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Sample Handling

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PARTISPHERE® CARTRIDGE SYSTEM

- Void-sealing cartridge system
- Convenient and easy to use
- Hand tightened fittings

PartiSphere® silica is manufactured by Hichrom Ltd. The material is only readily available in the PartiSphere cartridge system.

PartiSphere Phases	Functional Group	Particle shape	Particle Size (µm)	Pore Size (Å)	Surface Area (m ² /g)	Carbon Load (%)
C8	Octyl	Spherical	5	120	160	6
C18	Octadecyl	Spherical	5	120	160	11
SAX	Quaternary Ammonium	Spherical	5	120	160	-
SCX	Benzenesulphonic Acid	Spherical	5	120	160	-

Further PartiSphere® materials are available.

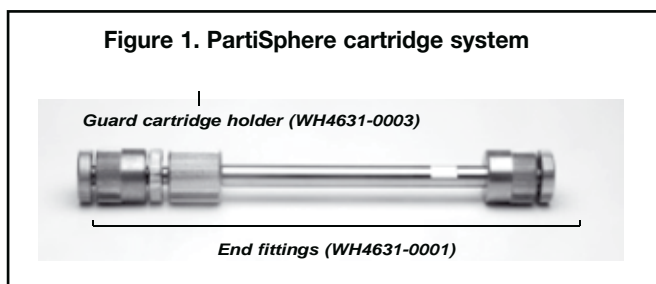
Void-sealing cartridge system

The system is characterized by a void-sealing mechanism. If a void eventually occurs at the top of the column bed, a simple tightening of the locking head will move the cone-sealing cylinder and frit downwards until it creates the zero-void configuration of the original cartridge.

Large knurled end fittings allow ready hand-tightening of the system.

PartiSphere guard cartridge system

Additional installation of the guard cartridge holder (WH4631-0003) allows use of guard cartridges (Figure 1).



Ordering Information - Cartridges

Analytical cartridges

PartiSphere Phase	Catalogue No.
125 x 4.6mm replacement cartridge (1/pk)	
C8	WH4621-0503
C18	WH4621-0502
SAX	WH4621-0505
SCX	WH4621-0507
250 x 4.6mm replacement cartridge (1/pk)	
C18	WH4621-1502
SAX	WH4621-1505
SCX	WH4621-1507
Accessories	
Spare end fitting	WH4631-1001

Guard cartridges

PartiSphere Phase	Catalogue No.
Replacement guard cartridges (5/pk)	
Reversed-phase	WH4641-0002
Anion exchange	WH4641-0005
Cation exchange	WH4641-0007
Accessories for guard cartridges	
Guard Cartridge Holder (1/pk)	WH4631-1003



PARTISIL®

- Irregular porous silica
- 5 and 10µm particle sizes
- Hichrom high efficiency

Partisil®, manufactured by Hichrom Ltd., was one of the first commercially available irregular silicas. A large surface area gives it a high loading capacity.

Partisil® ion-exchange materials are still widely used today.

Partisil® Phases	Functional Group	Endcapped	Particle Size (µm)	Pore Size (Å)	Surface Area (m ² /g)	Carbon Load (%)
Silica	Octyl	-	5,10	85	350	-
C8	Octadecyl	Yes	5,10	85	350	9
ODS	Octadecyl	No	10	85	350	5
ODS2	Octadecyl	Yes	10	85	350	15
ODS3	Octadecyl	Yes	5,10	85	350	10.5
PAC	Amino-cyano	Np	5,10	85	350	16
SAX	Tetramethyl Ammonium	No	10	85	350	10
SCX	Sulphonic Acid	No	10	85	350	10

Ordering Information - Partisil® Columns

Microbore (1.0mm - 2.1mm ID) and analytical (4.0mm ID) columns

Please contact us for further details of 1.0mm, 2.1mm and 4.0mm ID Partisil columns as well as Partisil original part numbers.

Medium bore (3.2mm ID) and analytical (4.6mm ID) columns

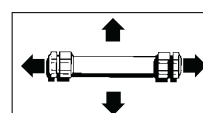
Partisil® Phase	Column Dimensions (mm)						Guard Cartridges ¹ (For 3.2mm-4.0mm i.d. columns)
	5µm	50 x 3.2	150 x 3.2	250 x 3.2	50 x 4.6	150 x 4.6	
Silica	P5-50AS	P5-150AS	P5-250AS	P5-50A	P5-150A	P5-250A	P5-10C5
C8	P5C8-50AS	P5C8-150AS	P5C8-250AS	P5C8-50A	P5C8-150A	P5C8-250A	P5C8-10C5
ODS	P5ODS3-50AS	P5ODS3-150AS	P5ODS3-250AS	P5ODS3-50A	P5ODS3-150A	P5ODS3-250A	P5ODS3-10C5
PAC	P5PAC-50AS	P5PAC-150AS	P5PAC-250AS	P5PAC-50A	P5PAC-150A	P5PAC-250A	P5PAC-10C5

Partisil® Phase	Column Dimensions (mm)	Guard Cartridges ¹ (For 3.2mm-4.0mm i.d. columns)
10µm	250 x 4.6	
Silica	P10-250A	P10-10C5
C8	P10C8-250A	P10C8-10C5
ODS	P10ODS-250A	P10ODS-10C5
ODS2	P10ODS2-250A	P10ODS2-10C5
ODS3	P10ODS3-250A	P10ODS3-10C5
PAC	P10PAC-250A	P10PAC-10C5
SAX	P10SAX-250A	P10SAX-10C5
SCX	P10SCX-250A	P10SCX-10C5

¹ Use with free-standing holder HI-161 and column coupler HI-081.

² Starter kits also available.

Please contact us for ordering information
on column dimensions not listed



ULTRASPHERE® (Hichrom) (Formerly Beckman)



- Spherical porous silica
- 3 and 5µm particle sizes
- Specific ion-pair reversed-phase column
- Widely referenced silica

Ultrasphere®, by Hichrom, is a classical silica which boasts a high performance reputation. In addition to the base silica, four phases (5µm particle size) are available in standard columns - Ultrasphere C8, C18, cyano and IP (ion-pair).

Ultrasphere C8 and C18 are also available as 3µm particle size silicas packed into the XL High Speed Cartridge Columns.

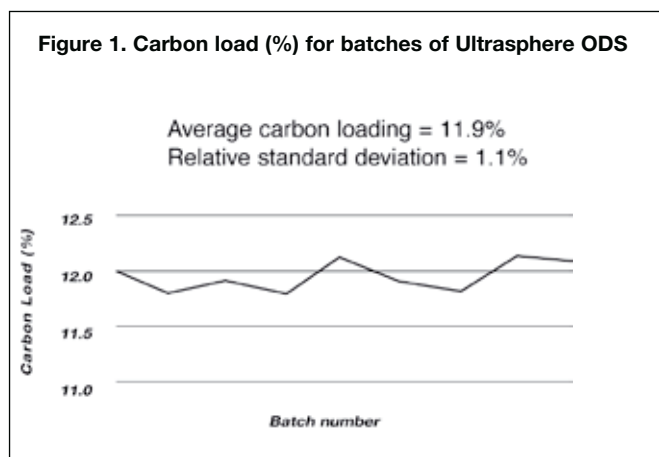
Ultrasphere Phases	Endcapped	Particle Size (µm)	Pore Size (Å)
Silica	-	5	80
C8	Yes	3,5	80
ODS	Yes	3,5	80
CN	No	5	80
IP (C18)	Yes	5	80

Batch to batch reproducibility

The reproducibility of batches of Ultrasphere ODS is shown in Figure 1. Resultant columns have minimal selectivity differences (<5%).

Ultrasphere-XL high speed cartridge column

In this cartridge design, the guard cartridge is directly abutted to the analytical cartridge. This integral design was one of the first of its type to minimize dead volume between the two cartridges.



Ordering Information

Ultrasphere Phases	XL Cartridge Column Dimensions ¹ (mm)			Column Dimensions ² (mm)		
	Analytical	Guard (2pk)		Analytical		Guard
	70 x 4.6	5 x 4.6	150 x 4.6	250 x 4.6	250 x 2.0	45 x 4.6
Silica	-	-	US235342	US235341	US237392	US244011
C8	US237501	US237521	US235333	US235332	US237396	US243532
ODS	US237500	US237520	US235330	US235329	US244434	US243533
CN	-	-	US244070	US244071	US237394	US244072
C18 Ion-Pair (IP)	-	-	US235334	US235335	-	US243534

¹ Use analytical cartridge and guard cartridge in XL holder assembly US237060. Contains 3µm particle size silica.

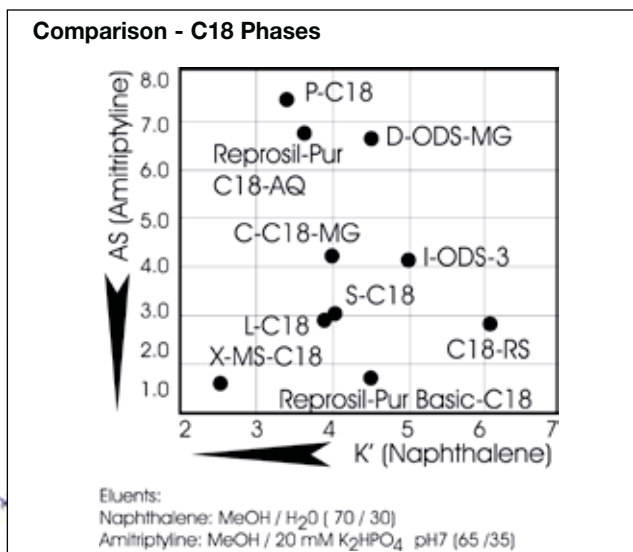
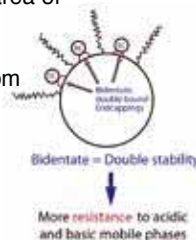
² Contains 5µm particle size silica.

ReproSil®- Pur Basic & ReproSil® Gold (Maisch)

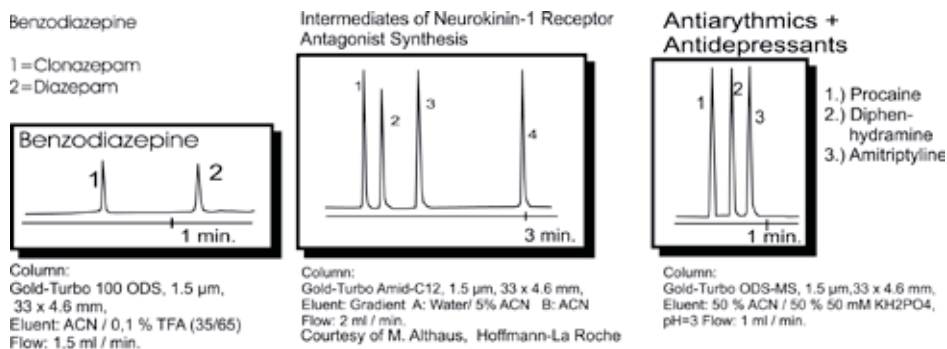
- Porous spherical silica
- Specifically designed for pharmaceutical and biotechnical separations
- Fully validated columns
- Ideal for LC-MS
- Excellent reproducibility

Reprosil®-Pur Basic-C18

- 1) Octadecyl monolayer phase bonded to spherical silica particles with pore size of 100Å, a surface area of 450m²/g and a pore volume of 1.1 ml/g.
- 2) Impurities: Al < 1ppm, Fe < 1ppm, Ti < 1ppm, Zr < 1ppm
- 3) Double bound endcapping.
- 4) pH stability from 1.5 to 10, because of the unique stable endcapping.
- 5) Excellent peak symmetry even with strong bases



High Speed HPLC- Reprosil® Gold



Features of Reprosil®-Pur and Reprosil® Gold - the high purity phases (99.999%)

ReproSil Phases	Particle Size (µm)	Pore Size (Å)	Surface Area (m ² /g)	Carbon Load (%)	Endcapping
Reprosil-Pur Basic C18	1.8, 2, 3, 5, 10	100	450	17	Bidentate
Reprosil-Pur Basic C18-HD	3, 5, 10	100	450	25	Bidentate
Reprosil-Pur Basic C8	3, 5, 10	100	450	15	Bidentate
Reprosil-Pur Basic C8-2	3, 5, 10	100	450	12	Bidentate
Reprosil Gold C18	3, 5, 10	120	320	20	Bidentate
Reprosil Gold 200 C18	5, 10	200	180	14	Bidentate
Reprosil Gold 300 C18	5, 10	300	120	8	Bidentate
Reprosil Gold C8	3, 5, 10	120	320	12	Bidentate
Reprosil Gold 200 C8	5, 10	200	180	8	Bidentate
Reprosil Gold 300 C8	5, 10	300	120	5	Bidentate
Reprosil Gold C4	3, 5, 10	120	320	8	Bidentate
Reprosil Gold 200 C4	5, 10	200	180	5	Bidentate
Reprosil Gold 300 C4	5, 10	300	120	3	Bidentate

Please contact us for ordering information

REPLACEMENT PARTS - AGILENT 1200/1100/1050

Ordering Information - Pump Replacement Parts

Pump Replacement Parts	Replacement Part Number	OEM Part	Typical Maintenance Schedule
PTFE Frits for model 1200/1100/1050 5/pack	CHR07-000-5	01018-22707	Change every 6 months
Piston Seal, UHMW-PE for model 1200/1100/1050 - pk 10	CHR01-000-10	0905-1420	Change every 6 months
Piston Seal, UHMW-PE for model 1200/1100/1050 - each	CHR01-000	0905-1420	Change every 6 months
Piston Seal, Black PTFE for model 1200/1100/1050 - pk 10	CHR01-200-10	5063-6589	Change every 6 months
Piston Seal, Black PTFE for model 1200/1100/1050 - each	CHR01-200	5063-6589	Change every 6 months
UHMW PE Plunger Wash Seal for models 1200/1100/1050	CHR01-002-10	n/a	Change every 6 months
Black PTFE Based Plunger Wash Seal for models 1200/1100	CHR01-202-10	n/a	Change every 6 months
Replacement Piston for model 1200/1100/1050	CHR02-000	5063-6586	Change every 6 months
Outlet Check Valve Assembly for model (Quaternary & Isocratic) 1200/1100/1050	AS-250-1417	G1311-60012	Change every 6 months
Outlet Check Valve cartridge only for model 1200/1100/1050	AS-250-1397	n/a	Change every 6 months
Outlet Check Valve Assembly (Binary Pump) for 1200/1100/1050 (400 bar)	AS-250-1496	G1312-60012	Change every 6 months
Sieves, Outlet Valve 10/pk for model 1200/1100	CHR07-001-10	5063-6505	Change every 6 months
Active Inlet Cartridge (400 bar) for model 1200/1100/1050	AS-250-2300	5062-8562	Change every 6 months

Check cleanliness of flow cell every 6 months

D2 Lamp comparison test data

Instrument: Agilent MWD G1365D
 D2 lamp: Agilent Chrom4 CL4-AgDADLL
 Self test mode: Single



Test items	Requirement	Agilent		Chrom4	
		Data measured	Result	Data measured	Result
Min. intensity (190nm - 220nm)	> 2000 cts	9062 cts	passed	10944 cts	passed
Min. intensity (221nm - 350nm)	> 5000 cts	16416 cts	passed	18960 cts	passed
Min. intensity (351nm - 500nm)	> 2000 cts	10508 cts	passed	11426 cts	passed
Min. intensity (501nm - 950nm)	> 4000 cts	10035 cts	passed	9709 cts	passed
Max. intensity (190nm - 350nm)	< 450000 cts	50824 cts	passed	65979 cts	passed
Max. intensity (700nm - 950nm)	< 300000 cts	40411 cts	passed	39539 cts	passed
Max. intensity (D2 alpha line)	< 1200000 cts	98459 cts	passed	107132 cts	passed
Wavelength at 486.0nm	485.5 ~486.5 nm	485.94 nm	passed	485.76 nm	passed
Wavelength at 656.1nm	655.6 ~656.6 nm	656.07 nm	passed	655.94 nm	passed
Holmium test	-1 ~ 1 nm	0.30 nm	passed	0.40 nm	passed
Spectral flatness	< 0.002 AU	0.0000 AU	passed	0.0000AU	passed
ASTM noise (20 min. at 254nm)	≤ 0.02 mAU	0.0124 mAU	passed	0.0115 mAU	passed

Ordering Information - Lamps

Deuterium Lamps	Replacement Part Number	OEM Part	Typical Maintenance Schedule
VWD UV Lamp / 2000hr, Agilent models 1200, 1100, G1314	CL4-1314	G1314-60100	Change every 2000 hrs or 6 months, whatever comes first
Diode Array Lamp / 2000hr, Agilent 1200, 1100, G1315A, G1365A	CL4-AgDADLL	5182-1530	

For replacement Electron Multipliers,
 please visit chrom4.com

REPLACEMENT PARTS - SHIMADZU

D2 Lamp comparison test data

Instrument: Shimadzu LC SPD-10Avp
 D2 lamp: Shimadzu 228-34016-02
 Chrom4 CL4-SPD10-20



Test items	Requirement	Shimadzu		Chrom4	
		Data measured (Ref.)	Result	Data measured (Ref.)	Result
Intensity at 220.0nm	> 800 cts	1459 cts	passed	1628 cts	passed
1 h. drift ave. (1 h at 250.0nm)	< 3 x 10 ⁻⁴ Au/HR	1.1 x 10 ⁻⁴ Au	passed	1.1 x 10 ⁻⁴ Au	passed
10 min. noise ave. (10 min. at 250.0nm)	< 1 x 10 ⁻⁵ Au	0.57 x 10 ⁻⁵ Au	passed	0.57 x 10 ⁻⁵ Au	passed

Ordering Information - Lamps

Deuterium Lamps	Replacement Part Number	OEM Part	Typical Maintenance Schedule
Deuterium Lamp, SPD-10, SPD-10AS, SPD-10AV, SPD-10Avp, SPD-20	CL4-SPD10-20	228-34016-02	Change every 2000 hrs or 6 months, whatever comes first
Deuterium Lamp, SPD-20A	LS-00136PL	228-34016-00	

Ordering Information - Pump Replacement Parts

Pump Replacement Parts	Replacement Part Number	OEM Part	Qty
Piston Seal-UHMW-PE for models LC-600, LC-9A, LC-10AD, LC-10ADVP, LC2010, LC-20AB, LC-20AD	CHR01-060	228-35146-00	each
Piston Seal-UHMW-PE for models LC-600, LC-9A, LC-10AD, LC-10ADVP, LC2010, LC-20AB, LC-20AD	CHR01-060-10	228-35146-00	\10
Piston Seal-Teflon for models LC-600, LC-9A, LC-10AD, LC-10ADVP, LC-2010, LC-20AB, LC-20AD	CHR01-260	228-35146-00	each
Piston Seal-Teflon for models LC-600, LC-9A, LC-10AD, LC-10ADVP, LC-2010, LC-20AB, LC-20AD	CHR01-260-10	228-35146-00	\10
Piston for models LC-600, LC-9A, LC-10AD, LC-20AB	CHR02-060	228-18523-91	each
Piston for models LC-10ADVP, LC-20AD	CHR02-061	228-35601-91	each
Inlet Check valve assembly for models LC-600, LC-9A, LC-10AD, LC-20AB	AS-250-1480	228-18522-91	each
Inlet Cartridge for models LC-600, LC-9A, LC-10AD, LC-20AB	AS-250-1460	n/a	each
Outlet Check Valve assembly for models LC-600, LC-9A, LC-10AD, LC-20AB	AS-250-1485	228-18522-92	each
Outlet Cartridge for models LC-600, LC-9A, LC-10AD, LC-20AB	AS-250-1465	n/a	each
Inlet Cartridge assembly for models LC-10ADVP, LC-20AD	AS-250-1481	228-390939-92/228-45704-91	each
Inlet Cartridge for models LC-10ADVP, LC-20AD	AS-250-1461	n/a	each
Outlet Cartridge assembly for models LC-10ADVP, LC-20AD	AS-250-1486	228-34976-91/228-45705-91	each
Outlet Cartridge for models LC-10ADVP, LC-20AD	AS-250-1466	n/a	each

For replacement Electron Multipliers,
 please visit chrom4.com

REPLACEMENT PARTS - WATERS

Ordering Information - PM Kits

PM Kits	Replacement Part Number	OEM Part	Qty
Pump PM Starter Kit for model 600, includes 2 Piston Seals, 2 Inlet CV, 2 Outlet CV, 2 Pistons, 4 SST Solvent Filters	AS-270-0755	WAT052675	each
Pump PM Kit Alliance 2690/95, includes: 2 Piston Seals, 4 Pump Head Face Seals, 2 Inlet/Outlet Cartridges, 2 Pistons, 4SST Solvent Filters	AS-270-0944	WAT270944	each

D2 Lamp comparison test data

Instrument: Waters LC 996
 D2 lamp: Waters WAT052586
 Chrom4 CL4-996-2996

Test items	Waters		Chrom4	
	Data measured	Result	Data measured	Result
Intensity at 230nm	43900 cts	passed	52500 cts	passed
Intensity at 240nm	42800 cts	passed	47700 cts	passed
Intensity at 250nm	35000 cts	passed	37800 cts	passed
Intensity at 260nm	26200 cts	passed	29000 cts	passed
Intensity at 270nm	21100 cts	passed	22800 cts	passed
Intensity at 280nm	18300 cts	passed	19400 cts	passed
Intensity at 290nm	18100 cts	passed	19500 cts	passed
Intensity at 254.0nm	34978 cts	passed	35023 cts	passed
10 min. drift ave. (10 min. at 254.0nm)	0.152 mAU	passed	0.163 mAU	passed
10 min. noise ave. (10 min. at 254.0nm)	0.0334 mAU	passed	0.0326 mAU	passed



Ordering Information - Lamps

Deuterium Lamps	Replacement Part Number	OEM Part	Typical Maintenance Schedule
Deuterium Lamp, Model 996, 2996	CL4-996-2996	WAT052586	Change every 2000 hrs or 6 months, whatever comes first
Deuterium Lamp, Model 2487, 2488	CL4-2487-2488	WAS081142	

**Replacement parts also available for Dionex, Hitachi, Gilson/Rainin, SSI and Varian
 Please contact us for part number and ordering information.**

REPLACEMENT PARTS - WATERS

Ordering Information - Pump Replacement Parts

Pump Replacement Parts	Replacement Part Number	OEM Part	Qty
Inlet Check Valve Assembly for models M45, 45G, 510, 515, 590, 1515, 1525 (Analytical), 6000, 6000A, LCM1	AS-250-1120	WAT033679/ 700000253	each
Outlet Check Valve Assembly w/Adapter Seal for models M45, 45G, 510, 515, 590, 1515, 1525 (Analytical), 6000, 6000A, LCM1	AS-250-1125	WAT025216/ 700000253	each
Adapter Seal fo Outlet CV for models M45, 45G, 510, 515, 590, 1515, 1525 (Analytical), 6000, 6000A, LCM1	AS-250-1135-5	n/a	\5
Inlet Check Valve Assembly for models M501, 600, 600E, 610	AS-250-1020	WAT033679/ 700000253	each
Outlet Check Valve Assembly for models M501, 600, 600E, 610	AS-250-1127	WAT025216/ 700000253	each
Adaptor Seal for Outlet CV models M501, 600, 600E, 610	AS-250-1137-5	n/a	\5
Inlet/Outlet Check PEEK cartridges for models 2690/95, 2790/95/96, Direct replacement	AS-250-1070	WAT270941	each
Piston Seal - UHMW-PE for models M45, 45G, 501, 510, 515, 590, 600, 600E, 610, 1515, 1525 (analytical), 6000, 6000A, LCM1	CHR01-090	WAT022934/ WAT022946	each
Piston Seals - UHMW-PE for models M45, 45G, 501, 510, 515, 590, 600, 600E, 610, 1515, 1525 (analytical), 6000, 6000A, LCM1	CHR01-090-10	WAT022934/ WAT022946	\10
Piston Seal - Teflon for models M45, 45G, 501, 510, 515, 590, 600, 600E, 610, 1515, 1525 (analytical), 6000, 6000A, LCM1	CHR01-290	WAT026613	each
Piston Seal - Teflon for models M45, 45G, 501, 510, 515, 590, 600, 600E, 610, 1515, 1525 (analytical), 6000, 6000A, LCM1	CHR01-290-10	WAT026613	\10
Piston Seal - UHME-PE for models Alliance 2690/95, 2790/95/96	AS-200-0210	WAT270938	each
Piston Seals - UHME-PE for models Alliance 2690/95, 2790/95/96	AS-200-0215	WAT270938	\10
Seal Wash Piston Seal - UHMW-PE for models Alliance 2690/95, 2790/95/96	AS-200-0220	WAT271018	each
Seal Wash Piston Seals - UHMW-PE for models Alliance 2690/95, 2790/95/96	AS-200-0225	WAT271018	\10
Seal Wash Face Seal - UHMW-PE for models Alliance 2690/95, 2790/95/96	AS-200-0230	WAT271017	each
Wash Tube Seal- UHMW-PE for models Alliance 2690/95, 2790/95/96	AS-200-0240	WAT270940	each
Pump Head Face Seal-UHMW-PE for models Alliance 2690/95, 2790/95/96	AS-200-0250	WAT270939	each
Head Plunger Seal for models Acquity, nanoAcquity	CHR01-091	700002599	\2
Wash Seal for models Acquity, nanoAcquity	CHR01-092	700002598	\2
SS Solvent Filter for models Acquity, nanoAcquity	CHR07-023	700003616	\7
Piston with Sapphire Rod for models M45, 45G, 501	CHR02-091	WAT026524	each
Piston with Sapphire Rod for models M510, 515, 590, 600, 610, 1515, 1525 (analytical),6000, 6000A, LCM1	CHR02-092	WAT025656	each
Piston with Sapphire Rod for models Alliance 2690/95, 2790/95/96	CHR02-093	WAT270959	each
Primary Check Valve Assembly, Acquity UPLC	AS-250-1497	WAT700002596	each
Acquity Intelligent Valve Assembly	AS-250-1498	WAT700003563	each
Check Valve Double Ball & Seat, Acquity UPLC	AS-250-1499	WAT700005164	each

Pumps

ASI HPLC Pumps

- Self-priming pump head requires no manual priming
- Patented “Floating Pump Seal” design for extended seal wear
- Available with micro, analytical, semi-prep and prep pump heads
- UHPLC versions for pressures up to 15,000 psi
- Programmable solvent compressibility compensation
- Easy maintenance and service for all wetted parts
- Integral prime/purge assembly for quick solvent change

The ASI HPLC pump is designed with the chromatographer in mind. It can be used as a reliable low cost isocratic pump or integrated into a gradient HPLC System. In either case, the pump incorporates several key features which make it truly one of a kind in the world of HPLC Pumps.

Isocratic Model 501

The Model 501 is a high performance, compact solvent delivery module that has been designed to compete with the most expensive pump systems on the market in reliability and performance without the high cost. A dual piston design with solvent compressibility feedback assures virtually pulse-free and accurate solvent delivery. The Model 501 has all of the features of the Model 500, but without gradient programming capability. It may be used as an economical stand alone pump for isocratic operation, or in conjunction with a Model 500 for gradient operation.

Model 500

The Model 500 has been designed to convert the Model 501 from an isocratic pump to a gradient HPLC system. Full operation and gradient control programming is achieved through the keypad on the front panel of the Model 500. The Model 500 includes a high pressure integral static mixer, connecting tubing, and all the accessories necessary to quickly convert the Model 501 to gradient operation.

Model 500G

The Model 500G is a complete high pressure gradient HPLC system. The system includes one Model 501, one Model 500, and all necessary electrical and plumbing connections.

Pump Head	Flow Rate Range	Pressure Rating
Micro Head	0.5 µL/min. to 4 mL/min	6,000 PSI Max
Analytical Head	1.0 µL/min. to 10 mL/min	6,000 PSI Max
Semi-Prep Head	0.050 mL/min. to 20 mL/min	2,500 PSI Max
Prep Head	0.100 mL/min. to 80 mL/min	1,000 PSI Max



Isocratic Model 501



Gradient System 500G

HPLC Pumps

Part No.	Description
AS-501-0002*	Model 501, Micro Head, Standard
AS-501-0002HP*	Model 501, Micro Head, High Pressure
AS-501-0000*	Model 501, Analytical Head, Standard
AS-501-0020*	Model 501, Semi Prep Head, Standard
AS-501-0040*	Model 501, Prep Head, Standard
AS-500G-0000*	Gradient System, Analytical Head
AS-500G-0002*	Gradient System, Micro Head
AS-500G-0002HP*	Gradient System, Micro Head, High Pressure
AS-500G-0020*	Gradient System, Semi-Prep Head
AS-500G-0040*	Gradient System, Prep Head

* Please specify your local required line voltage for the above items

Replacement Pump Head Assemblies

Part No.	Description
AS-A500-1000	Spring Housing w/ Micro 2mL Pump Head Assembly
AS-A500-1001	Spring Housing w/ Analytical 10mL Pump Head Assembly
AS-A500-1002	Spring Housing w/ Semi-Prep 20mL Pump Head Assembly
AS-A500-1003	Spring Housing w/ Prep 80mL Pump Head Assembly

Replacement Check Valves

Part No.	Description
AS-A500-1133	2mL Pump Head Inlet/Outlet Check Valve Cartridge
AS-A500-1050	10mL Pump Head Inlet/Outlet Check Valve Cartridge, 20mL and 80mL Pump Head Outlet Check Valve Cartridge
AS-A500-1060	20mL and 80mL Pump Head Inlet Check Valve Cartridge

Replacement Piston

Part No.	Description
AS-A500-1117	2mL Pump Head Piston Assembly, Ceramic
AS-A500-1116	10mL Pump Head Piston Assembly, Sapphire
AS-A500-1024	20mL Pump Head Piston Assembly, Sapphire
AS-A500-1044	80mL Pump Head Piston Assembly, Ceramic

Replacement Piston Seals

Part No.	Description
AS-A500-1009-U-2	2mL Pump Head Piston Seal Assembly, UHMW /2pk
AS-A500-1009-U-10	2mL Pump Head Piston Seal Assembly, UHMW /10pk
AS-A500-1006-T-2	10mL Pump Head Piston Seal Assembly, Teflon /2pk
AS-A500-1006-T-10	10mL Pump Head Piston Seal Assembly, Teflon /10pk
AS-A500-1006-U-2	10mL Pump Head Piston Seal Assembly, UHMW /2pk
AS-A500-1006-U-10	10mL Pump Head Piston Seal Assembly, UHMW /10pk
AS-A500-1026-U-2	20mL Pump Head Piston Seal Assembly, UHMW /2pk
AS-A500-1026-U-10	20mL Pump Head Piston Seal Assembly, UHMW /10pk

Precolumn, Inline Filters and Guard Columns

Precolumn and Inline Filters

- Economical protection against micro-particles
- Extends LC/UHPLC column lifetime
- Negligible effect on column performance
- Universal fit

UltraShield Precolumn Filter

- UltraShield direct connect precolumn filters were engineered specifically for use in fast, high efficiency separations

Direct Connect Precolumn Filter

- UltraShield direct connect precolumn filters were engineered specifically for use in high throughput and routine LC separations.



AS-850-1010



AS-850-1020-062



AS-850-1025



AS-850-1050T

AS-850-1020-01 Replacement Filter

Ordering Information

Part No.	Description	Qty.
AS-850-1010	UHPLC UltraShield PreColumn Filter, 0.5 micron x 0.62" dia. SST Frit	each
AS-850-1020-062	Direct Connect Column Filter, 0.5 micron x 0.62" dia. SST Frit	each
AS-850-1025-062	In-Line Column Filter, 0.5 micron x 0.62" dia. SST Frit	each
AS-850-1025	In-Line Column Filter, 0.5 micron x 0.125" dia. SST Frit	each
AS-850-1025-188	In-Line Column Filter, 0.5 micron x 0.188" dia. SST Frit	each
AS-850-1050T	ColumnShield PreColumn Filter (PEEK), 0.5 micron x 0.62" dia. Titanium Frit	each

Quick&Easy Guard Column Housing and Cartridge

- Extends column lifetime by removing contaminants and particulates
- Leak free connection to most manufacturers UHPLC/HPLC columns, 2.1mm - 4.6mm ID
- Pressure rated to 20,000psi (1,378bar)
- Re-usable holder
- Cartridges packed with media for maximum column protection
- Simple, quick and easy removal and replacement of disposable cartridge



Ordering Information

Part No.	Description	Qty.
AS-850-1390-3HH	Guard Column Housing, 5mm long	each
AS-850-1392-04	Guard Column Cartridge, 2mm x 5mm long, packed	/5



Flow Splitters and Mixers

Ordering Information - Flow Splitters

Part No.	Description
Adjustable Flow Splitters	
AS-600-PO10-04	Adjustable Flow Splitter, Analytical Range, 0.25mL/min. to 5mL/min. Input Flow, Default Calibration Flow = 1.0mL/min., Split Ratio=5:1 to 100:1
AS-600-PO10-06	Adjustable Flow Splitter, Analytical Range, 0.25mL/min. to 5mL/min. Input Flow, Default Calibration Flow = 1.0mL/min., Split Ratio=1:1 to 20:110:1
Fixed Flow Splitters	
AS-620-PO10-09	Fixed Flow Splitter, Analytical Range, 0.1mL/min. to 5mL/min. Input Flow, Default Calibration Flow = 1.0mL/min., Split Ratio=20:1
AS-620-PO10-10	Fixed Flow Splitter, Analytical Range, 0.1mL/min. to 5mL/min. Input Flow, Default Calibration Flow = 1.0mL/min., Split Ratio=10:1
AS-620-PO10-11	Fixed Flow Splitter, Analytical Range, 0.1mL/min. to 5mL/min. Input Flow, Default Calibration Flow = 1.0mL/min., Split Ratio=5:1
AS-620-PO10-12	Fixed Flow Splitter, Analytical Range, 0.1mL/min. to 5mL/min. Input Flow, Default Calibration Flow = 1.0mL/min., Split Ratio=3:1
AS-620-PO10-13	Fixed Flow Splitter, Analytical Range, 0.1mL/min. to 5mL/min. Input Flow, Default Calibration Flow = 1.0mL/min., Split Ratio=1:1
AS-620-PO10-CS	Fixed Flow Splitter, Analytical Range, 0.1mL/min. to 5mL/min. Input Flow, Default Calibration Flow = 1.0mL/min., Split Ratio=Custom

* Does not come with mounting bracket - AS-620-1000

Fixed/adjustable, semi-prep/prep, multiport, post- and pre-column flow splitters available. Replacement resistor sets also available. Please contact us.

Adjustable Flow Splitter



Binary Fixed and Multiport Flow Splitters



HyperShear™ LC and UHPLC Mixers

Ordering Information

Part No.	Description
Micro Mixer Assemblies (0.5 µL - 25 µL) , Maximum Pressure 6,000PSI	
AS-402-0010	Binary Tee Mixer Assembly SS 10 µL
AS-402-0025	Binary Tee Mixer Assembly SS 25 µL
Low Flow Mixer Assemblies (50 µL - 250 µL)	
AS-411-0050	In-Line Mixer Assembly SS 50 µL
AS-411-0150	In-Line Mixer Assembly SS 150 µL
AS-411-0250	In-Line Mixer Assembly SS 250 µL
AS-412-0050	Binary Tee Mixer Assembly SS 50 µL
AS-412-0150	Binary Tee Mixer Assembly SS 150 µL
AS-412-0250	Binary Tee Mixer Assembly SS 250 µL
Analytical Mixer Assemblies (350 µL and 500 µL)	
AS-421-0350	In-Line Mixer Assembly SS 350 µL
AS-421-0500	In-Line Mixer Assembly SS 500 µL
AS-422-0350	Binary Tee Mixer Assembly SS 350 µL
AS-422-0500	Binary Tee Mixer Assembly SS 500 µL



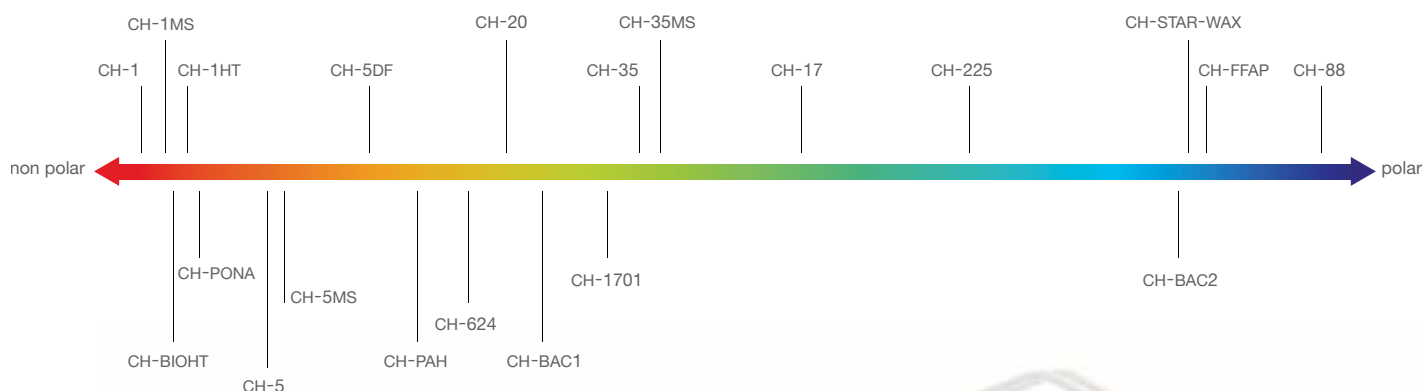
Biocompatible PEEK also available (Low flow, analytical flow & high flow only).

Complete assemblies available. Please enquire.

Comparison data available HyperShear™ Static Mixers vs Agilent 1100 packed bed static mixer and Shimadzu LC-10ADvp. Please contact us.



Common Phases Polarity Quick View



GC Columns Dimensions Available

FAST			
I.D.	0.10mm	0.15mm	0.18mm
Length	from 2 to 15m	from 2.5 to 30m	from 5 to 60m
Film Thickness*	from 0.05 to 1.00µm	from 0.05 to 1.40µm	from 0.05 to 1.50µm
CONVENTIONAL			
I.D.	0.25mm	0.32mm	
Length	from 5 to 100m	from 5 to 100m	
Film Thickness*	from 0.05 to 3.00µm	from 0.05 to 5.00µm	
WIDE BORE			
I.D.	0.45mm	0.53mm	
Length	from 10 to 75m	from 10 to 75m	
Film Thickness*	up to 5.00µm	up to 5.00µm	

* Maximum film thickness depends also on the stationary phase type.

Chiral columns available in various phases.
Please visit www.chrom4.com for information or contact your local distributor.



CH-1 • Equivalent to USP G1, G2, G9, G38
100% methyl polysiloxane

(mm)	(m)	(µm)	Part No.	Restek	J&W	iso/prog. (°C)	
0.10	10	0.10	CH1-101010	41101	127-1012	-60to325 / 350	
		0.40	CH1-101040	41103	127-1013	-60to325 / 350	
	20	0.10	CH1-201010	41102	127-1022	-60to325 / 350	
		0.40	CH1-201040	41104	127-1023	-60to325 / 350	
0.18	10	0.18	CH1-101818	40101	121-1012	-60to325 / 350	
		0.40	CH1-101840	40110	121-1013	-60to325 / 350	
	20	0.18	CH1-201818	40102	121-1022	-60to325 / 350	
		0.40	CH1-201840	40111	121-1023	-60to325 / 350	
	40	0.40	CH1-401840	40112	121-1043	-60to325 / 350	
		0.40	CH1-401840	40112	121-1043	-60to325 / 350	
0.25	15	0.10	CH1-152510	10105	122-1011	-60to325 / 350	
		0.25	CH1-152525	10120	122-1012	-60to325 / 350	
		1.00	CH1-1525100	10150	122-1013	-60to325 / 350	
	25	0.25	CH1-252525	-	122-1022	-60to325 / 350	
		0.25	CH1-252525	-	122-1022	-60to325 / 350	
	30	0.10	CH1-302510	10108	122-1031	-60to325 / 350	
		0.25	CH1-302525	10123	122-1032	-60to325 / 350	
		0.50	CH1-302550	10138	122-103E	-60to325 / 350	
	0.32	15	0.10	CH1-153210	10106	123-1011	-60to325 / 350
			0.25	CH1-153225	10121	123-1012	-60to325 / 350
			1.00	CH1-1532100	10151	123-1013	-60to325 / 350
			3.00	CH1-1532300	10181	123-1014	-60to280 / 300
5.00			CH1-1532500	10176	123-1015	-60to280 / 300	
25		0.25	CH1-253225	-	123-1022	-60to325 / 350	
		0.52	CH1-253252	-	123-1026	-60to325 / 350	
		1.05	CH1-2532105	-	123-102F	-60to280 / 300	
30		0.10	CH1-303210	10109	123-1031	-60to325 / 350	
		0.25	CH1-303225	10124	123-1032	-60to325 / 350	
		0.50	CH1-303250	10139	123-103E	-60to325 / 350	
		1.00	CH1-3032100	10154	123-1033	-60to325 / 350	
		3.00	CH1-3032300	10184	123-1034	-60to280 / 300	
		5.00	CH1-3032500	10178	123-1035	-60to280 / 300	
		50	0.25	CH1-503225	-	123-1052	-60to325 / 350
			0.52	CH1-503252	18010	123-1056	-60to325 / 350
			1.05	CH1-5032105	-	123-105F	-60to280 / 300
		60	0.10	CH1-603210	10112	123-1061	-60to325 / 350
0.25	CH1-603225		10127	123-1062	-60to325 / 350		
0.50	CH1-603250		10142	123-106E	-60to325 / 350		
1.00	CH1-6032100		10157	123-1063	-60to325 / 350		
3.00	CH1-6032300		10187	123-1064	-60to280 / 300		
5.00	CH1-6032500		10180	123-1065	-60to280 / 300		
0.45	30	1.27	CH1-3045127	-	124-1032	-60to300 / 320	
		2.55	CH1-3045255	-	124-1034	-60to260 / 300	

CH-1 (continued)

(mm)	(m)	(µm)	Part No.	Restek	J&W No.	iso/prog. (°C)
0.53	10	2.65	CH1-1053265	-	125-10HB	-60to260 / 300
		5.00	CH1-1053500	-	125-10H5	-60to280 / 300
	15	0.15	CH1-155315	-	125-1011	-60to340 / 360
		0.50	CH1-155350	18037	125-1017	-60to300 / 320
		1.00	CH1-1553100	18052	125-101J	-60to300 / 320
		1.50	CH1-1553150	18067	125-1012	-60to300 / 320
		3.00	CH1-1553300	10182	125-1014	-60to260 / 300
		5.00	CH1-1553500	10177	125-1015	-60to280 / 300
	25	5.00	CH1-2553500	-	125-1025	-60to280 / 300
		5.00	CH1-2553500	-	125-1025	-60to280 / 300
	30	0.50	CH1-305350	18040	125-1037	-60to300 / 320
		1.00	CH1-3053100	18055	125-103J	-60to300 / 320
		1.50	CH1-3053150	18070	125-1032	-60to300 / 320
		2.65	CH1-3053265	-	125-103B	-60to260 / 300
		3.00	CH1-3053300	10185	125-1034	-60to260 / 300
		5.00	CH1-3053500	10179	125-1035	-60to280 / 300
	60	1.00	CH1-6053100	18058	125-106J	-60to300 / 320
		1.50	CH1-6053150	18073	125-1062	-60to300 / 320
		3.00	CH1-6053300	10188	125-1064	-60to260 / 300
		5.00	CH1-6053500	10183	125-1065	-60to280 / 300



CH-1MS • Equivalent to USP G2
100% Dimethylpolysiloxane

(mm)	(m)	(µm)	Part No.	Restek	J&W	iso/prog. (°C)
0.10	10	0.40	CH1MS-101040	-	127-0113	-60to340 / 360
	20	0.40	CH1MS-201040	-	127-0123	-60to340 / 360
0.18	10	0.18	CH1MS-101818	-	-	-60to340 / 360
	20	0.18	CH1MS-201818	-	-	-60to340 / 360
0.20	12	0.33	CH1MS-122033	-	128-0122	-60to340 / 360
	25	0.33	CH1MS-252033	-	128-0122	-60to340 / 360
0.25	15	0.25	CH1MS-152525	11620	122-0112	-60to340 / 360
		0.10	CH1MS-302510	11608	122-0131	-60to340 / 360
	30	0.25	CH1MS-302525	11623	122-0132	-60to340 / 360
0.32	60	0.25	CH1MS-602525	-	122-0162	-60to340 / 360
		0.25	CH1MS-602525	-	122-0162	-60to340 / 360
	15	0.25	CH1MS-153225	11621	123-0112	-60to340 / 360
0.32	30	0.10	CH1MS-303210	11609	123-0131	-60to340 / 360
		0.25	CH1MS-303225	11624	123-0132	-60to340 / 360
	60	0.25	CH1MS-603225	-	123-0162	-60to340 / 360



CH-1HT
100% methyl polysiloxane for high temperature

(mm)	(m)	(µm)	Part No.	Restek	J&W No.	iso/prog. (°C)
0.25	15	0.10	CH1HT-152510	-	122-1111	-60to380
	30	0.10	CH1HT-02510	-	122-1131	-60to380
0.32	15	0.10	CH1HT-153210	-	123-1111	-60to380
	30	0.10	CH1HT-303210	-	123-1131	-60to380

CH-5

ChromGC

CH-5 • Equivalent to USP G27, G36, G41
(5%-Phenyl) - methylpolysiloxane

(mm)	(m)	(μ m)	Part No.	Restek	J&W	iso/prog. (°C)	
0.10	10	0.10	CH5-101010	41201	127-5012	-60to325 / 350	
		0.17	CH5-101017		127-501E	-60to325 / 350	
		0.40	CH5-101040	41203	127-5013	-60to325 / 350	
	20	0.10	CH5-201010	41202	127-5022	-60to325 / 350	
		0.40	CH5-201040	41204	127-5023	-60to325 / 350	
		0.18	CH5-101818	-	121-5012	-60to325 / 350	
0.18	10	0.40	CH5-101840	40210	121-5013	-60to325 / 350	
		0.18	CH5-201818	-	121-5022	-60to325 / 350	
	20	0.40	CH5-201840	40211	121-5023	-60to325 / 350	
		0.33	CH5-122033	-	128-5012	-60to325 / 350	
0.20	15	0.20	CH5-152020	-	128-50H7	-60to325 / 350	
	25	0.33	CH5-252033	-	128-5022	-60to325 / 350	
	15	0.10	CH5-152510	10205	122-5011	-60to325 / 350	
0.25		CH5-152525	10220	122-5012	-60to325 / 350		
0.50		CH5-152550	12335	122-501E	-60to325 / 350		
1.00		CH5-1525100	10250	122-5013	-60to325 / 350		
0.25	25	0.25	CH5-252525	-	122-5022	-60to325 / 350	
		30	0.10	CH5-302510	10208	122-5031	-60to325 / 350
			0.25	CH5-302525	10223	122-5032	-60to325 / 350
			0.50	CH5-302550	12338	122-503E	-60to325 / 350
	1.00		CH5-3025100	10253	122-5033	-60to325 / 350	
	60	0.25	CH5-502525	-	122-5052	-60to325 / 350	
		30	0.10	CH5-602510	10211	122-5061	-60to325 / 350
			0.25	CH5-602525	10226	122-5062	-60to325 / 350
			0.50	CH5-602550	10241	122-506E	-60to325 / 350
	1.00		CH5-6025100	10256	122-5063	-60to325 / 350	
	0.32	15	0.10	CH5-602510	10206	123-5011	-60to325 / 350
			0.25	CH5-153225	10221	123-5012	-60to325 / 350
1.00			CH5-1532100	-	123-5013	-60to325 / 350	
0.52			CH5-253252	-	123-5026	-60to325 / 350	
30		0.10	CH5-303210	10209	123-5031	-60to325 / 350	
		0.25	CH5-303225	10224	123-5032	-60to325 / 350	
		0.50	CH5-303250	10239	123-503E	-60to325 / 350	
		1.00	CH5-3032100	10254	123-5033	-60to325 / 350	
60		1.00	CH5-5032100	-	123-5053	-60to325 / 350	
		30	0.25	CH5-603225	10227	123-5062	-60to325 / 350
			1.00	CH5-6032100	10257	123-5063	-60to325 / 350
			15	1.27	CH5-1545127	-	124-5012
30	1.27			CH5-3045127	-	124-5032	-60to300 / 320
10	2.65	CH5-1053265		-	125-50HB	-60to300 / 320	
	15	0.25		CH5-155325	10222	125-501K	-60to300 / 320
		0.50	CH5-155350	10237	125-5017	-60to300 / 320	
		1.00	CH5-1553100	12352	125-501J	-60to300 / 320	
		1.50	CH5-1553150	10267	125-5012	-60to300 / 320	
0.53	30	0.25	CH5-305325	10225	125-503K	-60to300 / 320	
		0.50	CH5-305350	10240	125-5037	-60to300 / 320	
		0.88	CH5-305388	-	125-503D	-60to300 / 320	
		1.00	CH5-3053100	12355	125-503J	-60to300 / 320	
		1.50	CH5-3053150	10270	125-5032	-60to300 / 320	
	60	3.00	CH5-3053300	10285	125-5034	-60to280 / 300	
		5.00	CH5-3053500	10279	125-5035	-60to280 / 300	
		1.50	CH5-6053150	10273	125-5062	-60to300 / 320	
		5.00	CH5-6053500	10283	125-5065	-60to260 / 280	

CH-5MS

ChromGC

CH-5MS • Equivalent to USP G27
(5%-Phenyl) - methylpolysiloxane

(mm)	(m)	(μ m)	Part No.	Restek	J&W	iso/prog. (°C)	
0.18	20	0.18	CH5MS-201818	-	121-5522	-60to325 / 350	
	40	0.18	CH5MS-401818	-	121-5542	-60to325 / 350	
0.20	12	0.33	CH5MS-122033	-	128-5512	-60to325 / 350	
	25	0.33	CH5MS-252033	-	128-5522	-60to325 / 350	
	50	0.33	CH5MS-502033	-	128-5552	-60to325 / 350	
0.25	15	0.10	CH5MS-152510	12705	122-5511	-60to325 / 350	
		0.25	CH5MS-152525	12720	122-5512	-60to325 / 350	
		0.50	CH5MS-152550	12735	122-5516	-60to325 / 350	
		1.00	CH5MS-1525100	12750	122-5513	-60to325 / 350	
	25	0.25	CH5MS-252525	-	122-5522	-60to325 / 350	
		30	0.10	CH5MS-302510	12708	122-5531	-60to325 / 350
			0.25	CH5MS-302525	12723	122-5532	-60to325 / 350
			0.50	CH5MS-302550	12738	122-5536	-60to325 / 350
	1.00		CH5MS-3025100	12753	122-5533	-60to325 / 350	
	60	0.25	CH5MS-502525	-	122-5552	-60to325 / 350	
		30	0.10	CH5MS-602510	-	122-5561	-60to325 / 350
			0.25	CH5MS-602525	-	122-5562	-60to325 / 350
1.00			CH5MS-6025100	-	122-5563	-60to325 / 350	
0.32	15		0.10	CH5MS-153210	12706	123-5511	-60to325 / 350
		0.25	CH5MS-153225	12721	123-5512	-60to325 / 350	
		1.00	CH5MS-1532100	12751	123-5513	-60to325 / 350	
		0.52	CH5MS-253252	-	123-5526	-60to325 / 350	
	30	0.10	CH5MS-303210	-	123-5531	-60to325 / 350	
		0.25	CH5MS-303225	12724	123-5532	-60to325 / 350	
		0.50	CH5MS-303250	-	123-5536	-60to325 / 350	
		1.00	CH5MS-3032100	12754	123-5533	-60to325 / 350	
	60	0.10	CH5MS-603210	-	123-5561	-60to325 / 350	
		0.25	CH5MS-603225	-	123-5562	-60to325 / 350	
		1.00	CH5MS-6032100	-	123-5563	-60to325 / 350	
		0.53	15	1.50	CH5MS-1553150	12767	125-5512
1.00	CH5MS-3053100			12755	125-553J	-60to300 / 320	
30	1.50		CH5MS-3053150	12770	125-5532	-60to300 / 320	

CH-5DF

ChromGC

CH-5DF (Dioxin Furan)
5% silphenylen

(mm)	(m)	(μ m)	Part No.	Restek	J&W	iso/prog. (°C)
0.25	60	0.15	CH5DF-602515	-	122-2461	350 / 360
		0.25	CH5DF-602525	-	122-2462	350 / 360

CH-PONA

ChromGC

CH-PONA

100% - Dimethylpolysiloxane

(mm)	(m)	(μ m)	Part No.	Restek	J&W	iso/prog. (°C)
0.20	50	0.50	CHPONA-502050	-	128-1056	-60to325 / 350
0.25	100	0.50	CHPONA-002550	10195	122-10A6	-60to325 / 350

CH-BAC1

ChromGC

CH-BAC1

Ethanol/Acetone

(mm)	(m)	(μ m)	Part No.	Restek	J&W	iso/prog. (°C)
0.32	30	1.80	CHBAC1-3032180	-	123-9134	20to260 / 280
0.53	30	3.00	CHBAC1-3053300	-	125-9134	20to260 / 280

CH-BIO-HT

ChromGC

CH-BIO-HT

5% phenyl

(mm)	(m)	(μ m)	Part No.	Restek	J&W	iso/prog. (°C)
0.32	10	0.10	CHBIOHT-103210	10292	-	360 / 380
	15	0.10	CHBIOHT-153210	10293	-	360 / 380

CH-35

ChromGC

CH-35 • Equivalent to USP G42

(35%-Phenyl) - methylpolysiloxane

(mm)	(m)	(μ m)	Part No.	Restek	J&W	iso/prog. (°C)
0.25	30	0.25	CH35-302525	-	122-1932	40to300 / 320
0.32	30	0.25	CH35-303225	-	123-1932	40to300 / 320
		0.50	CH35-303250	-	123-1933	40to300 / 320
0.53	30	0.50	CH35-305350	-	125-1937	40to280 / 300
		1.00	CH35-3053100	-	125-1932	40to300 / 320

CH-PAH

ChromGC

CH-PAH

8-10% phenyl

(mm)	(m)	(μ m)	Part No.	Restek	J&W	iso/prog. (°C)
0.18	40	0.07	CHPAH-40187	49316	-	340 / 360
0.25	30	0.10	CHPAH-302510	49318	-	340 / 360
	60	0.10	CHPAH-602510	49317	-	340 / 360

CH-35MS

ChromGC

CH-35MS • Equivalent to USP G42

(35%-Phenyl) - methylpolysiloxane

(mm)	(m)	(μ m)	Part No.	Restek	J&W	iso/prog. (°C)
0.25	15	0.25	CH35MS-152525	-	122-3812	50to340 / 360
	30	0.25	CH35MS-302525	-	122-3832	50to340 / 360
	60	0.25	CH35MS-602525	-	122-3862	50to340 / 360
0.32	30	0.25	CH35MS-303225	-	123-3832	50to340 / 360
0.53	30	0.50	CH35MS-305350	-	125-3837	50to320 / 340
		1.00	CH35MS-3053100	-	125-3832	50to320 / 340

CH-CARBOWAX-20M

ChromGC

CH-CARBOWAX-20M

Polyethylene Glycol • Equivalent to USP G14, G15, G16

(mm)	(m)	(μ m)	Part No.	Restek	J&W	iso/prog. (°C)
0.25	30	0.25	CH20-302525	-	112-2032	60to230 / 250
0.32	30	0.25	CH20-303225	-	113-2032	60to230 / 250

CH-BAC2

ChromGC

CH-BAC2

Ethanol/Acetone

(mm)	(m)	(μ m)	Part No.	Restek	J&W	iso/prog. (°C)
0.32	30	1.20	CHBAC2-3032120	-	123-9234	20to260 / 280
0.53	30	2.00	CHBAC2-3053200	-	125-9234	20to260 / 280

CH-624

ChromGC

CH-624 • Equivalent to USP G43
(6% cyanopropyl-phenyl) - methylpolysiloxane

(mm)	(m)	(μ m)	Part No.	Restek	J&W	iso/prog. ($^{\circ}$ C)
0.18	20	1.00	CH624-2018100	40924	121-1324	-20to260
0.25	30	1.40	CH624-3025140	10968	122-1334	-20to260
	60	1.40	CH624-6025140	10969	122-1364	-20to260
0.32	30	1.80	CH624-3032180	10970	123-1334	-20to260
	60	1.80	CH624-6032180	10972	123-1364	-20to260
0.45	30	2.55	CH624-3045255	-	124-1334	-20to260
	75	2.55	CH624-7545255	-	124-1374	-20to260
0.53	30	3.00	CH624-3053300	10971	125-1334	-20to260
	60	3.00	CH624-6053300	10973	125-1364	-20to260
	75	3.00	CH624-7553300	10974	125-1374	-20to260

CH-1701

ChromGC

CH-1701 • Equivalent to USP G46
(14%-Cyanopropyl-phenyl) - methylpolysiloxane

(mm)	(m)	(μ m)	Part No.	Restek	J&W	iso/prog. ($^{\circ}$ C)
0.10	20	0.10	CH1701-201010	42202	127-0722	-20to280
		0.40	CH1701-201040	-	127-0723	-20to280
0.18	10	0.40	CH1701-101840	-	121-0713	-20to280
0.25	15	0.25	CH1701-152525	-	122-0712	-20to280
		1.00	CH1701-1525100	12050	122-0713	-20to280
	30	0.15	CH1701-302515	-	122-0731	-20to280
		0.25	CH1701-302525	12023-600	122-0732	-20to280
		1.00	CH1701-3025100	12053	122-0733	-20to280
	60	0.15	CH1701-602515	-	122-0761	-20to280
0.25		CH1701-602525	12026	122-0762	-20to280	
1.00		CH1701-6025100	12056	122-0763	-20to280	
0.32	15	0.25	CH1701-153225	12021	123-0712	-20to280
		1.00	CH1701-1532100	12051	123-0713	-20to280
	30	0.15	CH1701-303215	-	123-0731	-20to280
		0.25	CH1701-303225	12024	123-0732	-20to280
		1.00	CH1701-3032100	12054	123-0733	-20to280
	50	1.00	CH1701-5032100	-	123-0753	-20to280
60	0.25	CH1701-603225	12027	123-0762	-20to280	
	1.00	CH1701-3032100	12057	123-0763	-20to280	
0.53	15	1.00	CH1701-1553100	12052	125-0712	-20to280
		0.50	CH1701-305350	12040	125-0737	-20to280
	30	1.00	CH1701-3053100	12055	125-0732	-20to280

CH-17

ChromGC

CH-17 • Equivalent to USP G3, G17
(50%-Phenyl) - methylpolysiloxane

(mm)	(m)	(μ m)	Part No.	Restek	J&W	iso/prog. ($^{\circ}$ C)
0.10	10	0.10	CH17-101010	-	127-1712	40to280 / 300
		0.20	CH17-201020	-	127-1713	40to280 / 300
0.18	20	0.10	CH17-201010	-	127-1722	40to280 / 300
		0.18	CH17-201818	-	121-1722	40to280 / 300
0.25	15	0.30	CH17-201830	-	121-1723	40to280 / 300
		0.15	CH17-152515	-	122-1711	40to280 / 300
		0.25	CH17-152525	10520	122-1712	40to280 / 300
	30	0.50	CH17-152550	10535	122-1713	40to280 / 300
		0.15	CH17-302515	-	122-1731	40to280 / 300
		0.25	CH17-302525	10523	122-1732	40to280 / 300
60	0.50	CH17-302550	10538	122-1733	40to280 / 300	
	0.25	CH17-602525	-	122-1762	40to280 / 300	
	0.32	15	0.15	CH17-153215	-	123-1711
0.25			CH17-153225	10521	123-1712	40to280 / 300
0.50			CH17-153250	10536	123-1713	40to280 / 300
30		0.15	CH17-303215	-	123-1731	40to280 / 300
		0.25	CH17-303225	-	123-1732	40to280 / 300
		0.50	CH17-303250	10539	123-1733	40to280 / 300
60	0.25	CH17-603225	-	123-1762	40to280 / 300	
0.53	15	1.00	CH17-1553100	10552	125-1712	40to260 / 280
	30	1.00	CH17-3053100	10555	125-1732	40to260 / 280
	60	1.50	CH17-6053150	-	125-1733	40to260 / 280
		1.00	CH17-6053100	10558	125-1762	40to260 / 280

CH-225

ChromGC

CH-225 • Equivalent to USP G7, G19
(50%-Cyanopropyl-phenyl) - methylpolysiloxane

(mm)	(m)	(μ m)	Part No.	Restek	J&W	iso/prog. ($^{\circ}$ C)
0.10	20	0.10	CH225-201010	-	127-2222	45to220 / 240
0.18	20	0.20	CH225-201820	-	121-2223	45to220 / 240
		0.25	CH225-152525	-	122-2212	45to220 / 240
0.25	30	0.15	CH225-302515	-	122-2231	45to220 / 240
		0.25	CH225-302525	-	122-2232	45to220 / 240
0.32	30	0.25	CH225-303232	-	123-2232	45to220 / 240
0.53	15	1.00	CH225-1553100	-	125-2212	40to200 / 220
	30	1.00	CH225-3053100	-	125-2232	40to200 / 220

For EPA Methods
(Drinking & Waste Water),
please visit www.chrom4.com

CH-STAR-WAX

ChromGC

CH-STAR-WAX • Equivalent to USP G14, G15, G16
Polyethylene Glycol

(mm)	(m)	(µm)	Part No.	Restek	J&W	iso/prog. (°C)
0.10	10	0.10	CHSWAX-101010	-	127-7012	20to250 / 270
		0.20	CHSWAX-101020	-	127-7013	20to250 / 270
	20	0.10	CHSWAX-201010	-	127-7022	20to250 / 270
		0.20	CHSWAX-201020	-	127-7023	20to250 / 270
0.18	10	0.18	CHSWAX-101818	-	121-7012	20to250 / 270
		0.18	CHSWAX-201818	-	121-7022	20to250 / 270
	20	0.30	CHSWAX-201830	-	121-7023	20to250 / 270
		0.30	CHSWAX-401830	-	121-7043	20to250 / 270
0.25	15	0.25	CHSWAX-152525	-	122-7012	20to250 / 270
		0.50	CHSWAX-152550	-	122-7013	20to250 / 270
	30	0.15	CHSWAX-302515	-	122-7031	20to250 / 270
		0.25	CHSWAX-302525	10673	122-7032	20to250 / 270
		0.50	CHSWAX-302550	-	122-7033	20to250 / 270
		0.15	CHSWAX-602515	-	122-7061	20to250 / 270
	60	0.25	CHSWAX-602525	-	122-7062	20to250 / 270
		0.50	CHSWAX-602550	-	122-7063	20to250 / 270
0.32	15	0.25	CHSWAX-153225	-	123-7012	20to250 / 270
		0.50	CHSWAX-153250	-	123-7013	20to250 / 270
	30	0.15	CHSWAX-303215	-	123-7031	20to250 / 270
		0.25	CHSWAX-303225	10674	123-7032	20to250 / 270
		0.50	CHSWAX-303250	-	123-7033	20to250 / 270
		0.25	CHSWAX-603225	-	123-7062	20to250 / 270
60	0.50	CHSWAX-603250	-	123-7063	20to250 / 270	
	0.25	CHSWAX-603225	-	123-7062	20to250 / 270	
0.45	30	0.85	CHSWAX-304585	-	124-7032	20to250 / 270
		0.50	CHSWAX-154550	-	125-7017	20to250 / 270
	15	1.00	CHSWAX-1545100	-	125-7012	20to250 / 270
0.53	30	0.25	CHSWAX-305325	-	125-7031	20to250 / 270
		0.50	CHSWAX-305350	-	125-7037	20to250 / 270
		1.00	CHSWAX-3053100	-	125-7032	20to250 / 270
	60	1.00	CHSWAX-6053100	-	125-7062	20to250 / 270

CH-FFAP

ChromGC

CH-FFAP • Equivalent to USP G25, G35, G39
Nitroterephthalic Acid Modified Polyethylene Glycol

(mm)	(m)	(µm)	Part No.	Restek	J&W	iso/prog. (°C)
0.25	15	0.25	CHFFAP-152525	11020	122-3212	40to250
		0.25	CHFFAP-302525	11023	122-3232	40to250
0.32	30	0.50	CHFFAP-302550	11038	122-3233	40to250
		0.25	CHFFAP-153225	11021	123-3212	40to250
	50	0.25	CHFFAP-303225	11024	123-3232	40to250
		0.50	CHFFAP-303250	11039	123-3233	40to250
0.45	60	1.00	CHFFAP-3032100	11054	123-3234	40to250
		0.50	CHFFAP-503250	-	123-3253	40to250
	30	0.25	CHFFAP-603225	11027	123-3262	40to250
		0.50	CHFFAP-603250	11042	123-3263	40to250
		1.00	CHFFAP-6032100	11057	123-3264	40to250
		0.85	CHFFAP-304585	-	124-3232	40to250
0.53	15	0.50	CHFFAP-155350	11037	125-3217	40to250
		1.00	CHFFAP-1553100	11052	125-3212	40to250
	30	0.25	CHFFAP-305325	11025	125-3231	40to250
		0.50	CHFFAP-305350	11040	125-3237	40to250
		1.00	CHFFAP-3053100	11055	125-3232	40to250
		1.50	CHFFAP-3053150	-	125-3233	40to250

CH-88

ChromGC

CH-88 • Equivalent to USP G5, G8, G48
Biscyanopropyl polysiloxane

(mm)	(m)	(µm)	Part No.	Restek	J&W	iso/prog. (°C)
0.20	50	0.20	CH88-502020	-		60to250
		0.20	CH88-502520	-		60to250
	100	0.20	CH88-602520	-		60to250
		0.20	CH88-1002520	13199		60to250

GC Septa

- :: Lowest bleed of any septa
- :: Soft and resealable
- :: Molded for dimensional consistency giving more injections per septum, thereby costing less

Precision molded GC Septa made from 100% Pure Premium Silicone Rubber. Our GC septum delivers the ultimate in low bleed properties and longevity. Our unique formulation and conditioning process is what separates our GC Septa from the rest.










Manufacturer	Size	Quantity	Part Number
OVSC	9.5mm	50	CH-237705
OVSC	11mm	50	CH-237715
Chrom4	11mm	50	CHR-HD-A1544
Chrom4	9.5mm	50	CHR-HD-A1486
Chrom4	10mm	50	CHR-HD-A1405



GC Accessories

Inlet Liners

- :: Deactivated for maximum inertness
- :: Meets or exceeds original manufacturers' specifications
- :: Use liners packed with fused silica wool for the HP 7673 Autosampler

Description	ID (mm)	OD (mm)	Length (mm)	Glass Type	Deactivated	Agilent™ P/N	Part Number
Deactivated Injection Port Liners							
Tapered Liner - 1 End 	4.0	6.45	78.5	Borosilicate	Yes	5181-3316	IS-4209
Tapered Liner - 1 End w/wool* 	4.0	6.45	78.5	Borosilicate	Yes	5062-3587	IS-4210
Tapered Liner - Both Ends 	4.0	6.45	78.5	Borosilicate	Yes	5181-3315	IS-4211
Split/Splitless Liner w/wool* 	4.0	6.3	78.5	Borosilicate	Yes	19251-60540	IS-4212
Cup Split Liner+ 	4.0	6.3	78.5	Borosilicate	No	18740-80190	IS-4202
Direct Liner 	1.5	6.45	78.5	Borosilicate	Yes	18740-80200	IS-4215
Direct Connect Dual Taper, Bottom Hole 	4.0	6.3	78.5	Borosilicate	Yes	G1544-80700	IS-4217
Split only, Tapered, Low Pressure Drop 	4.0	6.3	78.5	Borosilicate	Yes	5183-4647	IS-4220
GP Split, 1 Taper Liner w/wool 	4.0	6.3	78.5	Borosilicate	Yes	5183-4711	IS-4221

+ The Cup Split Liner (IS-4202) contain small amounts of packing (10% CH-1 on 80/100 Chromosorb-WHP) retained by silanized glasswool.

* Containing deactivated quartz wool packing to ensure vaporization of your sample before reaching the column entrance. The liner is made of borosilicate glass.

Liners for other brands available. See www.chrom4.com for details.

Agilent™ Accessories

Ferrules (10 per pack)

Ferrule Size	Tubing Size	Style	100% Graphite	Agilent™ Part Number	85% Polyimide 15% Graphite	Agilent™ Part Number
Agilent™ Ferrules						
1/16"	0.4mm	-	OV-GF-04	500-2004	OV-MS-04	5062-3508
1/16"	0.4mm	HP/Agilent Short	OV-GF-04-HP	500-2114	OV-MS-04-HP	5181-3323
1/16"	0.5mm	-	OV-GF-05	-	OV-MS-05	5062-3506
1/16"	0.5mm	HP/Agilent Short	OV-GF-05-HP	5080-8853	OV-MS-05-HP	5062-3514
1/16"	0.8mm	-	OV-GF-08	500-2008	OV-MS-08	5062-3538
1/16"	0.8mm	HP/Agilent Short	OV-GF-08-HP	500-2118	OV-MS-08-HP	5062-3512
1/16"	1.00mm	-	OV-GF-10	500-2010	OV-MS-10	-
1/16"	1.0mm	HP/Agilent Short	OV-GF-10-HP	5080-8773	OV-MS-10HP	-
1/16"	1.2mm	-	OV-GF-12	500-2012	OV-MS-12	-
1/16"	1/16"	-	OV-GF-01	0100-1326	OV-MS-01	-
1/8"	1/8"	-	OV-GF-02	0100-1325	OV-MS-02	-
1/4"	1/4"	-	OV-GF-03	0100-1324	OV-MS-03	-
1/8"	1/16"	-	OV-GF-68	0100-1336	OV-MS-68	-
1/4"	1/16"	-	OV-GF-64	0100-1335	OV-MS-64	-
1/4"	1/8"	-	OV-GF-81	0100-1334	OV-MS-81	-
1/16"	0.4mm	2-Hole	OV-GF-14	-	OV-MS-14	5062-3580
1/16"	0.5mm	2-Hole	OV-GF-25	-	OV-MS-15	5062-3581
1/16"	0.5mm	No-Hole	OV-GF-01-NH	-	OV-MS-01-NH	5181-3308

Ferrules (10 per pack)

Ferrule Size	Tubing Size	60% Polyimide 40% Graphite	100% Polyimide	100% Teflon
Capillary Ferrules				
1/16"	0.4mm	OV-GH-04	OV-HF-04	OV-TF-04
1/16"	0.4mm	OV-GH-04-HP	OV-HF-04-HP	-
1/16"	0.5mm	OV-GH-05	OV-HF-05	OV-TF-05
1/16"	0.5mm	OV-GH-05-HP	OV-HF-05-HP	-
1/16"	0.8mm	OV-GH-08	OV-HF-08	OV-TF-08
1/16"	0.8mm	OV-GH-08-HP	OV-HF-08-HP	-
1/16"	1.0mm	OV-GH-10	OV-HF-10	OV-TF-10
1/16"	1.2mm	OV-GH-12	OV-HF-12	OV-TF-12
Straight Ferrules				
1/16"	1/16"	OV-GH-01	OV-HF-01	OV-TF-01
1/8"	1/8"	OV-GH-02	OV-HF-02	OV-TF-02
3/16"	3/16"	-	-	OV-TF-316
1/4"	1/4"	OV-GH-03	OV-HF-03	OV-TF-03
3/8"	3/8"	-	-	OV-TF-138
1/2"	1/2"	-	-	OV-TF-13



Electron Multipliers

Instrument	Analyzer Type	Technique	Part Number
5971, 5972, 5973, 5975, LC/MSD	Quadrupole	GC-MS	DT-2300A

GC Accessories

Press-Fit Connectors

- :: Easy to handle
- :: A simple pressure to assure a perfect seal
- :: Easy to install

ChromGC Press-Fit connectors allow you to simply connect, with a tight seal, different columns or Retention Gaps together in many ways. Our Press-Fit connectors are custom-made to fit any tubing size and to ensure the minimal dead volume.

Press-Fit Union linear connectors, ideal to connect two columns or a Retention Gap to the analytical column.

Press-Fit "Y" three way connectors, ideal to connect two analytical columns to a single injector port or split the exit of one column to a dual detector GC system. Many other configurations are possible using ChromGC "Y" Press-Fit.

ChromGC also produces personalized Multiways Press-Fit connectors for advanced analytical system configurations as MDGC and other custom settings.



Guard Columns - Retention Gaps

- :: Inert
- :: Pretested
- :: Increased analytical column lifetime

Guard columns consist of 5 meters of deactivated fused silica supplied with high temperature string.

All guard columns are extremely inert and each is pretested.

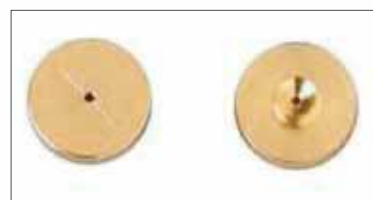
Guard columns are useful in protecting your analytical column from harmful non-volatile contaminants that are commonly found in many environmental and industrial samples.

Attaching the guard column to the front of the analytical column using fused silica connectors, or zero dead volume union, will extend your column's lifetime. The non-volatile contaminants are deposited onto the guard column.

Length	I.D. mm	Catalog Number
5 Meters	0.18	CH-6180-5
5 Meters	0.25	CH-6250-5
5 Meters	0.32	CH-6320-5
5 Meters	0.53	CH-6530-5

Inlet Gold Seals

Instrument	Description	Pack Size	Part Number
For Agilent 7890/6890/6850			
	0.8mm Inlet Seal, Gold-plated Splitless, Gold-plated Washers	2	OV-4300
	0.8mm Inlet Seal, Gold-plated, Splitless, Gold-plated Washers	10	OV-4300-10
	0.8mm Inlet Seal, Gold-plated, Split Double Groove (Cross), Gold-plated Washers	2	OV-4400
	0.8mm Inlet Seal, Gold-plated, Split Double Groove (Cross), Gold-plated Washers	10	OV-4400-10
	Replacement Gold-plated Washers for Inlet Seal	12	OV-4800



GC Septa

Manufacturer	Size	Quantity	Part Number
Perkin Elmer	11mm	50	CHR-HD-P1544
Shimadzu	Plug	50	CHR-HD-S1544

XTRM (Extreme) Columns

What is an XTRM (Extreme) column?

XTRM columns are wall coated open tubular (WCOT) columns consisting of stainless steel tubing that has a special internal surface treatment. This special surface treatment makes the surface similar to deactivated fused silica. The unique surface treatment process permits us to offer XTRM columns in a wide range of internal diameters and phases. Because the special surface treatment permeates the stainless steel surface, rather than the conventional coating, the layer is particularly easy to bend, so the tubing can be coiled to very small diameters.

Compare XTRM columns and fused silica columns:

- Metal columns can be coiled under 4.5 inches without breaking, ideal for small instruments.
- Metal tubing allows XTRM columns to be used to higher temperatures (430°C) than fused silica columns (standard rating is 380°C).
- Coating efficiency (plates/meter) of XTRM columns is comparable to that of fused silica.
- Dormancy of XTRM columns and fused silica columns is comparable, due to the unique properties of the special surface treatment in XTRM columns.
- XTRM columns will not break under stress.

XTRM column phases available from Chrom4:

- CH-1-XTRM
- CH-5-XTRM
- CH-SE54-XTRM
- CH-17-XTRM
- CH-35-XTRM
- CH-SE52-XTRM
- CH-624-XTRM
- CH-SimDis-XTRM

For dimensions and information of the phases listed above, please visit www.chrom4.com or ask your local distributor.

Applications

Compound	Column
Acetal - Ethyl Acetate	CH-STAR-WAX
Acetic Acid monitoring	CH-FFAP (inquire)
Alcohol Ethoxylates	CH-5HT
Alkyl Naphthalenes	CH-5
Anaesthetics Basic Drugs	CH-5
Aroclor 1254 - 1260 PCBs Quick Screening	CH-5
Basic Drugs Underivatized	CH-5
Benzene aromatic volatile compounds in air	CH-STAR-WAX
Benzyl Alcohol impurities	CH-FFAP (inquire)
Bergamot Oil FAST-GC	CH-1701
Bergamot Oil FAST-GC	CH-WAX (inquire)
Biodiesel - EN 14105 - ASTM D6584	CH-BIO
Biodiesel FAMES	CH-BIO
Biodiesel Glycerin - Triglycerides	CH-BIO
Blood Alcohol (Headspace)	CH-BAC1 & CH-BAC2
Blood Alcohols - HS	CH-BAC1 & CH-BAC2
Blood Alcohols - HS dual column	CH-BAC1 & CH-BAC2
BTEX FAST-GC	CH-624
Butter Triglycerides	CH-1
Chamomile Essential Oil FAST-GC	CH-STAR-WAX (inquire)
Chamomile Essential Oil FAST-GC Comparison	CH-1701
Chlorinated Hydrocarbons	CH-5 - EPA Method 612
Critical Flavor & Fragrances Compounds	CH-FFAP
Cyclic Hydrocarbons	CH-1
Determination of mineral oil hydrocarbons in vegetable oils	CH-1HT
Diethylene Glycol and Diols	CH-FFAP
Dimethylanilines	CH-STAR-WAX
Dioxins and Furans GC-MS	CH-5MS
Drugs and Adulterants	CH-5 (inquire by GC-MS)
Drugs of Abuse - Basic Drugs	CH-1
Drugs of Abuse - Cannabinoids	CH-1
Drugs Precursors	CH-5
FAMES (Fatty Acid Methyl Esters) C4 - C18	CH-STAR-WAX
FAMES (Fatty Acid Methyl Esters) C6 - C24	CH-STAR-WAX
FAMES (Fatty Acid Methyl Esters) Standard Mixture	CH-88
FAMES (Fatty Acid Methyl Esters) Standard Mixture FAST-GC	CH-88 (inquire)
FAMES and CLA isomers	CH-88
FAMES cis trans Isomers	CH-88
Flavor & Fragrances Compounds	CH-FFAP
Food Packaging Residual Solvents	CH-1701
Fragrance Allergens FAST-GC	CH-1701 (inquire)
Fragrance Allergens FAST-GC	CH-STAR-WAX (inquire)
Free Acids	CH-FFAP
Free Fatty Acids in Whisky	CH-FFAP

Compound	Column
Haloethers	CH-5 - EPA Method 611-8110
Halogenated Volatiles	CH-624 - EPA Method 551
Ketones	CH-1
Natural Gas Hydrocarbons	CH-1
Nitrogen-Phosphorus Pesticides Herbicides (Triazines)	CH-STAR-WAX EPA Method 619
Nitrosamines	CH-5 - EPA Method 607
Nitrosamines	CH-STAR-WAX
Olive Oil FAMES (Fatty Acid Methyl Esters) Cis-Trans Isomers -	CH-88
Organic Acids	CH-FFAP
Organochlorine Pesticides	CH-5 - EPA Method 608-8081
Organophosphorus Pesticides	CH-1 and CH-1701
PAH Polycyclic Aromatic Hydrocarbons	CH-PAH - EPA Method 610-8100
PAHs	CH-5MS - EPA 610 - 8100 - 8270
PAHs	CH-PAH (inquire) EPA Methods 610 - 8100 - 8270
PAHs	CH-PAH (inquire)
PAHs EPA 8270 - Helium Carrier Gas	CH-PAH
PAHs FAST-GC	CH-PAH (inquire)
Pesticides FAST-GC	CH-1701 (inquire)
Phenols	CH-1
Phenols	CH-5 - EPA Method 604
Phthalate Esters	CH-1 - EPA Method 606
Purgeable Aromatics	CH-STAR-WAX EPA Method 602
Residual Solvents UPS 467	CH-624
Serum Volatiles Control	CH-BAC1
Solvents	CH-WAX
Sulfur compounds in coffee aroma	CH-FFAP
USP 467 Residual Solvents (OVIs) FAST-GC Headspace	CH-624 (inquire) (G43 Phase)
VOCs in Drinking Water	CH-624 - EPA Method 524-3
Vodka	CH-STAR-WAX
Volatile Acidic Compounds	CH-FFAP
Volatile Free Acids	CH-FFAP
Whisky direct split injection	CH-624
Xylene Isomers	CH-FFAP



FUTURE DEVELOPMENTS:

Sample Transfer

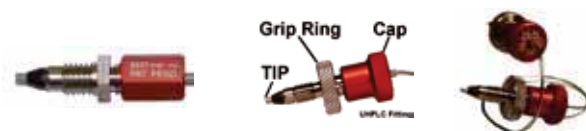


DataM8Riks



Ritter Robotic Tips

Biolink: Durable U(H)PLC Fittings



Electron Multipliers



DT-2300A
(Agilent GC-MS)

(U) HPLC-MS Columns:



Bulk Silica





MODEL 2003 DEGASSER

Eliminates troubles with bubbles

Get rid of dissolved gases with the latest technology

Secure your analysis with our on-line degasser

- Fits every system
- Only 480µl internal volume due to Systec AF degassing membrane
- Extremely quiet
- Long life expectancy – 5 years continuous running capacity
- Pump head purge eliminates need for purging valve
- Eliminate baseline fluctuations due to the ZHCR® (Zero Hysteresis Constant Run) stepper motor driven vacuum pump
- Closed loop vacuum control means constant vacuum (variable RPM)
- Advanced error and leak checking functions

General specifications

Internal Channel Volume: 480 microliter
 Wetted Parts: PEEK and Systec AF
 Properties (HxWxD): 5.0 x 2.87 x 9.81 in.
 (127 x 73 x 249 mm)

Part Number	No of channels
CHR-0001-6352-A	2
CHR-0001-6353-A	3
CHR-0001-6354-A	4
CHR-0001-6355-A	5

GPC compatible degassers

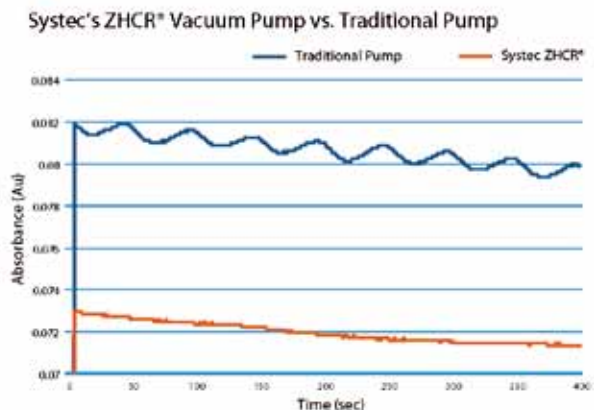
For GPC or Normal Phase Chromatography we recommend our line of degassers with stented vacuum chambers. Other specifications as above

Part Number	No of channels
CHR-0001-6622	2
CHR-0001-6624	4

Other options available upon request. Degassing chambers with 100µl or 925µl internal volume are available, as well as 8-channel degassers.



The degasser with the smoothest baseline on the market



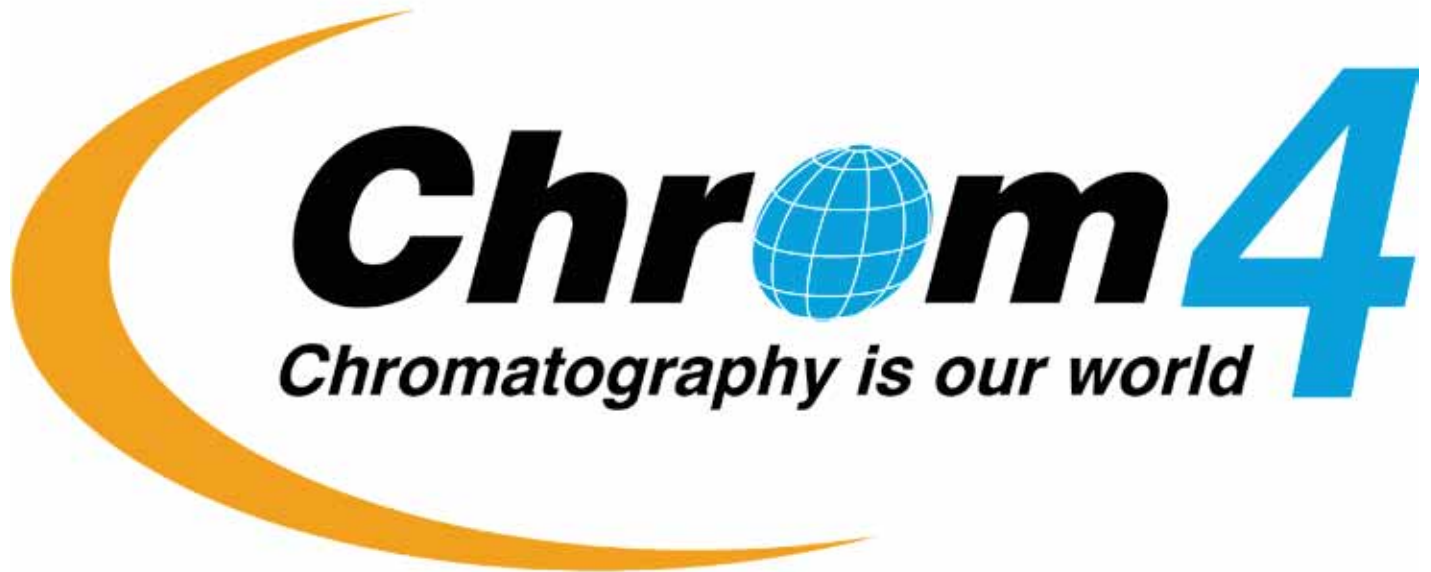
Fluctuations in detector baseline of a single-speed pump compared to the patented technology of the Systec ZHCR vacuum pump.*
 UV detector baseline fluctuations are minimal when compared to traditional stop and start vacuum sources.

1) Sample Handling

2) Sample Preparation

3) Columns

4) Accessories



Your local CHROM4 distributor:



Instruments
smart solutions & service

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