	N9306630
Stopcocks 12 Positions	12	N9306624
Stopcocks 24 Positions	24	N9306631
Vacuum Manifold Complete Set 12 Positions	12	N9306619
Vacuum Manifold Complete Set 24 Positions	24	N9306626

SPE Selection Kits

Selection kits enable quick column selection for development of reproducible and repeatable SPE methods.

Description	Weight/Volume	Pkg	Part No.
Extraction of Acidic, Basic and Neutral Compounds from Aqueous or Organic Matrix	100mg/3mL	50	N9306602
Pre-Concentration of Hydrophobic Compounds from Aqueous Matrix	200mg/3mL	50	N9306595
Pre-Concentration of Hydrophobic Compounds from Aqueous Matrix	200mg/6mL	50	N9306594
Extraction of Hydrophobic Compounds from Aqueous Matrix	500mg/3mL	50	N9306597
Pre-Concentration of Hydrophilic Compounds	500mg/3mL	50	N9306599
Removal of Polar Compounds from Aqueous and Organic Matrix	500mg/3mL	50	N9306601
Extraction of Carboxylic Acids and Strong Bases from Aqueous Matrix	500mg/6mL	30	N9306603
Extraction of Hydrophobic Compounds from Aqueous Matrix	500mg/6mL	30	N9306596
Extraction of Weak Bases from Aqueous Matrix	500mg/6mL	30	N9306604
Pre-Concentration of Hydrophilic Compounds	500mg/6mL	30	N9306598
Removal of Polar Compounds from Aqueous and Organic Matrix	500mg/6mL	30	N9306600

SPE Application Packs

Ideal for extraction of known entities from a variety of matrices, our packs are expertly tailored to meet your application needs and are designed to support major EPA methods and applications.

Description	Weight/Volume	Pkg	Part No.
Extraction of PAH from Soil and Oil	1.5g/6mL	30	N9306609
Extraction of PAH from Soil and Oil (Glass Straight Column)	1.5g/6mL	30	N9306610
Extraction of PAH from Water Containing Humic Acids	1.5g/6mL	30	N9306608
Extraction of PCB from Oil	1g/3mL	50	N9306616
Extraction of Bisphenol A from Aqueous Matrix	1g/6mL	30	N9306613
Extraction of Oil and Grease from Aqueous Matrix-EPA 1664	1g/6mL	30	N9306611
Extraction of PCB from Oil	1g/6mL	30	N9306617
Extraction of SVOC from Water-EPA 525	1g/6mL	30	N9306618
Extraction of Basic Drugs from Biological Fluids	200mg/3mL	50	N9306605
Extraction of PAH from Water or Soil	4g/6mL	30	N9306606
Extraction of PAH from Water or Soil (Glass Straight Column)	4g/6mL	30	N9306607
Extraction of Oil and Grease from Aqueous Matrix-EPA 1664	500mg/3mL	50	N9306612
Extraction of Pesticides and Herbicides from Aqueous Matrix	500mg/6mL	30	N9306614
Extraction of Steroids from Biological Fluids	500mg/6mL	30	N9306615

SOLID PHASE EXTRACTION (SPE)

Complete Consistency. Complete Confidence.

Weight/Volume	Pkg	Part No.
SPE Supra-Clean Cyano (CN-S) Column		
500mg/3mL	50	N9306645
500mg/6mL	30	N9306644
SPE Supra-Clean Florisil (FL-S) Column		
1g/6mL	30	N9306413
200mg/3mL	50	N9306511
2g/15mL	20	N9306514
2g/25mL	20	N9306515
2g/6mL	20	N9306513
500mg/3mL	50	N9306512
500mg/6mL	30	N9306494
SPE Supra-Clean Florisil (FL-S) Pesticide Grade Column		
1g/6mL	30	N9306436
200mg/3mL	50	N9306516
2g/15mL	20	N9306443
2g/25mL	20	N9306447
2g/6mL	30	N9306470
500mg/3mL	50	N9306400
500mg/6mL	30	N9306517
SPE Supra-Clean Amino (NH₂-S) Column		
100mg/1mL	100	N9306410
100mg/3mL	50	N9306529
200mg/3mL	50	N9306530
500mg/3mL	50	N9306414
500mg/6mL	30	N9306531
50mg/1mL	50	N9306528
SPE Supra-Clean Polyamine (P6) Column		
500mg/3mL	50	N9306518
500mg/6mL	30	N9306434
SPE Supra-Clean Silica (SI-S) Column		
100mg/3mL	50	N9306532
1g/6mL	30	N9306404
200mg/3mL	50	N9306444
2g/15mL	20	N9306534
2g/25mL	20	N9306535
2g/6mL	20	N9306533
500mg/3mL	50	N9306402
500mg/6mL	30	N9306466
SPE Supra-Clean 300Å C4 Column		
100mg/1mL	100	N9306591
100mg/3mL	50	N9306592
200mg/3mL	50	N9306593
50mg/1mL	50	N9306590

Weight/Volume	Pkg	Part No.
SPE Supra-Clean C18 Column		
100mg/1mL	100	N9306478
100mg/3mL	50	N9306523
1g/6mL	30	N9306422
200mg/3mL	50	N9306462
2g/15mL	20	N9306479
2g/25mL	20	N9306475
2g/6mL	30	N9306430
500mg/3mL	50	N9306438
500mg/6mL	30	N9306448
50mg/1mL	50	N9306476
200mg/6mL	30	N9306634
500mg/6mL	30	N9306640*
500mg/3mL	50	N9306642*
SPE Supra-Clean LCC Column		
500mg/3mL	50	N9306643
500mg/6mL	30	N9306641
SPE Supra-Clean Phenyl (PH-S) Column		
100mg/1mL	100	N9306524
100mg/3mL	50	N9306525
1g/6mL	30	N9306527
200mg/3mL	50	N9306490
500mg/3mL	50	N9306421
500mg/6mL	30	N9306526
50mg/1mL	50	N9306401
SPE Supra-Clean REC18 Column (full accessible surface)		
100mg/1mL	100	N9306520
100mg/3mL	50	N9306455
1g/6mL	30	N9306491
200mg/3mL	50	N9306521
500mg/3mL	50	N9306522
500mg/6mL	30	N9306457
50mg/1mL	50	N9306519
200mg/1mL	30	N9306633
SPE Supra-Clean Strong Anion Exchange (SAX) Column		
100mg/1mL	100	N9306471
100mg/3mL	50	N9306554
200mg/3mL	50	N9306482
500mg/3mL	50	N9306555
500mg/6mL	30	N9306556
50mg/1mL	50	N9306553

* No end-capping

Weight/Volume	Pkg	Part No.
SPE Supra-Clean Strong Cation Exchange (SCX) Column		
100mg/1mL	100	N9306432
100mg/3mL	50	N9306537
200mg/3mL	50	N9306538
500mg/3mL	50	N9306539
500mg/6mL	30	N9306540
50mg/1mL	50	N9306536
SPE Supra-Clean Weak Cation Exchange (WCX) Column		
100mg/1mL	100	N9306545
100mg/3mL	50	N9306546
200mg/3mL	50	N9306547
500mg/3mL	50	N9306420
500mg/6mL	30	N9306407
50mg/1mL	50	N9306544
SPE Supra-Clean Mixed-Mode (MM1, MM2, MM3) Column		
100mg/1mL	100	N9306542 (MM1)
100mg/3mL	50	N9306419 (MM1)
200mg/3mL	50	N9306543 (MM1)
500mg/3mL	50	N9306481 (MM1)
500mg/6mL	30	N9306416 (MM1)
50mg/1mL	50	N9306541 (MM1)
100mg/1mL	100	N9306549 (MM2)
100mg/3mL	50	N9306550 (MM2)
200mg/3mL	50	N9306551 (MM2)
500mg/3mL	50	N9306411 (MM2)
500mg/6mL	30	N9306552 (MM2)
50mg/1mL	50	N9306548 (MM2)
500mg/6mL	30	N9306649 (MM3)

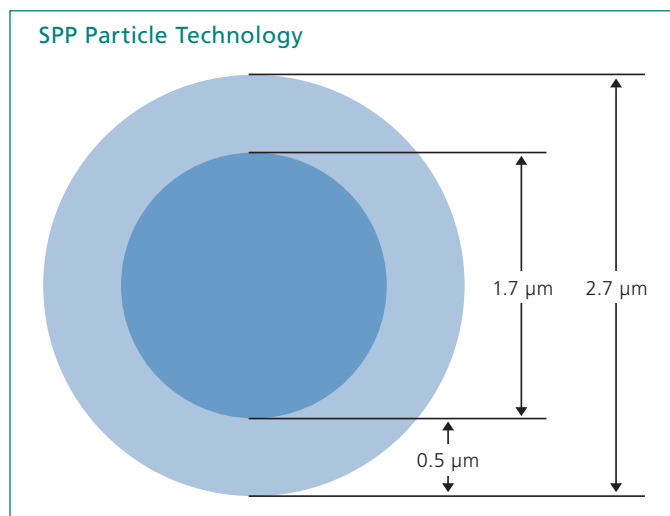
Weight/Volume	Pkg	Part No.
SPE Supra-Poly Extreme Capacity 1500 m²/g (XC) Column		
100mg/1mL	50	N9306403
100mg/3mL	50	N9306440
1g/15mL	20	N9306503
200mg/3mL	50	N9306428
30mg/1mL	50	N9306441
500mg/6mL	30	N9306405
50mg/1mL	50	N9306500
60mg/1mL	50	N9306501
60mg/3mL	50	N9306502
200mg/6mL	30	N9306635
SPE Supra-Poly Extra Wide Particle 1200 m²/g (XWP) Column		
100mg/1mL	50	N9306506
100mg/3mL	50	N9306508
1g/15mL	20	N9306510
200mg/3mL	50	N9306509
30mg/1mL	50	N9306504
500mg/6mL	30	N9306418
50mg/1mL	50	N9306427
60mg/1mL	50	N9306505
60mg/3mL	50	N9306507
SPE Supra-Poly ATH, ATL, AEV Polymer Column		
200mg/6mL	30	N9306636 (ATH)
200mg/3mL	50	N9306638 (ATH)
100mg/3mL	50	N9306646 (ATH)
200mg/6mL	30	N9306637 (ATL)
200mg/3mL	50	N9306639 (ATL)
100mg/3mL	50	N9306647 (ATL)
100mg/3mL	50	N9306648 (AEV)
SPE Supra-Clean Silica (SI-S) Cartridge (full accessible surface)		
1300mg	50	N9306586
300mg	50	N9306584
700mg	50	N9306585
SPE Supra-Clean C18 Cartridge (full accessible surface)		
1690mg	50	N9306589
390mg	50	N9306587
910mg	50	N9306588

INNOVATION TO THE CORE

Brownlee SPP HPLC and UHPLC Column Solutions

Say goodbye to the limitations of traditional columns and experience greater speed, lasting durability and better results from your Liquid Chromatography instrument.

Brownlee Superficially Porous Particle (SPP) columns produce sharper peaks and faster separation results. These results are possible due to their breakthrough particle design and size. Brownlee SPP columns use 2.7 μm particles comprised of a thin outer shell of high-quality porous silica fused to a solid inner core. This advanced design allows for a shorter diffusion path, reducing the time solute molecules spend inside the particles while passing through the stationary phase.



Smaller in size and innovative in design, superficially porous particles are made by fusing a porous silica layer to a solid inner core.

Brownlee SPP Phases and Applications

UHPLC Phases*	PoreSize (Å)	Coverage ($\mu\text{mol}/\text{m}^2$)	pH Range	Temp Limit (°C)	Applications	Chromatographic Properties
C18	90	3.5	2 to 9	60	General Purpose Octadecyl phase for reversed phase separations.	A high-purity column that exhibits excellent peak shape for a wide range of compounds.
C8	90	3.7	2 to 9	60	General Purpose Octyl phase for reversed phase separations when less retention than a C18 is desired.	High purity reversed phase packing that exhibits excellent peak shape for a wide range of compounds.
HILIC**	90	N/A	2 to 8	60	General purpose bare silica column for normal phase and HILIC applications.	High purity silica substrate.
Peptide ES-C18**	160	2.0	1 to 8	90	Sterically protected ligand (isobutyl - side chains), results in an extra stable bonded phase at low pH where most peptide separations are performed.	The 160 Angstrom pore size was specially chosen for the molecular weight range of peptides. The ligand was chosen due to its sterically protected bonding technology that inhibits acid hydrolysis of the siloxane bonds, even under extremes of high temperature and low pH.
PFP (pentafluoro-phenylpropyl)	90	3.6	2 to 8	60	Highly retentive and selective for protonated basic analytes and molecules containing aromatic moieties.	End-capped pentafluorophenyl with a propyl spacer.
PhenylHexyl	90	3.0	2 to 9	60	Alternative selectivity to alkyl bonded phases, recommended for aromatic groups. Compatible with highly aqueous mobile phases to facilitate the retention and separation of polar compounds.	Base-deactivated for good peak shapes when separating basic compounds. Hexyl spacer provides optimal flexibility for phenyl ring to facilitate π - π interactions with solutes.
RP-Amide	90	3.0	2 to 9	60	Excellent phase for significantly increasing the retention and selectivity of acids, for symmetrical peak shapes of bases, zwitterions and other polar compounds.	Base-deactivated phase with a polar group within the alkyl bonded phase. Provides unique selectivity and a high level of base deactivation while reducing or eliminating the need for mobile phase additives.

* Maximum pressure 9,000 p.s.i. for all columns. All particle sizes are 2.7 μm .
 **Not end-capped. All others end-capped.

THE TECHNOLOGY YOU NEED TO SEPARATE FROM THE PACK

Brownlee Instrument Optimizaton Kits

Brownlee SPP columns can be used to enhance the performance of virtually any PerkinElmer, Agilent, or other manufacturer's HPLC or UHPLC system. Our SPP columns deliver resolution and speed similar to sub-2 μm UHPLC columns, but generate only 40% to 50% of the backpressure. By combining high efficiency and lower backpressure, Brownlee SPP columns make it possible to get "UHPLC-like" performance from your HPLC system.

PerkinElmer has created, tested and made the following PerkinElmer and Agilent optimization kits available. Our OneSource Service Engineers are certified on all leading manufacturer instruments and can help optimize your instrument's performance.

PerkinElmer Optimization Kits

Description	Part No.
Series 200 LC or Flexar UHPLC systems with UV/Vis detector	N2920191
Series 200 LC or Flexar UHPLC systems with PDA detector	N2920193

Agilent Optimization Kits

Description	Part No.
Extra column volume (ECV) - STD Autosampler and Variable Wavelength Detector (VWD) Optimization Kit	ZECVSTDVWD
ECV - STD Well Plate Autosampler and Diode Array Detector/Multiple Wavelength Detector (DAD/MWD)	ZECVSTDWPDADMWD
ECV - STD Autosampler and DAD/MWD	ZECVSTDADMWD
ECV - STD Well Plate Autosampler and VWD	ZECVSTDWVPVWD
Ultra Low ECV - STD Autosampler and VWD	ZULECVSTDVWD
Ultra Low ECV - STD Well Plate Autosampler and DAD/MWD	ZULECVSTDWPDADMWD
Ultra Low ECV - STD Autosampler and DAD/MWD	ZULECVSTDADMWD
Ultra Low ECV - STD Well Plate Autosampler and VWD	ZULECVSTDWVPVWD



Benefits:

- Generate UHPLC like separations on your standard HPLC system
- Achieve ultra fast performance and efficiency on your UHPLC system
- Run samples in a fraction of the time
- Experience significant savings through faster method development, column longevity and use of less mobile phase solvent



Performance For Every Phase

Brownlee SPP 2.7 µm Columns

Diameter/Length	Part No.
C18	
2.1 x 20 mm	N9308400
2.1 x 30 mm	N9308401
2.1 x 50 mm	N9308402
2.1 x 75 mm	N9308403
2.1 x 100 mm	N9308404
2.1 x 150 mm	N9308405
3.0 x 20 mm	N9308406
3.0 x 30 mm	N9308407
3.0 x 50 mm	N9308408
3.0 x 75 mm	N9308409
3.0 x 100 mm	N9308410
3.0 x 150 mm	N9308411
4.6 x 20 mm	N9308412
4.6 x 30 mm	N9308413
4.6 x 50 mm	N9308414
4.6 x 75 mm	N9308415
4.6 x 100 mm	N9308416
4.6 X 150 mm	N9308417

Peptide ES-C18	
2.1 x 30 mm	N9308450
2.1 x 50 mm	N9308451
2.1 x 75 mm	N9308452
2.1 x 100 mm	N9308453
2.1 x 150 mm	N9308454
3.0 x 30 mm	N9308455
3.0 x 50 mm	N9308456
3.0 x 75 mm	N9308457
3.0 x 100 mm	N9308458
3.0 x 150 mm	N9308459
4.6 x 30 mm	N9308460
4.6 x 50 mm	N9308461
4.6 x 75 mm	N9308462
4.6 x 100 mm	N9308463
4.6 x 150 mm	N9308464

C8	
2.1 x 20 mm	N9308418
2.1 x 30 mm	N9308419
2.1 x 50 mm	N9308420
2.1 x 75 mm	N9308421
2.1 x 100 mm	N9308422
2.1 x 150 mm	N9308423
3.0 x 30 mm	N9308424
3.0 x 50 mm	N9308425
3.0 x 75 mm	N9308426
3.0 x 100 mm	N9308427
3.0 x 150 mm	N9308428
4.6 x 20 mm	N9308429

Diameter/Length	Part No.
4.6 x 30 mm	N9308430
4.6 x 50 mm	N9308431
4.6 x 75 mm	N9308432
4.6 x 100 mm	N9308433
4.6 x 150 mm	N9308434

PFP	
2.1 x 20 mm	N9308465
2.1 x 30 mm	N9308466
2.1 x 50 mm	N9308467
2.1 x 75 mm	N9308468
2.1 x 100 mm	N9308469
2.1 x 150 mm	N9308470
3.0 x 30 mm	N9308471
3.0 x 50 mm	N9308472
3.0 x 75 mm	N9308473
3.0 x 100 mm	N9308474
3.0 x 150 mm	N9308475
4.6 x 30 mm	N9308476
4.6 x 50 mm	N9308477
4.6 x 75 mm	N9308478
4.6 x 100 mm	N9308479
4.6 x 150 mm	N9308480

HILIC	
2.1 x 30 mm	N9308435
2.1 x 50 mm	N9308436
2.1 x 75 mm	N9308437
2.1 x 100 mm	N9308438
2.1 x 150 mm	N9308439
3.0 x 30 mm	N9308440
3.0 x 50 mm	N9308441
3.0 x 75 mm	N9308442
3.0 x 100 mm	N9308443
3.0 x 150 mm	N9308444
4.6 x 30 mm	N9308445
4.6 x 50 mm	N9308446
4.6 x 75 mm	N9308447
4.6 x 100 mm	N9308448
4.6 x 150 mm	N9308449

Phenyl-Hexyl	
2.1 x 20 mm	N9308481
2.1 x 30 mm	N9308482
2.1 x 50 mm	N9308483
2.1 x 75 mm	N9308484
2.1 x 100 mm	N9308485
2.1 x 150 mm	N9308486
3.0 x 30 mm	N9308487
3.0 x 50 mm	N9308488
3.0 x 75 mm	N9308489
3.0 x 100 mm	N9308490
3.0 x 150 mm	N9308491
4.6 x 30 mm	N9308492

Diameter/Length	Part No.
4.6 x 50 mm	N9308493
4.6 x 75 mm	N9308494
4.6 x 100 mm	N9308495
4.6 x 150 mm	N9308496

RP-Amide	
2.1 x 20 mm	N9308497
2.1 x 30 mm	N9308498
2.1 x 50 mm	N9308499
2.1 x 75 mm	N9308500
2.1 x 100 mm	N9308501
2.1 x 150 mm	N9308502
3.0 x 30 mm	N9308503
3.0 x 50 mm	N9308504
3.0 x 75 mm	N9308505
3.0 x 100 mm	N9308506
3.0 x 150 mm	N9308507
4.6 x 30 mm	N9308508
4.6 x 50 mm	N9308509
4.6 x 75 mm	N9308510
4.6 x 100 mm	N9308511
4.6 x 150 mm	N9308512

C18 Guard Column Packs	
2.1 x 5 mm, 3 pk	N9308513
3.0 x 5 mm, 3 pk	N9308514
4.6 x 5 mm, 3 pk	N9308515

C8 Guard Column Packs	
2.1 x 5 mm, 3 pk	N9308522
3.0 x 5 mm, 3 pk	N9308523
4.6 x 5 mm, 3 pk	N9308524

HILIC Guard Column Packs	
2.1 x 5 mm, 3 pk	N9308525
3.0 x 5 mm, 3 pk	N9308526
4.6 x 5 mm, 3 pk	N9308527

Peptide ES-C18 Guard Column Packs	
2.1 x 5 mm, 3 pk	N9308528
3.0 x 5 mm, 3 pk	N9308529
4.6 x 5 mm, 3 pk	N9308530

PFP Guard Column Packs	
2.1 x 5 mm, 3 pk	N9308531
3.0 x 5 mm, 3 pk	N9308532
4.6 x 5 mm, 3 pk	N9308533

Phenyl-Hexyl Guard Column Packs	
2.1 x 5 mm, 3 pk	N9308519
3.0 x 5 mm, 3 pk	N9308520
4.6 x 5 mm, 3 pk	N9308521

RP-Amide Guard Column Packs	
2.1 x 5 mm, 3 pk	N9308516
3.0 x 5 mm, 3 pk	N9308517
4.6 x 5 mm, 3 pk	N9308518

Guard Column Holder	
	N9308534

BROWNLEE UHPLC 15,000 PSI COLUMNS

Brownlee Columns for HRes™ Fast-LC (1.9 µm Particle Size)

Recent developments in LC column technology have now made the use of sub 3 µm particle packing materials practical. These smaller particle size materials allow higher mobile phase linear velocities to be used, without the decrease in separation efficiency experienced with conventional larger particle size packings. This translates into higher throughput and higher productivity. To conserve mobile phase, these sub 3 µm column materials are typically packed into 2.1 mm i.d. columns so that flow rates (mobile phase volume) are kept low. However, smaller sized packings result in elevated operating pressures. Technological advances in pump and injector designs have also kept pace, and these columns can be used at pressures as high as 10,000 psi with the PerkinElmer Series 275 or up to 15,000 psi using FX15 LC systems.

The rugged construction of this new line of small particle columns for high pressure application yield excellent longevity and reproducibility. These packings exhibit an exceptionally tight particle size distribution for excellent resolving power and are packed at elevated pressures to assure column stability even at high pressure applications. Each column is tested to ensure the highest level of quality and efficiency in high pressure LC testing.

Features and Benefits

- Sub 3 µm particle technology and 2.1 mm i.d. for higher separation efficiency
- Packed to withstand higher operating pressures
- Wide choice of stationary phases

Description	Length	Part No.
Brownlee HRes Biphenyl	30 mm	N9303911
Brownlee HRes Biphenyl	50 mm	N9303912
Brownlee HRes Biphenyl	100 mm	N9303913
Brownlee HRes PFP Propyl	30 mm	N9303914
Brownlee HRes PFP Propyl	50 mm	N9303915
Brownlee HRes PFP Propyl	100 mm	N9303916
Brownlee HRes Aqueous C18	30 mm	N9303917
Brownlee HRes Aqueous C18	50 mm	N9303918
Brownlee HRes Aqueous C18	100 mm	N9303919
Brownlee HRes IBD	30 mm	N9303920
Brownlee HRes IBD	50 mm	N9303921
Brownlee HRes IBD	100 mm	N9303922
Brownlee HRes Analytical C18	30 mm	N9303852
Brownlee HRes Analytical C18	50 mm	N9303853
Brownlee HRes Analytical C18	100 mm	N9303854
Brownlee HRes Analytical DB Silica	30 mm	N9303970
Brownlee HRes Analytical DB Silica	50 mm	N9303971
Brownlee HRes Analytical DB Silica	100 mm	N9303972
Brownlee HRes Analytical DB Cyano	30 mm	N9303973
Brownlee HRes Analytical DB Cyano	50 mm	N9303974
Brownlee HRes Analytical DB Cyano	100 mm	N9303975
Brownlee HRes Analytical DB PAH	50 mm	N9303995
Brownlee HRes Analytical DB PAH	100 mm	N9303996

Phase	End Cap?	Carbon Load	Applications	Chromatographic Properties
C18	Y	11	Hydrophobic C18 Phase suitable for analyses of a wide range of compounds, from acidic through slightly basic.	Highly base-deactivated spherical silica. Monomeric C18 bonding.
Aqueous C18	N	6	Ideal for applications that require highly aqueous mobile phases, such as organic acids and water-soluble vitamins.	Highly selective phase for polar analytes. Compatible with highly aqueous (up to 100%) mobile phases.
Biphenyl	Y	8	Excellent choice for the analysis of steroids, tetracyclines, drug metabolites, and other compounds that contain some degree of unsaturation.	Highly base-deactivated spherical silica. Unique reversed phase material that displays both increased retention and selectivity for aromatic and/or unsaturated compounds when compared to conventional alkyl and phenyl phases.
PFP	Y	6	Exhibits excellent peak shapes for a wide range of compounds, including nucleosides, nucleotides, and halogenated compounds.	Highly base-deactivated spherical silica. Unique pentafluorophenyl phase with a propyl spacer.
IBD	N	-	Excellent phase for significantly increasing the retention and selectivity of acids, for symmetrical peak shapes of bases and for the analysis of zwitterions and other polar compounds.	Intrinsically base-deactivated (IBD) phases, with a polar group within, or intrinsic to, the alkyl bonded phase. Provides unique selectivity and a high level of base deactivation while reducing or eliminating the need for mobile phase additives.
Silica	-	-	Normal phase mode of separation.	Highly base-deactivated spherical silica.
C8	Y	7	Superior general purpose C8 for non-basic analytes.	Provides shorter retention times for hydrophobic compounds than C18.
PAH	Y	-	Maximum resolution of polycyclic aromatic hydrocarbons.	Proprietary stationary phase; resolves 16 PAHs in US EPA Method 610.
Cyano	Y	4	Superior general purpose cyano for weakly-basic analytes. Used in either normal or reversed phase analyses.	More rugged than bare silica for normal phase analyses.

Pore Size A = 140, pH Range = 2.5-8, Temp Limit = 80°C, Particle Size = 1.9 µm



Conventional columns do not require MPLC holders.

Brownlee Conventional Columns

Conventional Brownlee Columns (non-cartridge) use standard compression end fittings compatible with all HPLC instrumentation. These columns do not require MPLC holders.

Features and Benefits

- End fittings compatible with HPLC systems from any vendor
- Use with NewGuard system (line connection) for even longer column life
- Each column is individually tested



250 mm, 100 mm Microbore Columns (1.0 mm i.d.)

Brownlee Microbore HPLC Columns

Microbore columns (1.0 mm i.d.) are ideal for the analysis of samples of limited availability (e.g., micropurification of picomole levels of proteins/peptides). Reducing the column diameter from the standard 4.6 mm to 1.0 mm increases the mass sensitivity by 20 times. Sample components can be collected in small elution volumes (1–50 μL) for further sequence or mass analysis. Microbore offers major benefits in pharmacokinetic assays and LC/MS applications. The typical flow rate range is 10–100 $\mu\text{L}/\text{min.}$, therefore specialized HPLC systems may be required for optimum column performance.

Features and Benefits

- Increase sensitivity and decrease solvent consumption by a factor of 20 (compared with 4.6 mm i.d.)
- Reduce sample size for pharmacokinetic assays
- Better compatibility with LC/MS interfaces
- Each column is individually tested

Modes of Separation

Reversed-Phase Chromatography (RPC) is the most popular HPLC mode and is used in 60–80% of all applications. In RPC, hydrophobic groups (C18, C8, or C4) bonded to a silica support are used together with a mobile phase of water and organic solvent (e.g. methanol, acetonitrile).

Polar Phase (Normal Phase) Chromatography (NPC) uses a polar stationary phase (unbonded silica, bonded amino or cyano group) together with a non-polar mobile phase (e.g., hexane).

NPC is useful for functional group analysis, isomeric separations, purification of organics, and sample cleanup.

Ion-Exchange Chromatography (IEC) utilizes bonded ionic groups to separate ionic analytes. Retention is based on the affinity of various analyte ions for the stationary phase and various mobile phase parameters (e.g., pH, ionic strength).

Brownlee Analytical

This is PerkinElmer's all-purpose HPLC column line for conventional as well as high speed LC separations. The (110 Å) silica is equivalent to the Hypersil. Columns are available in 3 or 5 μm and lengths ranging from 30–250 mm, in 2.1 and 4.6 i.d. The Brownlee Analytical family includes Amino, C18, C8, Cyano, Phenyl, Silica, and PAH phases.

Brownlee Aquapore®

This is a wide-pore (300 Å, 7, and 20 μm), silica-based support suitable for the separation of large biopolymers.

Brownlee Bio

This material is wide-pore silica (300 Å) that is excellent for peptide and protein separation. Columns are available in 5 μm and lengths ranging from 30–250 mm, in 2.1 and 4.6 i.d. in C8 and C18 phases.

Brownlee CHOICE™

This line of columns is made of (60 Å) silica which results in large surface area, high carbon loads, and high retention compounds. Columns are available in 3 or 5 μm and lengths ranging from 30–250 mm, in 2.1 and 4.6 i.d. The Brownlee Choice family includes the Basix, C18, Organic Acids, and PFP Propyl phases.

Brownlee Spheri-5®

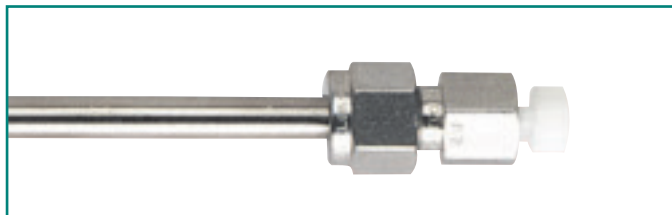
This is a small-pore (80 Å, 5 μm), silica based sorbent for separating small molecules. Both monofunctional (comb-pre) and polyfunctional (polymerized loop-type) C8 and C18 sorbents available.

Brownlee Validated™

These columns are made on high-purity, Type B silica with inherent low silanophilic activity. It exhibits excellent peak shape for a wide range of compounds while also having a wide number of phases. The Brownlee Validated columns are the best choice for pharmaceutical applications that deal with a lot of basic or multi-functional compounds. Columns are available in 3 or 5 μm and lengths ranging from 30–250 mm, in 2.1 and 4.6 i.d., and include Amino, C18, C8, Carbamate, Cyano, IBD (intrinsically base-deactivated), PFP (pentafluorophenyl) and phenyl phases.

Guard Columns and Cartridges

To protect your column investment, we offer a complete line of guard columns in our direct connect guard cartridges. These can be attached to any column offered above. You can easily select the phase type to the appropriate guard column packing to ensure a correct silica match.



Brownlee Columns

Choose only genuine PerkinElmer Brownlee™ columns for the best separation results. Six different column types to meet all your analytical needs.

Features and Benefits

- Each column individually tested and certificate provided
- End fittings compatible with a variety of HPLC systems
- Do not require MPLC holders

Conventional Columns Conventional columns do not require MPLC holders.

Column	Functionality	Pore Diameter Å	% Carbon	End Cap	Applications
Analytical	Amino	110	2	No	Excellent for carbohydrate analysis
Analytical	C18 & C8	110	13	Yes	Superior for non-basic analytes
Analytical	Cyano	110	4	Yes	General purpose for normal or reversed-phase
Analytical	Biphenyl	110	–	Yes	U.S. EPA Method 8330
Analytical	Phenyl	110	6	Yes	General purpose for neutral analytes
Analytical	Silica	110	–	–	Ideal for polar analytes
Analytical	PAH	110	–	Yes	Maximum resolution of polynuclear aromatic hydrocarbons
Aquapore®	AX-300	300	–	–	Used for ion exchange chromatography
Aquapore	Octyl C8	300	–	–	Used for reversed-phase chromatography
Aquapore	ODS C18	300	–	–	Silica based support used for the separation of large biopolymers
Bio	C18	300	6	Yes	High molecular weight compounds and proteins
Bio	C8	300	–	–	High molecular weight compounds and proteins
CHOICE™	Basix	60	12	Yes	Ideal for LC/MS. Excellent for amine-containing compounds and basic pharmaceuticals
CHOICE	C18	60	27	Yes	Excellent for explosives or steroids
CHOICE	Biphenyl	60	23	Yes	Highly retentive and selective phase for aromatic compounds
CHOICE	Organic Acids	60	–	No	Used for challenging organic acids
CHOICE	PFP Propyl	60	17	Yes	Ideal for MS, ELSD, or NPD detection of nucleosides, nucleotides, purines, pyrimidines or halogenated compounds
Spheri-5®	C8, C18, C18 ODS and Silica	80	–	–	Excellent for separating small molecules both non-functional and polyfunctional
Validated™	Amino	100	2	No	Ideal for carbohydrates
Validated	C1	100	5	–	Least retentive reversed-phase hydrocarbon packing
Validated	C4	100	9	Yes	High bonding coverage and base deactivation
Validated	Aqueous C18	100	15	No	Excellent for highly water-soluble or poorly organic-soluble compounds
Validated	C18	100	20	Yes	Used for the detection of anilines, barbiturates, carbonyls, fat-soluble vitamins, fatty acids, glycerides, phthalates
Validated	C8	100	12	Yes	Less hydrophobic retention than C18
Validated	Carbamate	100	–	–	Fast analysis of carbamates
Validated	Cyano	100	8	Yes	Basic pharmaceuticals and steroids
Validated	IBD	100	12	No	Unique separation for acids, bases, zwitterions and other polar compounds
Validated	PFP	100	7	Yes	Ideal for taxors and precursors or halogenated compounds
Validated	Phenyl	100	10	Yes	Separation of fatty acids, polynuclear aromatic hydrocarbons, purines and pyrimidines
Validated	Quat	100	–	–	High purity, base deactivated reversed-phase packing

Brownlee Analytical Conventional Columns

Brownlee Analytical Amino

Ideal column for mono and disaccharide analyses. Most popular amino-based stationary phase. Routine analysis of simple sugars, using isocratic elution and a refractive index detector or an evaporative light scattering detector.

pH range: 2.5 to 7.5 - **Temperature limit:** 80° C

Pore size: 110 Å - **Carbon load:** 2% - **End Cap:** No

Phase	Length	ID	Particle Size	Part No.
Amino	50 mm	4.6 mm	3 µm	N9303502
Amino	100 mm	4.6 mm	3 µm	N9303500
Amino	150 mm	4.6 mm	3 µm	N9303501
Amino	50 mm	4.6 mm	5 µm	N9303506
Amino	100 mm	4.6 mm	5 µm	N9303503
Amino	150 mm	4.6 mm	5 µm	N9303504
Amino	250 mm	4.6 mm	5 µm	N9303505

Brownlee Analytical C8

Shorter retention times for hydrophobic compounds. Reliable performance with symmetrical peak shapes for neutral to acidic compounds.

pH range: 2.5 to 7.5 - **Temperature limit:** 80° C

Pore size: 100 Å - **Carbon load:** 7% - **End Cap:** Yes

Phase	Length	ID	Particle Size	Part No.
C8	30 mm	4.6 mm	5 µm	N9303521
C8	100 mm	4.6 mm	5 µm	N9303515
C8	150 mm	4.0 mm	5 µm	N9303516
C8	150 mm	4.6 mm	5 µm	N9303517
C8	200 mm	4.6 mm	5 µm	N9303518
C8	250 mm	4.0 mm	5 µm	N9303519
C8	250 mm	4.6 mm	5 µm	N9303520

Brownlee Analytical C18

Suitable for a wide range of acidic to neutral hydrophobic compounds. Excellent all purpose column.

pH range: 2.5 to 7.5 - **Temperature limit:** 80° C

Pore size: 110 Å - **Carbon load:** 13% - **End Cap:** Yes

Phase	Length	ID	Particle Size	Part No.
C18	30 mm	4.6 mm	3 µm	N9303509
C18	50 mm	4.6 mm	3 µm	N9303510
C18	100 mm	4.6 mm	3 µm	N9303507
C18	150 mm	4.6 mm	3 µm	N9303508
C18	100 mm	4.0 mm	5 µm	N9303511
C18	100 mm	4.6 mm	5 µm	N9303512
C18	150 mm	4.6 mm	5 µm	N9303513
C18	250 mm	4.6 mm	5 µm	N9303514

Brownlee Analytical Cyano

Suitable for analyses of a wide range of compounds from acidic through slightly basic. Highly base-deactivated spherical silica.

pH range: 2.5 to 7.5 - **Temperature limit:** 80° C

Pore size: 110 Å - **Carbon load:** 4% - **End Cap:** Yes

Phase	Length	ID	Particle Size	Part No.
Cyano	150 mm	4.6 mm	5 µm	N9303522
Cyano	250 mm	4.6 mm	5 µm	N9303523

Brownlee Analytical PAH

Specifically designed for challenging analyses of polynuclear aromatic hydrocarbons.

pH range: 2.5 to 7.5 - **Temperature limit:** 80° C

Pore size: 110 Å - **End Cap:** Yes

Phase	Length	ID	Particle Size	Part No.
PAH	100 mm	4.6 mm	5 µm	N9303527
PAH	150 mm	3.2 mm	5 µm	N9303430
PAH	150 mm	4.6 mm	5 µm	N9303529
PAH	200 mm	4.6 mm	5 µm	N9303528
PAH	250 mm	2.1 mm	5 µm	N9303530
PAH	250 mm	4.6 mm	5 µm	N9303531

Brownlee Analytical Phenyl

Unique selectivity especially for aromatic compounds.

pH range: 2.5 to 7.5 - **Temperature limit:** 80° C

Carbon load: 6% - **Pore size:** 110 Å - **End Cap:** Yes

Phase	Length	ID	Particle Size	Part No.
Phenyl	150 mm	4.6 mm	5 µm	N9303524

Brownlee Analytical Silica

Good general purpose packing for normal phase separations.

pH range: 2.5 to 7.5 - **Temperature limit:** 80° C

Pore size: 110 Å - **End Cap:** No

Phase	Length	ID	Particle Size	Part No.
Silica	150 mm	4.6 mm	5 µm	N9303525
Silica	250 mm	4.6 mm	5 µm	N9303526

Brownlee Aquapore Conventional Columns

Brownlee Aquapore AX-300

Used for Ion Exchange chromatography.

Pore Size: 300 Å

Phase	Length	ID	Particle Size	Part No.
AX-300	250 mm	4.6 mm	7 µm	07120040

Brownlee Aquapore Octyl C8

Used for Reversed Phase chromatography.

Pore Size: 300 Å

Phase	Length	ID	Particle Size	Part No.
C8	100 mm	1.0 mm	7 µm	07120096
C8	250 mm	1.0 mm	7 µm	07120097
C8	250 mm	4.6 mm	7 µm	07120033

Brownlee Aquapore ODS C18

Silica-based support suitable for the separation of large biopolymers. Microbore columns increase sensitivity, reduce sample size, and have better compatibility with LC/MS interfaces.

Pore Size: 300 Å

Phase	Length	ID	Particle Size	Part No.
C18	100 mm	1.0 mm	7 µm	07120099
C18	250 mm	4.6 mm	7 µm	07120073

Brownlee Bio Conventional Columns

Brownlee Bio C8

Wide-pore HPLC Column. High proportion of pore/surface area available for large molecule separations.

Pore Size: 300 Å - **Carbon Load:** 6% - **End Cap:** Yes

Phase	Length	ID	Particle Size	Part No.
C8	50 mm	2.1 mm	5 µm	N9303664
C8	50 mm	4.6 mm	5 µm	N9303665
C8	100 mm	2.1 mm	5 µm	N9303656
C8	100 mm	4.6 mm	5 µm	N9303657
C8	150 mm	2.1 mm	5 µm	N9303658
C8	150 mm	4.6 mm	5 µm	N9303659
C8	200 mm	2.1 mm	5 µm	N9303660
C8	200 mm	4.6 mm	5 µm	N9303661
C8	250 mm	2.1 mm	5 µm	N9303662
C8	250 mm	4.6 mm	5 µm	N9303663

Brownlee Bio C18

Excellent for separating peptides or proteins. Wide-pore HPLC Column.

Pore Size: 300 Å - **Carbon Load:** 6% - **End Cap:** Yes

Phase	Length	ID	Particle Size	Part No.
C18	50 mm	2.1 mm	5 µm	N9303654
C18	50 mm	4.6 mm	5 µm	N9303655
C18	100 mm	2.1 mm	5 µm	N9303646
C18	100 mm	4.6 mm	5 µm	N9303647
C18	150 mm	2.1 mm	5 µm	N9303648
C18	150 mm	4.6 mm	5 µm	N9303649
C18	200 mm	2.1 mm	5 µm	N9303650
C18	200 mm	4.6 mm	5 µm	N9303651
C18	250 mm	2.1 mm	5 µm	N9303652
C18	250 mm	4.6 mm	5 µm	N9303653

Brownlee CHOICE Conventional Columns

Brownlee CHOICE Basix

Excellent choice for analytes containing amine group functionality.

pH range: 2.5 to 7.5 - **Temperature limit:** 80° C -
Pore Size: 60 Å - **Carbon Load:** 12% - **End Cap:** Yes

Phase	Length	ID	Particle Size	Part No.
Basix	50 mm	2.1 mm	5 µm	N9303615
Basix	50 mm	4.6 mm	5 µm	N9303616
Basix	100 mm	2.1 mm	5 µm	N9303613
Basix	100 mm	4.6 mm	5 µm	N9303614
Basix	150 mm	2.1 mm	5 µm	N9303617
Basix	150 mm	4.6 mm	5 µm	N9303618
Basix	250 mm	4.6 mm	5 µm	N9303619

Brownlee CHOICE C18

Excellent choice for LC/MS. Highly retentive phase for hydrophobic and slightly polar analytes.

pH range: 2.5 to 7.5 - **Temperature limit:** 80° C -
Pore Size: 60 Å - **Carbon Load:** 27% - **End Cap:** Yes

Phase	Length	ID	Particle Size	Part No.
C18	50 mm	2.1 mm	5 µm	N9303626
C18	100 mm	2.1 mm	5 µm	N9303625
C18	150 mm	2.1 mm	5 µm	N9303627
C18	150 mm	4.6 mm	5 µm	N9303628
C18	250 mm	2.1 mm	5 µm	N9303629
C18	250 mm	4.6 mm	5 µm	N9303630

Brownlee CHOICE Organic Acids

Enhanced retention and selectivity for polar organic acids. Retention is stable and reproducible even with 100% aqueous mobile phase specified in the AOAC method.

pH range: 2.5 to 7.5 - **Temperature limit:** 80° C -
Pore Size: 60 Å - **End Cap:** No

Phase	Length	ID	Particle Size	Part No.
Organic Acids	150 mm	4.6 mm	5 µm	N9303631
Organic Acids	250 mm	2.1 mm	5 µm	N9303632
Organic Acids	250 mm	4.6 mm	5 µm	N9303633
Organic Acids	300 mm	4.6 mm	5 µm	N9303634

Brownlee CHOICE Propyl

Highly retentive for basic analytes. Excellent separation of nucleosides, nucleotides, purines, pyrimidines halogenated compounds, beta blockers and tricyclic antidepressants.

pH range: 2.5 to 7.5 - **Temperature limit:** 80° C -
Pore Size: 60 Å - **Carbon Load:** 17% - **End Cap:** Yes

Phase	Length	ID	Particle Size	Part No.
PFP Propyl	30 mm	2.1 mm	5 µm	N9303640
PFP Propyl	50 mm	2.1 mm	5 µm	N9303641
PFP Propyl	50 mm	4.6 mm	5 µm	N9303642
PFP Propyl	100 mm	2.1 mm	5 µm	N9303638
PFP Propyl	100 mm	4.6 mm	5 µm	N9303639
PFP Propyl	150 mm	2.1 mm	5 µm	N9303643
PFP Propyl	150 mm	4.6 mm	5 µm	N9303644
PFP Propyl	250 mm	4.6 mm	5 µm	N9303645

Brownlee Spheri-5 Conventional Columns

Brownlee Spheri-5®

Small pore silica-based sorbent for separating small molecules both non-functional and polyfunctional C8 and C18 are available.

Length: 250 mm - **ID:** 4.6 mm - **Pore Size:** 80 Å

Phase	Length	ID	Particle Size	Part No.
C2	250 mm	4.6 mm	10 µm	07120005
C8	250 mm	4.6 mm	5 µm	07120012
C18	250 mm	4.6 mm	5 µm	07120016
C18	250 mm	4.6 mm	10 µm	07120001
C18 ODS	250 mm	4.6 mm	5 µm	07120019
Silica	250 mm	4.6 mm	5 µm	07120023

Brownlee Validated Conventional Columns

Brownlee Validated™ Amino

Good for normal phase analytes of mono- and disaccharides or similar compounds.

pH range: 2.5 to 7.5 - **Temperature limit:** 80° C -
Particle Size: 5 µm - **Pore Size:** 100 Å - **Carbon Load:** 2%

Phase	Length	ID	Particle Size	Part No.
Amino	100 mm	2.1 mm	5 µm	N9303532
Amino	150 mm	2.1 mm	5 µm	N9303533
Amino	150 mm	4.6 mm	5 µm	N9303534
Amino	200 mm	4.6 mm	5 µm	N9303535
Amino	250 mm	4.6 mm	5 µm	N9303536

Brownlee Validated Aqueous C18

Highly base deactivated. Compatible with highly aqueous mobile phases.

pH range: 2.5 to 7.5 - **Temperature limit:** 80° C -
Pore Size: 100 Å - **Carbon Load:** 15% - **End Cap:** No

Phase	Length	ID	Particle Size	Part No.
Aqueous C18	30 mm	2.1 mm	3 µm	N9303540
Aqueous C18	50 mm	2.1 mm	3 µm	N9303541
Aqueous C18	50 mm	4.6 mm	3 µm	N9303542
Aqueous C18	100 mm	2.1 mm	3 µm	N9303537
Aqueous C18	100 mm	4.6 mm	3 µm	N9303538
Aqueous C18	150 mm	2.1 mm	3 µm	N9303539
Aqueous C18	30 mm	4.6 mm	5 µm	N9303550
Aqueous C18	100 mm	2.1 mm	5 µm	N9303543
Aqueous C18	100 mm	4.6 mm	5 µm	N9303544
Aqueous C18	150 mm	2.1 mm	5 µm	N9303545
Aqueous C18	150 mm	4.6 mm	5 µm	N9303546
Aqueous C18	200 mm	4.6 mm	5 µm	N9303547
Aqueous C18	250 mm	2.1 mm	5 µm	N9303548
Aqueous C18	250 mm	4.6 mm	5 µm	N9303549

Brownlee Validated C1

Least retentive reversed phase hydrocarbon packing.

pH range: 2.5 to 7.5 - **Temperature limit:** 80° C -
Pore Size: 100 Å - **Carbon Load:** 5% - **End Cap:** No

Phase	Length	ID	Particle Size	Part No.
C1	150 mm	4.6 mm	5 µm	N9303718
C1	250 mm	4.6 mm	5 µm	N9303719

Brownlee Validated C4

High bonding coverage and base deactivation. Less retention than C18 or C8 phases.

pH range: 2.5 to 7.5 - **Temperature limit:** 80° C -
Pore Size: 100 Å - **Carbon Load:** 9% - **End Cap:** Yes

Phase	Length	ID	Particle Size	Part No.
C4	150 mm	4.6 mm	5 µm	N9303720
C4	250 mm	4.6 mm	5 µm	N9303721

Brownlee Validated C8

Retentive, high purity base-deactivated reversed phase packing.

pH range: 2.5 to 7.5 - **Temperature limit:** 80° C -
Pore Size: 80 Å - **Carbon Load:** 12% - **End Cap:** Yes

Phase	Length	ID	Particle Size	Part No.
C8	100 mm	2.1 mm	5 µm	N9303564
C8	100 mm	4.6 mm	5 µm	N9303565
C8	150 mm	2.1 mm	5 µm	N9303566
C8	150 mm	4.6 mm	5 µm	N9303567
C8	250 mm	4.6 mm	5 µm	N9303568

Brownlee Validated C18

Excellent general purpose phase column.
 Retentive high purity packing.

pH range: 2.5 to 7.5 - **Temperature limit:** 80° C -
Pore Size: 100 Å - **Carbon Load:** 20% - **End Cap:** Yes

Phase	Length	ID	Particle Size	Part No.
C18	100 mm	2.1 mm	3 µm	N9303551
C18	100 mm	4.6 mm	3 µm	N9303552
C18	50 mm	2.1 mm	5 µm	N9303562
C18	50 mm	4.6 mm	5 µm	N9303563
C18	100 mm	2.1 mm	5 µm	N9303553
C18	100 mm	4.6 mm	5 µm	N9303554
C18	150 mm	2.1 mm	5 µm	N9303556
C18	150 mm	4.0 mm	5 µm	N9303557
C18	150 mm	4.6 mm	5 µm	N9303558
C18	200 mm	4.6 mm	5 µm	N9303559
C18	250 mm	2.1 mm	5 µm	N9303560
C18	250 mm	4.6 mm	5 µm	N9303561

Brownlee Validated Conventional Columns

Brownlee Validated™ Carbamate

A unique stationary phase bonded to a 3µm silica specifically designed for carbamate analysis. This column is compatible with fluorescence or LC/MS detection. Validated Carbamate column has much faster analysis, which will significantly reduce solvent usage.

pH range: 2.5 to 7.5 - **Temperature limit:** 80° C - **Pore Size:** 100 Å

Phase	Length	ID	Particle Size	Part No.
Carbamate	50 mm	4.6 mm	3 µm	N9303570
Carbamate	100 mm	4.6 mm	3 µm	N9303569
Carbamate	250 mm	4.6 mm	3 µm	N9303571

Brownlee Validated Cyano

High purity Cyano phase with few silanol sites. Less sensitive to small amounts of water present in the mobile phase.

pH range: 2.5 to 7.5 - **Temperature limit:** 80° C -
Pore Size: 100 Å - **Carbon Load:** 10% - **End Cap:** Yes

Phase	Length	ID	Particle Size	Part No.
Cyano	30 mm	4.6 mm	5 µm	N9303578
Cyano	100 mm	2.1 mm	5 µm	N9303572
Cyano	100 mm	4.6 mm	5 µm	N9303573
Cyano	150 mm	2.1 mm	5 µm	N9303574
Cyano	150 mm	4.6 mm	5 µm	N9303575
Cyano	200 mm	4.6 mm	5 µm	N9303576
Cyano	250 mm	4.6 mm	5 µm	N9303577

Brownlee Validated IBD

Unique selectivity and a high level of base-deactivation. Reduces or eliminates the need for mobile phase additives.

pH range: 2.5 to 7.5 - **Temperature limit:** 80° C -
Pore Size: 100 Å - **Carbon Load:** 12% - **End Cap:** No

Phase	Length	ID	Particle Size	Part No.
IBD	30 mm	4.6 mm	3 µm	N9303594
IBD	50 mm	2.1 mm	3 µm	N9303595
IBD	50 mm	4.6 mm	3 µm	N9303596
IBD	100 mm	2.1 mm	3 µm	N9303590
IBD	100 mm	4.6 mm	3 µm	N9303591
IBD	150 mm	2.1 mm	3 µm	N9303592
IBD	150 mm	4.6 mm	3 µm	N9303593

Brownlee Validated IBD (Continued)

Phase	Length	ID	Particle Size	Part No.
IBD	30 mm	1.0 mm	5 µm	N9303585
IBD	30 mm	2.1 mm	5 µm	N9303586
IBD	30 mm	4.6 mm	5 µm	N9303587
IBD	50 mm	2.1 mm	5 µm	N9303588
IBD	50 mm	4.6 mm	5 µm	N9303589
IBD	100 mm	2.1 mm	5 µm	N9303579
IBD	100 mm	4.6 mm	5 µm	N9303580
IBD	150 mm	2.1 mm	5 µm	N9303581
IBD	150 mm	4.6 mm	5 µm	N9303582
IBD	200 mm	4.6 mm	5 µm	N9303583
IBD	250 mm	4.6 mm	5 µm	N9303584

Brownlee Validated PFP

Unique selectivity for compounds containing organohalogens or other basic functional groups.

pH range: 2.5 to 7.5 - **Temperature limit:** 80° C -
Pore Size: 100 Å - **Carbon Load:** 7% - **End Cap:** Yes

Phase	Length	ID	Particle Size	Part No.
PFP	50 mm	2.1 mm	5 µm	N9303601
PFP	100 mm	4.6 mm	5 µm	N9303597
PFP	150 mm	2.1 mm	5 µm	N9303598
PFP	150 mm	4.6 mm	5 µm	N9303599
PFP	250 mm	4.6 mm	5 µm	N9303600

Brownlee Validated Phenyl

High purity, highly retentive base-deactivated phase, especially designed for aromatic analytes.

pH range: 2.5 to 7.5 - **Temperature limit:** 80° C -
Pore Size: 100 Å - **Carbon Load:** 10% - **End Cap:** Yes

Phase	Length	ID	Particle Size	Part No.
Phenyl	50 mm	1.0 mm	3 µm	N9303604
Phenyl	100 mm	2.1 mm	3 µm	N9303602
Phenyl	100 mm	4.6 mm	3 µm	N9303603
Phenyl	150 mm	2.1 mm	5 µm	N9303605
Phenyl	150 mm	4.6 mm	5 µm	N9303606
Phenyl	250 mm	4.6 mm	5 µm	N9303607

Guard Cartridges and Accessories

Guard Cartridge Accessories

Description	Part No.
10 mm guard cartridge holder with filter	N9303713
10 mm guard cartridge holder without filter	N9303712
High pressure filter	N9303711
Peek tip standard fittings	N9303714
Replacement cap frits 2.0 mm, 2.0 µm	N9303717
Replacement cap frits 4.0 mm, 0.5 µm	N9303716
Replacement cap frits 4.0 mm, 2.0 µm	N9303715

Guard Cartridges Bownlee Analytical

Pkg: 3

Phase	Length	ID	Particle Size	Part No.
Amino	10 mm	2.1 mm	5 µm	N9303674
Amino	10 mm	4.0 mm	5 µm	N9303675
C18	10 mm	2.1 mm	5 µm	N9303676
C18	10 mm	4.0 mm	5 µm	N9303677
C8	10 mm	2.1 mm	5 µm	N9303678
C8	10 mm	4.0 mm	5 µm	N9303679
Cyano	10 mm	2.1 mm	5 µm	N9303680
Cyano	10 mm	4.0 mm	5 µm	N9303681
PAH	10 mm	2.1 mm	5 µm	N9303682
PAH	10 mm	4.0 mm	5 µm	N9303683
Phenyl	10 mm	2.1 mm	5 µm	N9303684
Phenyl	10 mm	4.0 mm	5 µm	N9303685
Silica	10 mm	2.1 mm	5 µm	N9303686
Silica	10 mm	4.0 mm	5 µm	N9303687

Guard Cartridges Bownlee Bio

Pore Size: 300 Å - Pkg: 3

Phase	Length	ID	Particle Size	Part No.
C18	10 mm	2.1 mm	5 µm	N9303708
C18	10 mm	4.0 mm	5 µm	N9303707
C8	10 mm	2.1 mm	5 µm	N9303709
C8	10 mm	4.0 mm	5 µm	N9303710

Guard Cartridges Bownlee CHOICE

Pore Size: 60 Å - Pkg: 3

Phase	Length	ID	Particle Size	Part No.
Basix	10 mm	2.1 mm	5 µm	N9303666
Basix	10 mm	4.0 mm	5 µm	N9303667
C18	10 mm	2.1 mm	5 µm	N9303668
C18	10 mm	4.0 mm	5 µm	N9303669
Organic Acids	10 mm	2.1 mm	5 µm	N9303670
Organic Acids	10 mm	4.0 mm	5 µm	N9303671
PFP Propyl	10 mm	2.1 mm	5 µm	N9303672
PFP Propyl	10 mm	4.0 mm	5 µm	N9303673

Guard Cartridges Bownlee Validated

Pore Size: 100 Å - Pkg: 3

Phase	Length	ID	Particle Size	Part No.
Amino	10 mm	2.1 mm	5 µm	N9303688
Amino	10 mm	4.0 mm	5 µm	N9303689
Aqueous C18	10 mm	2.1 mm	5 µm	N9303690
Aqueous C18	10 mm	4.0 mm	5 µm	N9303691
C1	10 mm	4.0 mm	5 µm	N9303722
C4	10 mm	4.0 mm	5 µm	N9303723
C8	10 mm	2.1 mm	5 µm	N9303695
C8	10 mm	4.0 mm	5 µm	N9303696
C18	10 mm	2.1 mm	5 µm	N9303693
C18	10 mm	4.0 mm	5 µm	N9303694
C18	10 mm	4.0 mm	10 µm	N9303692
Carbamate	10 mm	2.1 mm	5 µm	N9303697
Carbamate	10 mm	4.0 mm	5 µm	N9303698
Cyano	10 mm	2.1 mm	5 µm	N9303699
Cyano	10 mm	4.0 mm	5 µm	N9303700
IBD	10 mm	2.1 mm	5 µm	N9303701
IBD	10 mm	4.0 mm	5 µm	N9303702
PFP	10 mm	2.1 mm	5 µm	N9303703
PFP	10 mm	4.0 mm	5 µm	N9303704
Phenyl	10 mm	2.1 mm	5 µm	N9303705
Phenyl	10 mm	4.0 mm	5 µm	N9303706

BROWNLEE CARTRIDGE COLUMNS

Brownlee Sorbents

PerkinElmer Brownlee™ cartridge columns are offered in a wide range of sorbent material. Choose the right sorbent for the analysis and mode of separation being used.

Aquapore® – is a wide-pore, silica-based support suitable for the separation of large biopolymers.

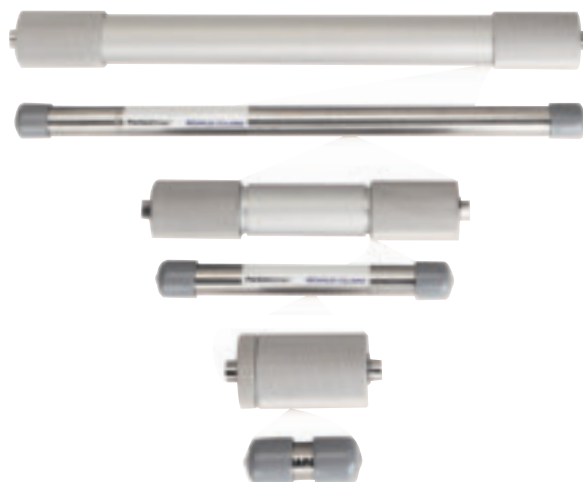
Spheri-5® – is a small-pore, silica-based solvent for separating small molecules. Both monofunctional (comb-type) and polyfunctional (polymerized loop-type) C8 and C18 sorbents are available.

Polypore® – is a polymer-based (microporous, 10 µm) sorbent for the analysis of organic acids and sugars.

Validated™ – is a small-pore, silica-based C18 sorbent for small molecules, specifically for consistent pharmaceutical assays.

Pecosphere™ – is a small-pore, silica-based sorbent for HPLC of small molecules.

Reduced Activity – is a small-pore, base deactivated silica-based, reversed-phase sorbent (C18 or C8) developed for HPLC of basic analytes and pharmaceuticals.



CHOICE™ – is a small-pore, base deactivated silica-based, reversed-phase sorbent (C18) developed for LC/MS separations.

Peco HCODS – is especially suited for reversed-phase separation of proteins and peptides.

Brownlee Cartridge Columns

Column	Functionality	Pore Diameter Å	% Carbon	End Cap	Applications
Aquapore	AX-300 (anion exchange)	300	-	-	Silica-based support for larger anionic compounds
Aquapore	OD-300 (C18)	300	10	Yes	Silica-based support for larger compounds by reversed-phase
Aquapore	RP-300 (C8)	300	5	Yes	Same as above, but for slightly more polar compounds
Aquapore	BU-300 (C4)	300	3	Yes	Same as above, but for even somewhat more polar compounds
Choice	C18	100	12	Yes	For high speed/efficiency separation of basic compounds/pharmaceuticals
Choice	C8	100	7	Yes	For high speed/efficiency separation of basic compounds/pharmaceuticals
Choice	PFPP (Pentafluorophenylpropyl)	100	5	Yes	For high speed/efficiency separation of basic drugs, especially for LC/MS
Pecosphere	C18, monofunctional	80	11	Yes	Reversed-phase column for fast separation of smaller compounds
Pecosphere CR	C18	80	11	Yes	Same as above, but for more basic compounds
Pecosphere CR	C8	80	11	Yes	Same as above, but, also, for slightly more polar compounds
Peco HCODS	C18, polyfunctional	300	9	No	Especially suited for reversed-phase separation of proteins and peptides
Polypore	CA (calcium form), Mixed Mode	Microporous	-	-	Especially suited for separation of organic acids, as well as sugars
Polypore	H (hydrogen form), Mixed Mode	Microporous	-	-	Especially suited for separation of sugars, as well as organic acids
Reduced Activity	C18	80	12	Yes	Reversed-phase sorbent geared for fast separation of basic compounds/pharmaceuticals
Reduced Activity	C8	80	5	Yes	Same as above, but for slightly more polar compounds
Spheri-5	RP-18 (monofunctional C18)	80	11	Yes	Reversed-phase separation of smaller compounds
Spheri-5	ODS (polyfunctional C18)	80	14	Yes	Same as above, but with somewhat different selectivity
Spheri-5	RP-8 (monofunctional C8)	80	6	Yes	Reversed-phase separation of more basic smaller compounds
Spheri-5	Phenyl (C5)	80	6	Yes	Especially suited for hydrophobic interaction separation of biomolecules, where the activity of the compound must be preserved
Spheri-5	Amino	80	3	No	Normal-phase separation of smaller, relatively more polar compounds
Spheri-5	Cyano	80	4	No	Same as above, but with somewhat different selectivity
Spheri-5	Silica	80	-	-	Same as above, but with different selectivity
Validated	C18	100	18	Yes	Reversed-phase separations in which very little variation in both lot-to-lot and column-to-column variability can be tolerated
VeloSep	RP-18 (C18)	100	14	Yes	Reversed-phase column for high through-put and minimal solvent usage
VeloSep	RP-8 (C8)	100	7	Yes	Same as above, but for slightly more polar compounds

BROWNLEE™ ANALYTICAL CARTRIDGE COLUMNS FOR CONVENTIONAL AND NARROWBORE HPLC

Analytical cartridges from the Brownlee line are available in three lengths (30, 100 and 220 mm) and two internal diameters (4.6 and 2.1 mm). The MPLC cartridge system allows direct coupling of a cartridge to a guard without any dead-volume. Changing cartridges is easy with the finger-tight cartridge design, which does not require any wrench tightening of the holder or disconnecting of tubing from the LC system.

Features and Benefits

- **Quality** – manufactured under ISO-9001 certified quality control procedures
- **Quick** and easy cartridge change with the finger-tight design
- **Flexible** – same reusable holder for 2.1 and 4.6 mm cartridges
- **Economical** – less expensive than conventional columns

Brownlee CHOICE™

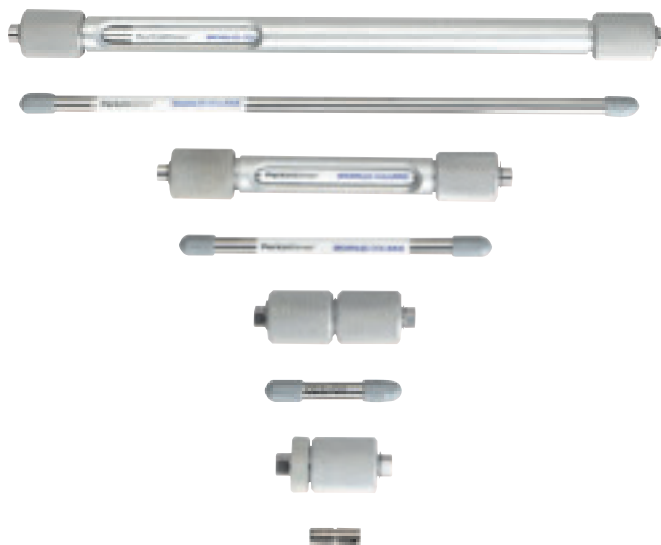
The CHOICE™ columns provide the speed and efficiency appropriate for LC/MS. Each column's separation requirements vary depending on the system, sample and mass spectrometer.

Brownlee PECO

PerkinElmer pioneered the development of Fast HPLC and introduced the popular 3 x 3 column. This column is capable of rapid analysis, as short as one to two minutes. The 83 mm long 3 x 8 column with > 10,000 plates can separate many complex mixtures in less than 10 minutes. Peco cartridges are available with MPLC® holders. Three cartridge lengths (33, 83 and 150 mm) are available in 4.6 mm i.d.

Brownlee Preparative

Preparative columns are 10 mm i.d. cartridges, packed with Aquapore® 20 µm, 300 Å sorbents. Save time with high-pressure preparative runs up to 3000 psi and achieve high performance with the 20 µm, 300 Å sorbents. Typical sample capacity of the 250 mm cartridge is 50 mg to 1 g of material; the typical flow rate is 4–10 mL/min.



Brownlee Columns and Holders

Brownlee VeloSep®

VeloSep columns are 3.2 mm i.d. cartridges packed with 3 µm reversed-phase support for high throughput analysis and reduced solvent consumption. VeloSep is packed with 3 µm C8 or C18 sorbents and available in 40 or 100 mm lengths.

Brownlee Validated

Brownlee Validated sorbent is derived from a neutral "Type B" silica with inherent low silanophobic activity. Each sorbent is tested to meet stringent specifications for the separation of basic, neutral and acidic test probes. A high-temperature bonding technique is coupled with an exhaustive end-capping procedure to ensure maximum coverage of the silica surface. A proprietary treatment step is used to further eliminate any trace residual metals in the silica that create active absorptive sites. This is a highly deactivated column which yields excellent peak shape for difficult base analytes, pharmaceuticals and small peptides.

NewGuard Columns

NewGuard cartridges are small guard cartridges (15 mm x 3.2 mm i.d.) packed with 5 or 7 µm sorbents. NewGuard columns prolong column life 2 to 5 times by eliminating particulates, contaminants and strongly bound sample components. They act as disposable, replaceable heads of your analytical columns. NewGuard columns are easily coupled to MPLC cartridges or conventional columns.

Brownlee MPLC/Peco Holders

MPLC cartridge system ensures leak-free operation up to 7,000 psi, with only finger-tightening. The high-pressure seal in each end assembly actually seals tighter as pressure increases. No wrenches are required and there is no need to disconnect any tubing to your LC system when changing a cartridge. MPLC cartridges can be directly coupled to another using a union.

Extensive Range of Phases and Column Lengths

Brownlee MPLC Cartridge Columns

Ion Exchange

Column	Description	Part No.	Part No.	Part No.
AX-300, Aquapore®	7 µm, 300 Å, Weak Anion	07110073	07110074	07110075
Polypore® CA	10 µm, Polymeric, Calcium Form	07110091		07110093
Polypore H	10 µm, Polymeric, Hydrogen Form	07110085		07110087

Polar Phase

Column	Description	Part No.	Part No.	Part No.
Cyano, Spheri-5	Cyanopropyl, 5 µm, 80 Å	07110043		07110045
Silica, Spheri-5	5 µm, 80 Å	07110031	07110032	07110033
Silica, Spheri-10	10 µm, 80 Å	07110145		

Reversed Phase

Column	Description	Part No.	Part No.	Part No.
Cyano, Spheri-5	Cyanopropyl, 5 µm, 80 Å	07110043		07110045
OD-300, Aquapore ODS	C-18, 7 µm, 300 Å	07110235	07110234	07110232
ODS, Spheri-5	C-18, Polyfunctional, 5 µm, 80 Å	07110019	07110020	07110021
Phenyl, Spheri-5	Phenyl, 5 µm, 80 Å	07110025		07110027
RP-8, Spheri-5	C-8, Monofunctional, 5 µm, 80 Å	07110001	07110002	07110003
RP-18, Spheri-5	C-18, Monofunctional, 5 µm, 80 Å	07110013	07110014	07110015
RP-300, Aquapore Octyl C-8	7 µm, 300 Å	07110055	07110056	07110057
Pecosphere C18	C-18, Monofunctional, Non-reduced, 3µm, 80A (Pack of 5)	02580164		0258-0220
Pecosphere 3CR	C-8, Base Deactivated, 3 µm (Pack of 5)	02580191		
Pecosphere 3CR	C-18, Base Deactivated, 3 µm (Pack of 5)	02580195		

Pecosphere C18 100 x 3.2 mm monofunctional, non-reduced, 3 µm, 80A column 0258-0221
 *Requires Holder (07150013) **Requires Holder (07150014)

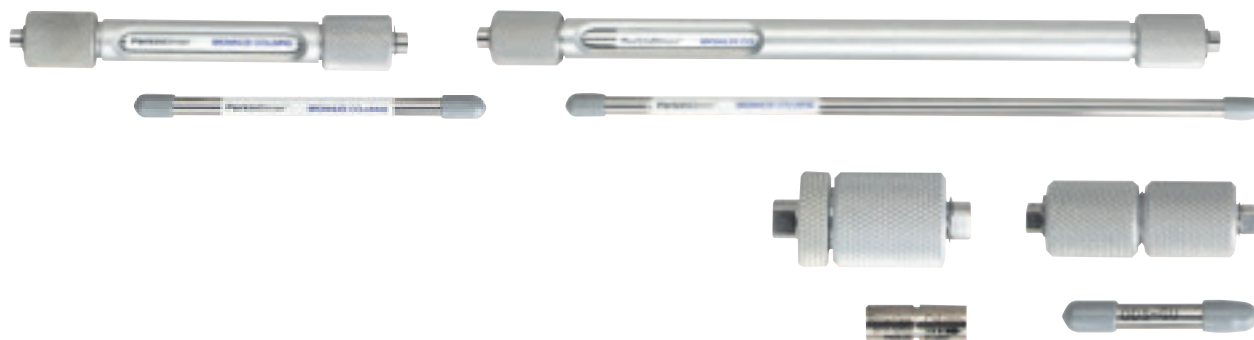
Normal Phase

Description	Part No.	Part No.	Part No.
Pecosphere 3 Silica		02580167	

Reversed Phase

Description	Part No.	Part No.	Part No.
Pecosphere 3 C18, 3 µm	02580164	02580166	
Pecosphere 5 C18, 5 µm			02580169
Pecosphere 3CR C8, Base Deactivated, 3 µm	02580191	02580192	
Pecosphere 3CR C18, Base Deactivated, 3 µm	02580195	02580194	
Reduced Activity 5 C18, 5 µm			N9303396
Reduced Activity 5 C8, 5 µm			02580168
Peco HCODS C18, Polyfunctional, 5 µm, 300 Å			02580213

Description	Part No.	Part No.
Pecosphere 3CR C18, Base Deactivated, 3 µm (Pack of 5)	02580220	02580221



Scavenger Columns

33 mm x 4.6 mm i.d.⁴
5 per package

Column	Description	Part No.
Silica Scavenger	10 µm	02580203
C18 Scavenger	Monofunctional, 10 µm, 80Å	02580202

Ion Exchange

100 mm x 2.1 mm i.d.²
1 per package

220 mm x 4.6 mm i.d.⁵
1 per package

220 mm x 2.1 mm i.d.⁵
1 per package

Column	Description	Part No.	Part No.	Part No.
AX-300, Aquapore	7 µm, 300 Å, Weak Anion		07110077	
Polypore® CA	10 µm, Polymeric, Calcium Form		07110095	
Polypore H	10 µm, Polymeric, Hydrogen Form		07110089	

Polar Phase

100 mm x 2.1 mm i.d.²
1 per package

220 mm x 4.6 mm i.d.⁵
1 per package

220 mm x 2.1 mm i.d.⁵
1 per package

Column	Description	Part No.	Part No.	Part No.
Amino, Spheri-5	Aminopropyl, 5 µm, 80 Å		07110041	
Cyano, Spheri-5	Cyanopropyl, 5 µm, 80 Å		07110047	
Silica, Spheri-5	5 µm, 80 Å		07110035	

Reversed Phase

100 mm x 2.1 mm i.d.²
1 per package

220 mm x 4.6 mm i.d.⁵
1 per package

220 mm x 2.1 mm i.d.⁵
1 per package

Column	Description	Part No.	Part No.	Part No.
BU-300, Aquapore Butyl C-4	7 µm, 300 Å	07110064		
Cyano, Spheri-5	Cyanopropyl, 5 µm, 80 Å		07110047	
OD-300, Aquapore ODS	C-18, 7 µm, 300 Å	07110233	07110231	07110236
ODS, Spheri-5	C-18, Polyfunctional, 5 µm, 80 Å	07110022	07110023	07110024
Phenyl, Spheri-5	Phenyl, 5 µm, 80 Å		07110029	
RP-8, Spheri-5	C-8, Monofunctional, 5 µm, 80 Å	07110004	07110005	07110006
Pecosphere 3CR	C-18, Base Deactivated, 3 µm			
RP-18, Spheri-5	C-18, Monofunctional, 5 µm, 80 Å	07110016	07110017	07110018
Pecosphere 3CR	C-8, Base Deactivated, 3 µm			
RP-300, Aquapore Octyl C-8	7 µm, 300 Å	07110058	07110059	07110060
Pecosphere C18 ⁶	C-18, Monofunctional, Nonreduced, 3 µm, 80 Å	0258-0220		

² Requires Holder (07150014) ⁴ Requires Holder (07150028) ⁵ Requires Holder (07150015) ⁶ Requires Holder (02580225)



NewGuard cartridges directly coupled to a 220 mm MPLC cartridge and connected externally to a 250 mm conventional column.

NewGuard Columns

NewGuard cartridges are small guard cartridges (15 mm x 3.2 mm i.d.) packed with 5 or 7 µm sorbents. NewGuard cartridges prolong column life by eliminating particulates, contaminants, and strongly bound sample components. They act as replaceable, disposable heads of your analytical columns. There is negligible loss of efficiency and little effect on retention or resolution. NewGuards are available in a convenient 3-pack and can be coupled directly to any MPLC cartridge with a union (07150018).

Features and Benefits

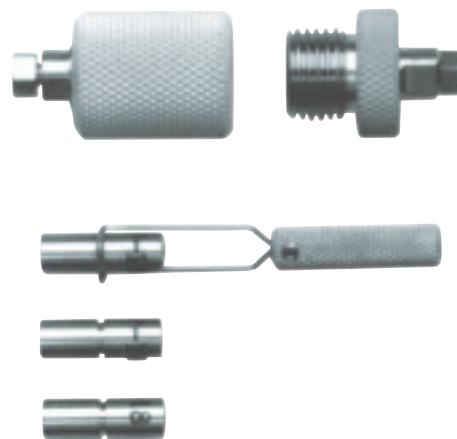
- Prolong column life by 2 to 5 times
- Protect your column from particulates and strongly bound sample components
- Optimized dimensions to prevent loss of resolution
- Easy coupling to MPLC cartridges or conventional columns
- Finger-tight seal to 7,000 psi using NewGuard holders
- Can be used for sample preconcentration (connected to sample injection loop)

15 mm cartridge*, 3.2 mm i.d., 3 per pkg.

Description	Size	Shape	Part No.
Amino, Aquapore® Amino	7 µm	Spherical	07110098
Anion, Aquapore Anion	7 µm	Spherical	07110102
Cyano, Aquapore Cyano	7 µm	Spherical	07110100
Diol, Aquapore Diol	7 µm	Spherical	07110105
Phenyl, Aquapore Phenyl	7 µm	Spherical	07110096
RP-2, Aquapore Dimethyl	7 µm	Spherical	07110086
RP-4, Aquapore Butyl	7 µm	Spherical	07110088
RP-8, Aquapore Octyl	7 µm	Spherical	07110090
RP-18, Aquapore ODS	7 µm	Spherical	07110092
Silica, Aquapore Silica	7 µm	Spherical	07110106
Validated®, C18	5 µm	Spherical	00402237

* Requires holder (07150001)

Note: Actual bed length of NewGuard is about 13 mm



View of the NewGuard holder and a NewGuard 3-pack.

Standards Solutions

Description	Part No.
Test Mix	
LC Gradient Test Mix	N9334010
Universal Test Mix for Reversed-phase (5 mL/pkg)	00890893
Standards	
HPLC SV Calibration Mix #5/610 PAH	00891542
HPLC 610 Calibration Mix A	00891543
HPLC 610 Calibration Mix B	00891544

NewGuard Accessories







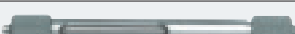
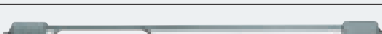
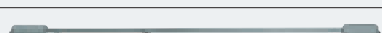

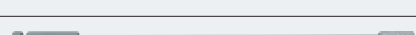






Replacement Seals for MPLC and Prep-10 Holders

Description	Part No.
Prep-10 Inlet Seal	
One each (Prep-10 Seal Replacement Kit Tools Required)	07150012
Prep-10 Outlet Seal	
One each (Prep-10 Seal Replacement Kit Tools Required)	07150026
Seals for MPLC Holders	
Two 7,000 psi seals (Seal Replacement Kit Tools Required)	07150024
Seal Replacement Kit for MPLC Holders	
Tools and Two 7,000 psi Seals	07150023


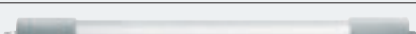
Finger-Tight Holders

MPLC/Peco™ Holders

The patented MPLC cartridge system ensures leak-free operation up to 7000 psi, with only finger-tightening. The high-pressure seal in each end assembly actually seals tighter as pressure increases. No wrenches are required, and there is no need to disconnect any tubing to your LC system when changing a cartridge. Each MPLC cartridge can be directly coupled to another using a union.

Name	Description		Part No.
Universal Holder Kit	Includes 100 and 220 mm holder bodies, 2 end assemblies, 1 union and 1 NewGuard end assembly.		07150025
NewGuard® Holder	Holds a single NewGuard cartridge or a single 20 mm CHOICE™ cartridge.		07150001
30 mm Holder	Holds a single MPLC and CHOICE 30 mm cartridge. (Do not use with Pecosphere column)		07150013
33 mm Pecosphere Holder	Holds 33 mm Fast LC Peco cartridge only.		07150028
50 mm Holder	Holds a single 50 mm CHOICE cartridge only.		N2580030
83 mm Peco Holder	Holds 83 mm Fast LC Peco cartridge only.		07150029
100 mm Holder	Holds a single MPLC 100 mm cartridge.		07150014
100 mm Holder	Holds Pecosphere 10 cm cartridge		02580225
150 mm Holder	Holds a single MPLC 150 mm cartridge.		07150030
220 mm Holder	Holds a single MPLC 220 mm cartridge.		07150015
250 mm Holder	Holds a single MPLC 250 mm cartridge.		07150031
100 mm NewGuard System Holder	Holder for a NewGuard and a 100 mm coupled cartridge.		07150016
220 mm NewGuard System Holder	Holder for a NewGuard and a 220 mm coupled cartridge.		07150017
130 mm MPLC System Holder	Holder for a 30 and 100 mm coupled cartridge.		07150032
Union	For direct coupling of 2 cartridge holders. (Two holder bodies and 2 end assemblies also required.)		07150018
NewGuard End Assembly	Upgrades a 30 mm holder to a NewGuard holder.		07150002
End Assembly	Holder component.		07150019
30 mm Holder Body	Holder component.		07150020
100 mm Holder Body	Holder component.		07150021
20 mm Holder Body	Holder component.		07150022

Prep-10 Cartridge Holders

Name	Description		Part No.
100 mm Prep-10 Holder	Holds a single 100 mm Prep-10 cartridge.		07150005
250 mm Prep-10 Holder	Holds a single 250 mm Prep-10 cartridge.		07150006

Stainless Steel Sample Loops

For Flexar FX UHPLC Autosampler
(up to 18,000 psi operation)

Stainless Steel loops required for use with FX-10 or FX-15 systems operating above 6,200 psi.

High Pressure Stainless Steel Sample Loops

Description	Size	Part No.
Sample Loop, SS	2 µL	N2936071
Sample Loop, SS	5 µL	N2936056
Sample Loop, SS	10 µL	N2936057
Sample Loop, SS	20 µL	N2936058
Sample Loop, SS	50 µL	N2936059
Sample Loop, SS	100 µL	N2936060
Sample Loop, SS	200 µL	N2936061
Sample Loop, SS	500 µL	N2936062
Sample Loop, SS	1 mL	N2936063
Sample Loop, SS	2 mL	N2936064
Sample Loop, SS	5 mL	N2936065

Stainless Steel Sample Loops

	Model 7125/7010	Model 7725	Model 8125
Size	Part No.	Part No.	Part No.
10 µL	09904938	N9306024	
50 µL	09904940	N9306026	
100 µL	09904942	N9306027	41000013
200 µL	09904818	N9306028	09904818
5 mL			N9306032

PEEK Sample Loops For Series 200/225 and Flexar LC Autosamplers (up to 6,200 psi operation)

These loops are compatible with all standard Flexar autosamplers as well as Series 225 autosamplers. PEEK loops cannot be used above 6,200 psi operation therefore are NOT compatible with standard Flexar autosamplers. Stainless steel loops required for use with FX-10 or FX-15 UHPLC systems operating above 6,200 psi.

Description	Size	Part No.
PEEK Sample Loop	2 µL	N2936072
PEEK Sample Loop	5 µL	N2936073
PEEK Sample Loop	10 µL	N2936074
PEEK Sample Loop	20 µL	N2936075
PEEK Sample Loop	50 µL	N2936076
PEEK Sample Loop	100 µL	N2936077
PEEK Sample Loop	250 µL	N2936078
PEEK Sample Loop	500 µL	N2936079
PEEK Sample Loop	1 mL	N2936080
PEEK Sample Loop	2 mL	N2936081
PEEK Sample Loop	5 mL	N2936082

Sample loops are made from PEEK tubing and fittings. PEEK (poly-ether-ether-ketone) is a mechanically-strong, chemically-inert polymer, ideal for HPLC applications where metal surfaces may interact with the mobile phase or sample component. Each sample loop is supplied with two PEEK hex-head nuts and ferrules. These fittings grip the tubing in two locations for a more reliable connection.

Description	Size	Part No.
PEEK Sample Loop	20 µL	N9306035
PEEK Sample Loop	50 µL	N9306036
PEEK Sample Loop	200 µL	N9306038
Internal Loop (PEEK and Ceramic)	2 µL	N9306022

Tubing Accessories

Clean-Cut™ tubing tool is designed to cut Teflon®, Tefzel® and polymers in general but, in particular, PEEK tubing. A unique safety locking mechanism secures the blade when not in use.



Description	Part No.
Clean-Cut Tubing Cutter	ED020015
Clean-Cut Tubing Replacement Blade	ED020016
Cable/Tubing clip (U-Shaped)	NX598006
Stick-on Tubing Organizer (Gray Plastic)	NX598006

PEEK Tubing

PEEK tubing has the strength required to withstand continuous use at HPLC pressure without swelling or bursting.

Use PEEK with virtually any organic or inorganic liquid. PEEK tubing is not affected by halide salts, high-strength buffers or other aggressive mobile phases that degrade stainless steel.

Description	Length	Part No.
1/16 in O.D. x 0.007 in I.D.	5 ft	N9302678
1/16 in O.D. x 0.010 in I.D.	5 ft	N9302650
1/16 in O.D. x 0.004 in I.D. (Black)	50 cm	N2916200
1/16 in O.D. x 0.005 in I.D. (Red)	50 cm	N2916059
Connector Tubing, Flexar/FX Mixer to Injector, SS		N2916211
Connector Tubing, Flexar ISO/Binary/Quaternary Pump to Autosampler, SS		N2916210

Stainless Steel Tubing

Features and Benefits

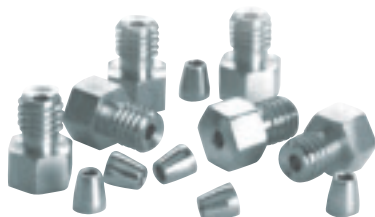
- Pre-cut and mirror-polished in 316 stainless steel

Description	Length	Part No.
1/16 in O.D. x 0.015 in I.D.	6 ft	00873036
1/16 in O.D. x 0.007 in I.D.	3 ft	02540838
1/16 in O.D. x 0.005 in I.D.	2 ft	02507060

High-performance Fingertight® fittings for the most demanding applications

This PEEK Fingertight® fitting is the toughest with regard to chemical resistance and pressure. This high-performance Fingertight® fitting is recommended for the most demanding applications and will resist pressures up to 6,000 psi (400 bar). Made from a single piece of PEEK, the size permits tightening without tools.

Description	Part No.
PEEK One-Piece Fingertight® Fitting	ED020005



Fittings, Nuts and Ferrules

Stainless steel nuts are available in both Parker-Hannifin and Rheodyne™ formats. The nuts are used to connect 1/16 inch o.d. stainless steel tubing and feature a 10-32 thread size. PerkinElmer also offers select SSI fittings for 1/16 inch o.d. tubing in 1/4-28 thread size.

Stainless Steel Fittings

Description	Part No.
Kel-F Reverse Ferrule, 1/8 inch*	09903771
Kel-F Ferrule, 1/16 inch*	09920382
Tefzel Nut, 1/16 inch*	09920381
Parker-Hannifin Ferrule, 1/16 inch	00873032
Parker-Hannifin Nut, 1/16 inch	09903980
Parker-Hannifin Nut & Ferrule Kit, 1/16 inch Includes: 6 nuts and 6 ferrules	00890945
Parker-Hannifin Zero-Dead-Volume Union with nuts and ferrules	09903289
Parker-Hannifin Medium-Stem SS Nut	N2916202
Rheodyne™ Ferrule, 1/16 inch	09904947
Rheodyne™ Nut, 1/16 inch long body	09904974
Rheodyne™ Nut, 1/16 inch short body	09904956
Rheodyne™ Nut and Ferrule Kit, 1/16 inch Includes: 6 ferrules, 3 short nuts and 3 long nuts	02540274
Tefzel Nut (for Reverse Ferrule), 1/8 inch*	N2601189
Tefzel Nut, 1/16 inch*	09920381
Valco Ferrule	09903891
OptiTech Reusable Nut/Ferrule for UHPLC (fingertight to 15K psi)	N9306301
OptiTech Ferrule replacements for UHPLC (10 pack)	N9306300
UHPLC 1/16 inch Reusable Fitting	N9307800

* The Tefzel and Kel-F fittings above are only for low pressure use (under 400 psi).

ONE-PIECE, EASY-TO-USE



Fittings Kits

Recommended for users of a PerkinElmer Biocompatible LC system. Contains nuts, ferrules and unions.

Description	Part No.
Biocompatible Column Fittings for LC	N9301001

Fittings Kit for LC

The kit contains Rheodyne™ and SSI nuts and ferrules as well as Fingertight® II nuts and ferrules for toolless installation. Zero-dead-volume unions are also included. In addition you receive varying lengths of stainless steel tubing in 0.007 and 0.010 inch i.d.s, as well as 0.30 inch i.d Tefzel® tubing.

Description	Part No.
All-in-one Fittings Kit	N9301002

Operation Kit

Recommended for purchasers of their first LC. Includes tubing, union, fittings, syringe, basic LC book and test mix.

Description	Part No.
Operation Kit	00890873

ENHANCE PUMP PERFORMANCE

Vacuum Degassing Kits

Using a solvent degassing system will extend the performance of your pump. PerkinElmer offers both vacuum degassing systems that can handle all your degassing requirements.



On-Line Vacuum Degasser Kit

This is a low-volume, high efficiency, on-line module for the removal of dissolved gasses from HPLC solvents. The vacuum degasser is available in 3 and 5 channel models to support isocratic, binary and quaternary pumps as well as degassing of autosampler flush solvent.

Description	Part No.
3-channel Vacuum Degassing Package. Includes: a Vacuum Degasser, one 1 L Bottle with Cap, one 2 L Bottle with Cap, one Organizer Tray and Accessory	N2600571
5-channel Vacuum Degassing Package. Includes: a Vacuum Degasser, two 1 L Bottle with Caps, two 2 L Bottles with Caps, Solvent Tray and Organizer	N2600570
Binary Bottle Cap Kit. Includes: two Caps, Tubing, Fittings and Labels required for two Solvent Bottles	N2600522
Quaternary Bottle Cap Kit. Includes: four Caps, Tubing, Fittings and Labels required for four Solvent Bottles	N2600523

Liquid Chromatography Laboratory Bottle Kits

Contents	Part No.
1x5 Liter Bottle with Cap and Teflon Insert, 2 Meters PTFE 1/16" Tubing and 1x10 µm SS Solvent Frit	N2601610
1x2 Liter Bottle with Cap and Teflon Insert 1 Meter PTFE 1/16" Tubing and 1x10 µm SS Solvent Frit	N2601611
1x1 Liter Bottle with Cap and Teflon Insert 1 Meter PTFE 1/16" Tubing and 1x10 µm SS Solvent Frit	N2601612
1x0.5 Liter Bottle with Cap and Teflon Insert 1 Meter PTFE 1/16" Tubing and 1x40 µm SS Solvent Frit	N2601613
1 Cap with Teflon Insert 1 Meter PTFE 1/16" Tubing and 1x10 µm SS Solvent Frit	N2601614
1 Cap with Teflon Insert 1 Meter PTFE 1/16" Tubing and 1x40 µm SS Solvent Frit	N2601615
1x0.5 Liter Bottle with Cap and Dual Teflon Insert 2 pcs of 2 Meter PTFE 1/16" Tubing (Piston Wash Function)	N2601616
1 Cap with Dual Teflon Insert 2 pcs of 2 Meter PTFE 1/16" Tubing and 1x10 µm SS Solvent Frit (Piston Wash Function)	N2601617

Check Valves

HPLC check valves allow solvent to flow in only the desired direction. Check valves are easy to install with the torque wrench kit. For all PerkinElmer pumps an intermediate check valve is required. The input check valve, which is identical, should be ordered. The check valves of the biocompatible pumps differ from those of the stainless steel pumps in that all portions that contact fluid are composed of titanium.



Type	Inlet/Intermediate Check Valve Part No.	Outlet Check Valve Part No.
Standard Stainless Steel	02540177	02540197
Micropump	02540177	02540197
Biocompatible Titanium	N2600226	N2600192
FX-15 Check Valves	N2911220	N2911220

Maintenance Kits and Tools

Description	Part No.
Biocompatible Piston Seal Replacement Kit Includes: Four Seals, Backup Rings, and O-rings	N2910385
Check Valve Torque Wrench	02540871
Diaphragm for Pulse Compensator	N2601316
FX-15 UHPLC Pump Accessories Replacement 0.5 µm Filter Frits for FX-15 (4-pack)	N2911224
High pressure FX-15 Piston Seal Kit	N2911221
Standard Piston Seal Replacement Kit for Series 200 and Flexar Pump Includes: Four Seals, Backup Rings, and O-rings	N2910383
Insertion Tool	N2601503
Micropump Piston Seal Replacement Kit for Series 275 and FX-10 pump	N2910384
Piston Wash Bottle Kit for FX-15	N2601616
Pulse Compensator Repair Kit Includes: Diaphragm, Elastomer Plug, and Seal	N2600313
Seal Removal Tool	N2601295
Series 200 Bio LC Pump Maintenance Kit Includes: Fuses, Seals, O-rings, and Seal Tools	N2910346
Series 200 Pump Maintenance Kit Includes: Fuses, Seals, O-rings, and Seal Tools	N2910345

Replacement Vacuum Degasser Bottles

Description	Part No.
1 L Glass Bottle	N2600497
2 L Glass Bottle	N2600498

Solvent Sparger and Solvent Filters

Solvent filters remove unwanted particulate matter from the LC instrument. Spargers connect directly to the solvent delivery line and are easily removed for cleaning. The scavenger column is ideal for eliminating particulate material from solvents.



Solvent Filters

Solvent Spargers, Filters and Scavengers

Description	Size	Part No.
Solvent Reservoir Sparger		
Stainless Steel	10 µm	09903610
Titanium	10 µm	N2600070
Stainless Steel	40 µm	09903615
Titanium	40 µm	N2600089
Solvent Filters/Scavengers		
In-Line Solvent Filter System		09903606
In-Line Solvent Filter Replacement Kit		02540311
In-Line Solvent Filter System, Titanium		N2600259
Replacement 2 µm Titanium Filter Element		N2601477
Replacement Seal for In-Line Solvent Filter		N2601262
3 cm Scavenger Cartridge Holder		02580178
Spheri-5 C18 10 µm Scavenger Column (5 pack)		02580202
LC System Accessories		
Solvent waste cup		N2916019
Drain Cup		N2916085
90° Elbow Adapter, 1/4" ID HDPP		09220102
Tubing Clip (U-shaped, Polypropylene)		NX598006
Polypro Elbow Barbs		09220102
Large ID (11 mm) Silicone Tubing (5 ft)		N2916016
Manual Injector Bracket (Magnetic Clip-on)		N2931275

Static Mixers

Static mixers are used to facilitate complete mobile phase blending, resulting in improved retention performance. The mixer will most typically be used where high-pressure blending of two pump outputs is required. Mixers incorporate a highly efficient crossflow shearing mechanism which produces vortex shear mixing over a wide flow range.



Mixers



Mixing Head

UHPLC Static Mixers (up to 18,000 psi)

Description	Size	Part No.
In-Line High Pressure Mixer Assembly, SS	50 µL	N2911200
In-Line High Pressure Mixer Assembly, SS	150 µL	N2911201
In-Line High Pressure Mixer Assembly, SS	250 µL	N2911202
In-Line High Pressure Mixer Assembly, SS	350 µL	N2911205
In-Line High Pressure Mixer Assembly, SS	500 µL	N2911203
Binary T-Mixer, SS	10 µL	N2911170
Binary High Pressure T-Mixer, SS	50 µL	N2911212
HP Binary High Pressure T-Mixing, SS	150 µL	N2911206
Binary High Pressure T-Mixer, SS	350 µL	N2911210
Binary High Pressure T-Mixer, SS	500 µL	N2911211
T-connector, SS		N2911127

Analytical Static Mixers (up to 6,200 psi)

Description	Size	Part No.
Binary T Mixer	10 µL	N2911170
Binary T Mixer	25 µL	N2911171
In-Line Mixer Assembly	150 µL	N2911173
In-Line Mixer Assembly	500 µL	N2911172
Binary T Mixer Cartridge	10 µL	N2911174
Binary T Mixer Cartridge	25 µL	N2911175
Binary T Mixer Cartridge	50 µL	N2911176
Binary T Mixer Cartridge	150 µL	N2911177
Binary T Mixer Cartridge	250 µL	N2911178

Dynamic Mixer

Used to facilitate complete mobile phase blending, resulting in improved retention performance. The mixer will most typically be used as part of a Micro pump package — where high-pressure blending of 2 pump outputs is required. Three different volume mixing heads (75, 200 and 400 µL) are available.

Kit includes: Mixer Accessory, Stainless Steel "Tee" Fitting (N2911127), U.S. style AC Line Cord and 0.1 A Type T Fuse.

Description	Part No.
Dynamic Mixer Accessory (100–240 V)	N2910520

Mixing Heads

Size	Part No.
75 µL	N2910521
200 µL	N2910522
400 µL	N2910523

NEW



Flom Analytical Injection Valve

The Flom Analytical Injection Valve is a very reliable manual HPLC injection valve. It comes with a built in “Inject” contact closure connection output. A PEEK rotor seal is provided for excellent solvent/sample resistance and the fluid path is designed for minimal dispersion. This valve is available in either stainless steel or PEEK, depending on the application or need.

Description	Product No.
Flom Injection Valve Stainless Steel	N9306073
Flom Injection Valve PEEK	N9306072

Injector Valve Rotor Seals

For both Series 200 Autosampler and manual injectors.

For both the Rheodyne and Flom valves, rotor seals should be periodically replaced every 6 months to a year and are available in PEEK. For the Rheodyne valve, they are also available in Vespel. PEEK is more inert towards amines and other basic biomolecules/ pharmaceuticals, exhibiting less sample carryover. However, Vespel is somewhat more resilient than PEEK, providing somewhat better wear life.

Description	Product No.
Flom Rotor Seal PEEK	N9306068
Rheodyne 7725 Vespel Rotor Seal	09904802
Rheodyne 8125 Vespel Rotor Seal	10070900
Rheodyne 7725/9725 PEEK Rotor Seal	N9306044



Rheodyne™ 9725 PEEK Bio Injection Valve

Model 9725 is inert and well-suited to the chromatography of biological molecules, including applications with aggressive mobile phases. This valve is useful in all applications in which metal contact with the mobile phase and or sample should be avoided. This valve uses PEEK vent lines and a Teflon® rotor seal and can be operated in a pH range from 0 – 14.

Description	Product No.
9725 Injection Valve for Series 200 Autosampler	N9306020

Rheodyne™ 8125 Low-Dispersion Stainless Steel Injection Valve

Ideal for use in an LC/MS system, the model 8125 is designed for 1 and 2 mm microbore columns and can also be used with conventional analytical (3 to 5 mm) columns. Small flow passages produce low dispersion, maintaining the high mass sensitivity inherent in micro columns.

Description	Product No.
8125 Low-Dispersion Stainless Steel Injection Valve	N9306021

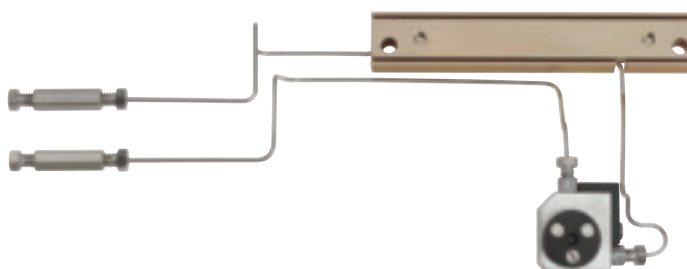
Rheodyne™ 7725 Analytical Injection Valve

Inject from 1 µL to 5 mL with high accuracy and precision, with the Rheodyne™ 7725 and 7725i valves.

Rheodyne™ 7725 and 7725i valves are versatile injectors and can use both partial-filling and complete-filling methods for loading the sample loop. Wide port angles of the 7725/7725i valve provide improved access to fittings. Sample loop with a 2 µL internal capacity is also available. In a clean system, the 7725/7725i typically can make more than 30,000 injections before requiring replacement of the rotor seal.

Description	Product No.
7725 Injection Valve for Series 200 Autosampler	N9306019
7725i Injection Valve with Internal Switch	N9306017

INTERCHANGEABLE FOR YOUR SAMPLE



Bio Conversion Kits

There are two kits available; one that contains all of the parts necessary to convert the Series 200 pump and Series 200 autosampler for Bio applications. The other contains all of the parts necessary to convert only the Series 200 Pump for Bio applications.

Description	Part No.
S200 Pump and S200 Autosampler Conversion Kit	N2910035
S200 Pump Conversion Kit	N2910036

Pump Seal Kits

Description	Part No.
High Pressure Piston Seal Replacement Kit Includes: Seals (4), Backup Rings and O-Rings	N2910383
Micropump Piston Seal Replacement Kit Includes: Seals and O-Rings	N2910384
Series 200 Pump Maintenance Kit Includes: Fuses, Seals, O-Rings and Seal Tools	N2910345



Detector Backpressure Regulator

The detector backpressure regulator is a device that is attached to the outlet of the detector to prevent outgassing in the flowcell, eliminating variations to the detector baseline.

Description	Material	Part No.
40 psi inline backpressure regulator		N2925090
2 – 5K psi variable backpressure regulator		N2925091
Backpressure Regulator Adjustable from 15 – 59 psi	Stainless Steel	09907126

Flexar UV/Vis, Series 200/785A UV/Vis, Flexar PDA and Series 200 EP

These flowcells provide the highest detection limits possible for your sample. The 6 mm pathlength flowcell has been optimized for lower-dispersion LC analysis and is the perfect choice when using narrowbore, 2.1 mm or microbore, 1 mm columns (see Figure 1). The 3 mm pathlength is the choice for semiprep LC to avoid detector saturation at high-solute concentrations.

UV/Vis, PDA, FL and LC-135/235 FLOWCELLS

Description	Size	Part No.
Flowcells for Flexar FX-UV/Vis UHPLC Detectors		
Flowcell	6 mm x 2.4 μ L	N2925090
Flowcell Kit (includes flowcell & detector head plate w/ gasket)	6 mm x 2.4 μ L	N2920070
Flowcells for Flexar FX-UV/Vis UHPLC Detectors		
Flowcell Kit (includes flowcell w/ heat exchanger and zdv unions)	10 mm x 15 μ L	N2920070
Flowcell	10 mm x 15 μ L	N2920124
Flowcell Assembly (w/ zdv unions)	6 mm x 2.4 μ L	29000544
Prep Flowcell Assembly (w/ zdv unions)	3 mm x 1.7 μ L	29000545
Flowcells for 785A UV/Vis Detectors		
Flowcell	8 mm x 12 μ L	29000542
Flowcell Assembly (w/ heat exchanger and zdv unions)	8 mm x 12 μ L	N2920117
Flowcells for Flexar FX-PDA UHPLC and Series 275 PDA Detectors		
Flowcell (dual-lensed)	6 mm x 2.4 μ L	N2920128
Flowcells for Flexar and Series 200EP PDA Detectors		
Flowcell	10 mm x 15 μ L	N2920126
Flowcell Assembly	10 mm x 15 μ L	N2920160
Flowcells for Series 200 PDA Detectors		
Flowcell	10 mm x 12 μ L	N2922107
Flowcell	4.5 mm x 5 μ L	N2922030
FL 3 μ L Flowcell w/ Assembly		N2922211
Flowcells for LC-135/235 PDA Detectors		
Flowcell Assembly (w/ heat exchanger)	10 mm x 8 μ L	N2350211
Flowcell	10 mm x 8 μ L	N2350162

FOR OUTSTANDING PERFORMANCE



UV/VIS Deuterium Detector Lamp

Our extensive quality control and inspection process demands the very best quality sources. Choosing a PerkinElmer deuterium, tungsten or xenon source provides outstanding ultraviolet and true visible performance.

- Exceptional performance anywhere in the detector's 190 – 700 nm wavelength range
- Lamp changes are quick and easy due to a unique self-aligning lamp mount

UV/VIS Detector Lamps

Components	Part No.
Flexar Series/Series 200/785A UV/VIS Detector Lamps	
Deuterium Lamp	N2920149
Tungsten Lamp	N2920146
LC-295 UV/VIS Detector Lamps	
Deuterium Lamp	02712266

Refractive Index Detector Lamps

The Flexar Series/Series 200/200s Refractive Index, with its deflection-type design, allows sensitive detection of these compounds with low noise and drift characteristics.

Series 200/200a

Components	Part No.
Tungsten Lamps	02712273



Series 200/200 EP Photo Diode Array Detector Lamp

Photo Diode Array Detector Lamps

The Flexar Series/Series 200/200 EP Photo Diode Array Detector provides true UV/VIS detection and high resolution spectral data. The excellent signal-to-noise characteristics make it ideally suited for low-volume or low concentration samples.

Components	Part No.
Flexar/Series 200 EP	
Deuterium Lamp	N2925030
Tungsten Lamp	N2922011
Series 200	
Deuterium Lamp (Phase 2)	N2922046
Tungsten Lamp	N2922011
LC-135C/235	
Detector Lamp	N2351285

Fluorescence Detector Lamps

The major benefit afforded by fluorescence detection is the inherent high sensitivity of the technique coupled with outstanding specificity. The Series 200a Fluorescence Detector provides signal to noise ratio of >700:1 from trace analysis using a 150 W xenon source.

Components	Part No.
Flexar/Series 200/200a	
Xenon Lamp	N2922082
Flexar/Series 200/200a	
Xenon Lamp	L2251157
Festoon Lamp	04969486

Nitrogen Generators

PerkinElmer offers customers a new line of nitrogen generators to meet the growing need for cost effective and pure nitrogen.

Membrane Nitrogen Generators are designed to supply single or multiple LC/MS instruments with dry nitrogen at purities of 98% to 99.5%.

The generator can also be used for solvent evaporation as well as supplying dry nitrogen to analytical instruments.

Features and Benefits

- LC/MS grade purity enhances instrument performance
- Phthalate-free
- Recommended, certified, tested, and used by all major LC/MS instrument manufacturers
- Return on investment in 6 months to 2 years
- Minimal maintenance required

Applications

- LC/MS
- Solvent Evaporation
- Analytical instruments requiring nitrogen
- Thermal Analyzers



Low Flow NITROFLOW Lab

Features and Benefits

- Complete “Plug and Play” system recommended by all major LC/MS manufacturers
- 8,000 hours compressor warranty or two years
- Special design ensures quiet operation
- Dual oil-less air compressors

Components	Part No.
120 V	N9306213
230 V	N9306214
Product Specification	
Purity:	94.0 – 99.5%
Phthalate-free	
Hydrocarbon-free	
Flow Rates	10 – 50 lpm
Delivery pressure	8 bar
Ambient temperature	10 °C – 35 °C
Power consumption	1400 Watts
Noise level	<58 dB (A)
Electrical requirements	120 V / 60 Hz, 20 Amp Nema 5
Lab capacity at nominal conditions:	
Ambient temperature:	20 °C / 68 °F
Ambient pressure:	1013 mbar(a).
Dimensions (net):	90 cm W x 31 cm D x 70 cm H
Weight (shipping)	127.4 kg, 280 lbs

Description	Part No.
N2-22 Mid Flow Nitrogen Generator without Air Compressor	N9306210

Product Specification	
Purity:	95.0 – 99.5%
Atmospheric Dewpoint	-58 °F (-50 °C)
Particles >0.01 µm:	None
Suspended liquids:	None
Min./Max. operating pressure:	60/145 psig (4.0/10 barg)
Ambient operating temperature range:	60 °F – 95 °F (15 °C – 35 °C)
Inlet air temperature range:	60 °F – 95 °F (15 °C – 35 °C)
Maximum recommended inlet air temperature	110 °F (43 °C)
Electrical requirements:	None
Dimensions (net):	45 cm W x 41 cm D x 130 cm H
Weight (shipping):	36 kg, 80 lbs

Description	Part No.
N2-35 Mid Flow Nitrogen Generator without Air Compressor	N9306211

Product Specification	
Purity:	95.0 – 99.5%
Atmospheric Dewpoint	-58 °F (-50 °C)
Particles >0.01 µm:	None
Suspended liquids:	None
Min./Max. operating pressure:	60/145 psig (4.0/10 barg)
Ambient operating temperature range:	60 °F – 95 °F (15 °C – 35 °C)
Inlet air temperature range:	60 °F – 95 °F (15 °C – 35 °C)
Maximum recommended inlet air temperature	110 °F (43 °C)
Electrical requirements:	None
Dimensions (net):	45 cm W x 41 cm D x 130 cm H
Weight (shipping):	41 kg, 90 lbs

Description	Part No.
N2-45 High Flow Nitrogen Generator without Air Compressor	N9306212

Product Specification	
Purity:	95.0 – 99.5%
Hydrocarbon-free	
Phthalate-free	
Atmospheric Dewpoint	-58 °F (-50 °C)
Particles >0.01 µm:	None
Suspended liquids:	None
Min./Max. operating pressure:	60/145 psig (4.0/10 barg)
Recommended ambient operating temp range	72 °F (22 °C)
Inlet air temperature range:	60 °F – 95 °F (15 °C – 35 °C)
Maximum recommended inlet air temperature	110 °F (43 °C)
Inlet/Outlet ports	1/2" NPT
Electrical requirements:	None (filtration system only)
Dimensions (net):	61 cm W x 50 cm D x 140 cm H
Weight (shipping)	114 kg, 250 lbs

*See www.perkinelmer.com for complete listing of flow rates.



Flow Rates*

Inlet psi	Output lpm	Purity %
100	13	99.5
125	16	99.5
100	20	99.0
125	25	99.0
100	30	98.0
125	38	98.0



Flow Rates*

Inlet psi	Output lpm	Purity %
100	20	99.5
125	25	99.5
100	30	99.0
125	37	99.0
100	46	98.0
125	57	98.0



Flow Rates*

Inlet psi	Output lpm	Purity %
100	39	99.5
125	55	99.5
100	53	99.0
125	74	99.0
100	73	98.0
125	106	98.0