

THE KONIK COMMITMENT

The KONIK Group is a leading supplier of Chromatography, Mass Spectrometry and Sample Preparation Robotics equipment in true normalised modular instruments with innovative designs to provide unique analytical capabilities, turn-key solutions and differential specifications for the academic, R&D and industrial markets all over the world.

We have more than 30 years of experience in developing Chromatography and Mass Spectrometry products. Over this period of time, we have been established as one of the world's leading manufacturers thanks to our specialisation in molecular analysis. All our products are directly supported from our R&D Centre without the intervention of third parties.

The KONIK Group is actually the unique independent European Company with a full range of HRGC, HPLC, Sample Preparation, Robotics and Mass Spectrometry products covering more than 70 countries.

This KONIK catalogue of consumibles covers all the Chromatographic needs. KONIK provides capillary columns, liners, ferrules, fittings, vials, septa, gas generators, HPLC columns, syringes and standards. KONIK sells products under its own brand name and distributes products under other brand names.

Our purpose at KONIK is to meet our customer's requirements for quality, service, and value. Quality is every employee's responsibility and is the center of every job function. The KONIK Quality System complies with the standard of ISO9001:2008 and all-applicable regulations. The Quality System is evaluated and improved on a regular basis.

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The KONIK website allows you to easily obtain all the information regarding Konik products and services.




**... NOT ONLY FOR KONIK
BUT FOR ANY GC, HPLC, AND MS IN THE MARKET!**





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The KONIK website allows you to easily obtain all the information regarding Konik products and services.

Technical information in this publication is for reference purposes only and it is subject to change without notice.

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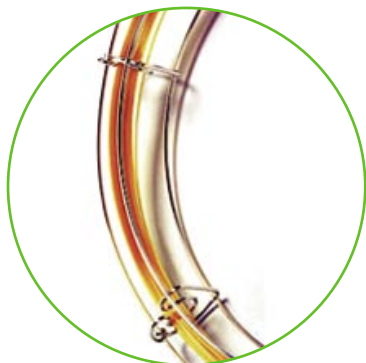


1 • *GC Capillary & Packed Columns*

KONIK CAPILLARY COLUMNS

All of KONIK columns are manufactured according to a strict established protocol, and within the ISO 9001:2008 quality rules.

- Step 1: Hydrothermal treatment
- Step 2: Deactivation process
- Step 3: Wetting, bonding and crosslinking
- Step 4: Quality control



Step 1: Hydrothermal Treatment

KONIK starts its manufacturing process with the selection of the best possible fused silica tubing. This tube presents an extremely reduced tolerance of internal diameters and has a polyimide outer coating capable of withstanding the highest temperatures without loss of its flexible mechanical characteristics. Each one of the batches of silica used in the process is conveniently characterized as an essential step to set the Hydrothermal Treatment conditions (Fig. 1) that will give rise to a surface containing a high and constant density of silanol groups, which will later be properly deactivated.

This treatment is indispensable, as the different capillary tubing manufactured batches present a very low and irregularly distributed silanol group density due to the high temperature manufacturing process (~2000°C).

Step 2: Deactivation Process

The deactivation process, which is different for each type of stationary phase, is carefully controlled (Fig. 2), ensuring that the tubing surface has acquired the necessary chemical inertness and surface tension in order to be able to proceed with the second stage of stationary phase deposition. This step also facilitates the introduction of specific functional groups on the tubing wall which are very useful for the later binding of the stationary phase or to give the columns a given end point characteristics.

Step 3: Wetting, bonding and crosslinking

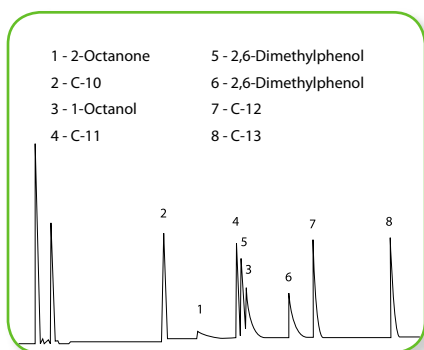
Stationary phase selection for optimum wetting of the column is a critical point in regards to column quality. The column manufacturer uses extremely pure polymers for its phases, in order to guarantee that our columns will respond to the requirements that our customers expect in terms of efficiency, reproducibility, stability and minimal bleeding.

The polymers used are carefully fractionated to eliminate the low molecular weight components and trace catalyst. This results in a higher thermal stability and lower bleeding. Then, these polymers are tested by means of spectroscopic (FTIR, UV, NMR), chromatographic (GPC) techniques and by differential thermal analysis.

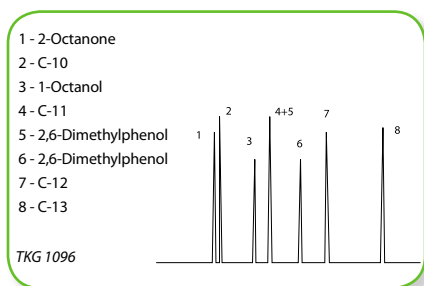
Fig. 3 shows the molecular exclusion chromatography of the polymer TRB-5 with its corresponding thermogravimetric curve in Fig. 4.

The crosslinking and bonding of the stationary phase is achieved by avoiding the use of peroxides which are the cause of many of the problems related to residual activity due to phase degradation and thermal instability exhibited in numerous imported columns.

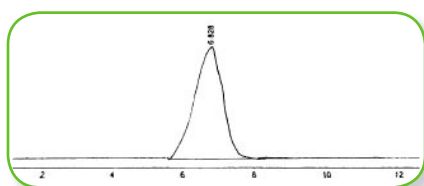
The fact that a given stationary phase is crosslinked and/or chemically bonded to the capillary tube inner wall allows, if necessary, the recovery or regeneration of an accidentally contaminated column by washing it with the adequate series of solvents.



Verification of Hydrothermal Treatment



Deactivation Stage (Intermediate Test)



GPC Chromatogram of KAP-5 polymer

GC CAPILLARY & PACKED COLUMNS

Step 4. Quality Control

Select proven quality

When you buy a KONIK capillary column you receive a product designed and manufactured with the aim to help you solve your analytical problems and which meets all of our quality criteria.

At the same time you obtain from our Technical Department at KONIK the assurance that we will be at your side to help you with all the problems and concerns experience in the lab.

Each column is individually tested and the accompanying test data is the proof that the column meets our quality specifications and thus we expect it to meet your demands. Each one of the columns obtained by this process is rigorously controlled by means of a strict Quality Control Test (Fig. 5 and 6), which ensures that you will receive a guaranteed quality product.

Stationary Phase

The selection of the ideal column for a given analysis may look like a complex problem since we need to be right on the selection of the polarity of the stationary phase as well as column length, internal diameter and film thickness.

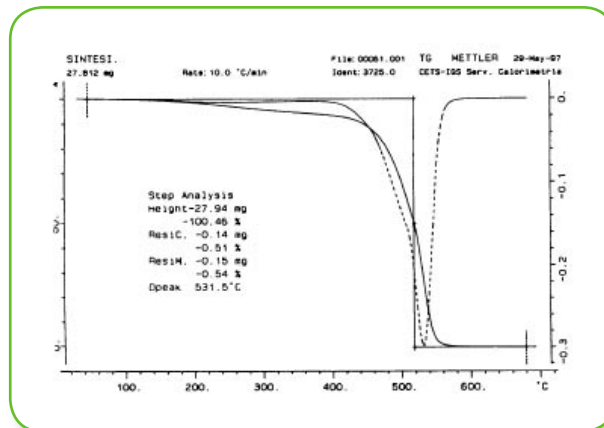
The polarity of the stationary phase is chosen depending on the kind of compounds you wish to separate. Non polar phases, such as KAP-1 and KAP-5, separate compounds by their boiling points. Intermediate polarity phases such as KAP-WAX, KAP-1701, combine retention by boiling point with the more selective interaction through hydrogen bridges or dipolar moments, etc., and thus provide a higher selectivity. The principal mechanisms of polar phases such as KAP-CN100 (Cyanosilicone with 100% of cyano propyl groups) lie in the dipole-dipole interactions between the functional groups of the stationary phase and those from the substances to be separated. These type of phases retain polar compounds more than non polar ones.

In general, non polar phases are more thermally stable than the polar phases. In other words, the higher the column polarity, the lower its thermal stability. Most of the KONIK columns are cross-linked, which results in high thermal stability. The cross-linking in a stationary phase produces slight changes in the physicochemical characteristics of the phase as well as in its polarity relative to the uncross-linked phase. Thus KONIK also offers in its catalog columns with non bonded phases that show the selectivity of the original phase (for instance KAP-SE30, KAP-SE54, KAP-20M, etc).

Length

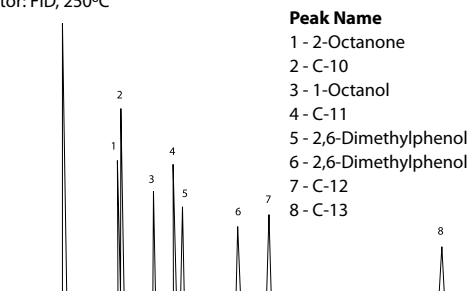
The efficiency of a chromatographic column (number of theoretical plates per meter) is a function of its length. The standard length used for most of the separations is 25-30 meters. With this length one can obtain a high efficiency with relative short times of analysis. Columns of 15m are used for rapid control analyses, reaction monitoring, etc. as well as for the chromatography of high molecular weight substances while columns of 50-60 m, 100 m or 150 m are used for very complex samples.

KONIK exclusively has a 150 m column for detail analyses of petroleum and essential oil hydrocarbons. As a general rule, we can say that in a constant temperature chromatographic analysis, the number of theoretical plates and analysis time are directly proportional to the column length while resolution is directly proportional to the square root of the theoretical plates. Thus, we need to take into account that when we double column length, its resolution only increases by 40% whereas analysis time doubles.



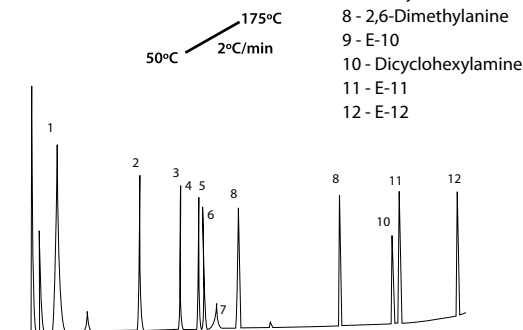
DTA Curve of KAP-5 polymer

Column: **KAP-5** 60m x 0.25mm ID x 0.25µm.
 Carrier gas: He, 25 psi.
 Oven: 110°C (Isothermal).
 Injection: 1µl, split. (1:100:250°C)
 Concentration: Approx. 5ng of each compound on column
 Detector: FID, 250°C



QUALITY CONTROL TEST

Column: **KAP-5** 30m x 0.25mm ID x 0.25µm.
 Carrier gas: He, 12 psi.
 Injection: 1µl, split. (1:100), 260°C
 Detector: FID, 280°C



GROB test

Internal Diameter

The column internal diameter is inversely proportional to its separation power. The smaller the diameter, the larger the efficiency and thus a higher resolution but at the same time the loading capacity decreases.

For samples containing a large number of substances where you may need a given resolution, it is recommended to use small internal diameter columns (0.20-0.25 mm) and for samples with a high range of concentrations higher internal diameter columns are recommended (0.32-0.53 mm) since these larger diameters allow for the injection of a higher sample amount.

Columns of 0.53 mm ID (semicapillary) have a loading capacity similar to that of packed columns, which they replace in many analyzes, with better resolution, higher chemical inertness and lower analysis time.

The 0.32-0.53 mm ID columns can be used with either the injector for capillary columns or with the packed column injector, due to the high flow-rates at which they can operate.

In the increasingly used GC-MS systems it is recommended to work with small ID columns (0.10mm, 0.15mm, 0.18mm, 0.20 mm and 0.22 mm) so as not to exceed the capacity of the vacuum system. Recently, capillary columns of 0.1 mm ID have appeared on the market.

These generate high plate numbers or, in other words, to reduce analysis time without losing resolution. The high efficiency of these columns (7000-10000 plates/meter) allows the resolution of complex samples using shorter column lengths, thus with very short analysis times, with the resulting cost reduction for the laboratory. Evidently, their loading capacity is a limiting factor and in order to obtain the best performance from these columns we need to take into account instrumental factors (injector-detector).

Film Thickness

The film thickness of the stationary phase deposited inside the capillary column exerts an influence on the number of effective theoretical plates that can be obtained with the column for a given separation, on its loading capacity, on the bleed level and on the elution temperature of a compound. A film thickness of 0.25-0.32 μm is the standard thickness allowing for a compromise between loading capacity and resolution; and for the injection of samples with a wide volatility range.

Thick films increase retention of the most volatile components whereas thin films provide faster elution at lower temperatures. As a general rule, thin films (0.1 μm) must be used for compounds with a high molecular weight such as triglycerides, antioxidants, etc., which have elution temperatures over 300°C. Thick films must be used for low boiling substances because thick films increase the interaction between the substances and the stationary phase. Specifically, 3-5 μm films are used to separate solvents, gases, and very volatile substances at room temperature or lower.

When the thickness of the stationary phase increases, thermal stability decreases, and thus the bleed level is higher which will limit the maximum operating temperature of the column.

The β factor defines the relation between the column internal diameter and the stationary phase thickness, thereby helping you to select the most appropriate column for your analysis.

In addition, the β factor allows for the easy exchange of columns since, for a given analysis with the same stationary phase, similar β factors will result in the same or very similar retention times and capacity factors. Of course, this implies taking into account the column loading capacity (phase thickness and internal diameter).

GC CAPILLARY & PACKED COLUMNS

β Factor

β	Column suitable for the separation of:
>400	High molecular weight compounds
100	- 400 All purpose use
<100	Volatile compounds of low molecular weight

Bleed Level

The bleed level of stationary phase from a capillary column is the parameter which will determine the level of sensitivity in a given assay. It is directly related to the amount of stationary phase in the column and thus with the film thickness. It also increases exponentially with temperature (Fig.7). A low bleed level will allow you to work without problems with the whole range of modern high sensitivity detectors and at the same time will result in less contamination. This will also allow the quantification of high boiling point or high molecular weight compounds which are analyzed by means of high temperature gradients.

Maximum Efficiency

All manufacturing stages for capillary columns have been optimized in order to be able to offer our customers columns of very high efficiency.

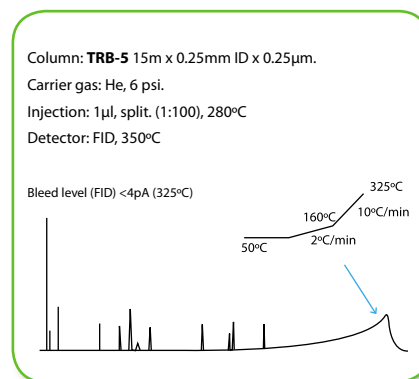
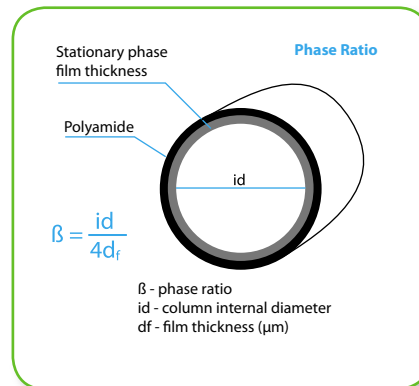
Maximum Reproducibility

When you select a KONIK column for your analyses you can be assured that each of the steps in the production process has been thoroughly controlled to ensure that there are no deviations from the established quality parameters. All of the steps incorporate the maximum possible automation procedures. This translates into a high reproducibility level with regards to the chromatographic performance of our columns.

Inter Internal diameter (mm)	Theoretical Plates (N/m)
0,10	7.000 - 9.000
0,20	4.700 - 5.500
0,25	3.300 - 4.600
0,32	2.700 - 3.700
0,53	1.400 - 2.200

Wide Stationary Phase Selection

KONIK incorporates in its catalogue a selection of capillary columns prepared with the stationary phases most commonly used in the field of gas chromatography (see table below).



BLEED LEVEL (GROB TEST)

GC CAPILLARY & PACKED COLUMNS

LIST OF KONIK CAPILLARY COLUMNS AND SIMILAR PERFORMANCE PHASE CHART									
KONIK	PHASE COMPOSITION	AGILENT	SUPELCO	RESTEK	VARIAN	SGE	ALLTECH	QUADREX	USP NOMENCL
KAP-1, KAP-1ht, KAP-1MS, KAP-SULFUR, KAP-PETRO, KAP50, 2PONA, KAP-2887	100% dimethyl polysiloxane	HP-1, HP101, ULTRA-1, DB-1, DB-1ht, DB-2887	SPB-1, EQUITY-1 SPB-1 SULFUR	Rtx-1, Rtx-2887	CP-SIL 5 CB CP-SIL 5 CB MS	BP-1	AT-1	007-1	G1, G2, G38
KAP-5, KAP-5ht, KAP-5MS, KAP-STEROL, KAP-5AMINE, KAP-G27, KAP-5625, KAP-G27	95% dimethyl - 5% diphenyl polysiloxane	HP-5, ULTRA-2, DB-5, DB5.625, DB-5ht, PAS-5	SPB-5, EQUITY-5 PTE-5, SAC-5, PTE-5QTM	Rtx-5, XTI-5, Rtx-5 MS	CP-SIL 8 CB	BP-5	AT-5	007-2	G27, G36
KAP-META.X5	95% dimethyl - 5% diphenyl polysilphenylene	HP-5TA, DB-5MS	MDN-5	Rtx-55il MS	CP-SIL 8 CB Low Bleed/MS	BPX-5	AT-5ms	007-5 MS	
KAP-1301, KAP-624, KAP-G43	6% cyanopropylphenyl-94% dimethyl polysiloxane	HP-1301, HP-624 DB-1301, DB-624	SPB-1301, OVI-43	Rtx-1301, Rtx-624		BPX-624	AT-624		G43
KAP-14	14% diphenyl-86% dimethyl polysiloxane				CP-SIL13CB				
KAP-20	20% diphenyl-80% dimethyl polysiloxane		SPB-20, VOCOL				AT-20	007-7	G28, G32
KAP-35	35% diphenyl-65% dimethyl polysiloxane	HP-35, DB-35	SPB-35	Rtx-35		BPX-35, BPX-608	AT-35	007-11	G42
KAP-1701	14% cyanopropylphenyl-86% dimethyl polysiloxane	HP-1701, PAS-1701, DB-1701	SPB-1701	Rtx-1701	CP-SIL19CB	BP-10	AT-1701	007-1701	
KAP-225	50% cyanopropylphenyl-50% dimethyl polysiloxane	HP-225, DB-225		Rtx-225	CP-SIL43CB	BP-225	AT-225	007-225	G7, G19
KAP-PAG	50% polyethylene - 50% polypropylenglycol		PAG						
KAP-FFAP	treated polyethyleneglycol for acidic compounds	HP-FFAP, DB-FFAP	NUKOL, SP-1000	STABILWAX-DB	CP-WAX 58 CB	BP-21	AT-1000, FFAP	007-FFAP	G25, G35
KAP-50	50% diphenyl-50% dimethyl polysiloxane	HP-50+, DB-17, DB-608	SPB-50, SPB-2250	Rtx-50	CP-SIL 24 CB		AT-50	007-17	G3
KAP-50ht	50% diphenyl-50% dimethyl polysiloxane	DB-17ht		Rtx-65	TAB-CB			007-65HT	G17
KAP-F50	50% trifluoropropylmethyl polysiloxane	DB-210, DB-200		Rtx-200			AT-210	007-210	G6
KAP-WAX	100% polyethyleneglycol	HP-20M, INNOWAX DB-WAX, DB-WAXetr	SUPEL-COWAX-10 Carbowax 20M	STABILWAX	CP-WAX 52 CB	BP-20	AT-WAX	007-CW	G14, G15, G16, G20, G39
KAP-WAX.DB	treated polyethyleneglycol for basic compounds	CAM, HP-BasicWax	Carbowax-Amine		CP-WAX 51 CB				
KAP-META.WAX	100% polyethyleneglycol	HP-WAX, DB-WAX			CP-WAX 57 CB				
KAP-WAX.OMEGA	100% polyethyleneglycol		OMEGAWAX	FAMEWAX					
KAP-CN100	100% biscyanopropyl polysiloxane		SP-2340	Rt-2340	CP-SIL 88				
KAP-CRESOL	non bonded phase				CP-CRESOL				
KAP-17	50% diphenyl-50% dimethyl polysiloxane	HP-17							G3
Meta.VOC	bonded phase	DB-502.2, HP-VOC	VOCOL	Rtx-502.2					
KAP-608	bonded phase	HP-608	SPB-608			BP-608			
KAP-TCEP	1,2,3-tris (cyanoethoxy)propane		TCEP	Rt-TCEP	CP-TCEP				

GC CAPILLARY & PACKED COLUMNS

KONIK PHASE RECOMMENDATIONSCHART			
KONIK Phase	Application	Composition	Polarity
KAP-1, KAP-1ht, KAP-1MS	Amines, hydrocarbons, pesticides, PCBs, phenols, sulfur compounds, flavors and fragrances	100% Dimethylpolysiloxane	Non-polar
KAP-5, KAP-5ht, KAP-5MS	Semivolatiles, alkaloids, drugs, FAMES, halogenated compounds, pesticides, herbicides	5% Phenyl 95% dimethylpolysiloxane	Non-polar
KAP-1701	Pesticides, herbicides, derived sugars, solvent drugs, aromatic hydrocarbons	86% dimethylpolysiloxane 7% phenyl, 7% cyanopropyl	Mid-polar
KAP-WAX, KAP-WAX.DB, KAP-META.WAX	FAMES, aromas, solvents, BTEX, alcohols, xilene isomers, alcoholic drinks, aromatics, glycols	100% Polyethylene glycol	Polar
KAP-FFAP	FAMES, free acids, phenols, fragrances, acrilates, glycols	Polyethyleneglycol esterified with nitroterephthalic acid	Polar
KAP-20	Organic volatile compounds, alcoholic drinks, aromatic products	80% dimethylpolysiloxane 20% diphenyl	Mid-polar
KAP-5AMINE	Specially column for the analysis of amines	95% dimethylpolysiloxane 5% diphenyl	Non-polar
KAP-225	FAMES, alditol acetates, neutral sterols	50% dimethylpolysiloxane 25% phenyl, 25% cyanopropyl	High-Mid Polar
KAP-5.625	EPA methods to the analysis of semi volatile compounds	95% dimethylpolysiloxane 5% diphenyl	Non-polar
KAP-35	CLP-pesticides, arochlors, pharmaceuticals, drugs of abuse, amines	65% dimethylpolysiloxane 35% diphenyl	Low-Mid-polar
KAP-608	Specifically designed for analysing chlorinated pesticides and PCBs. Designed for the EPA 508, 608 and 8080 methods	Proprietary bonded and crosslinked phase	Non-polar
KAP-50, KAP-50ht	Drugs, glycols, pesticides, steroids, waxes, triglicerydes	50% diphenyl-50% dimethylpolysiloxane	Mid-polar
KAP-PAG	FAMES, solvents, aromas	50% Polyethylene, 50% Polypropylenglycol	Polar
KAP-F50	Residual solvents, pesticides, herbicides	35% Trifluoropropyl- 65% dimethyl polysiloxane	Polar
KAP-1301	Pesticides, arochlors, organic volatiles	94% dimethylpolysiloxane 6% cyanopropylphenyl	Mid-polar
KAP-624	Volatile priority pollutants, EPA Method 502.2	6% Cyanopropyl-phenyl, 94% dimethylpolysiloxane	Polar
KAP-14	Pesticides, phenols, halogenated compounds	86% dimethylpolysiloxane 14% diphenyl	Low-Mid-polar
KAP-META.X5	Semi volatile compounds analysis	Silarylene	Non-polar
KAP-CN100	FAMES (cis trans isomers), derived sugars, PCB's, dioxins	100% Cyanopropyl Polysiloxane	Polar
KAP-PETROL	Analysis of complex mixtures of hydrocarbons according to the ASTM Standards	100% dimethylpolysiloxane	Non-polar
KAP-50.2PONA	Analysis of hydrocarbons (Paraphine, Olephine, Naftens and Aromatics)	100% dimethylpolysiloxane	Non-polar
KAP-SULFUR	Analysis of sulphurous compounds (natural gas, petrol, wines, beers. . .)	100% dimethylpolysiloxane	Non-polar
KAP-G43	Made to fulfil the specifications of the American Pharmacopea (USP) for the analysis of residual solvents	94% dimethylpolysiloxane, 6% cyanopropylphenyl	Mid-polar
KAP-G27	Produced to fulfil the American Pharmacopea's (USP) specifications, for the organic volatiles impurities' test in pharms	95% dimethylpolysiloxane 5% diphenyl	Non-polar
KAP-STEROL	Complex mixtures analysis of sterols, from animal or vegetal origin	95% dimethylpolysiloxane 5% diphenyl	Non-polar
KAP-2887	Suitable column for SIMDIS evaluation based on ASTM Test Method D2887	100% dimethylpolysiloxane	Non-polar
KAP-META.WAX400	Analysis of volatiles in alcoholic beverages and solvents. Maximum resolution of amylic alcohols.	100% Polyethylene glycol	Polar
KAP-17	Drugs, glycols, pesticides, steroids	50% diphenyl-50% dimethylpolysiloxane	Low-Mid-polar
KAP-CRESOL	For the analysis of phenol compounds (phenols, cresilic acids)	Stationary Phase non bonded	Polar
KAP-WAXOMEGA	FAMES, Waxes	100% Polyethylene glycol	Polar
KAP-TCEP	Analysis of alcohols in gasoline	Phase1, 2, 3-tris (2-cyanoethoxy) propane	Polar

GC CAPILLARY & PACKED COLUMNS

KONIK CAPILLARY COLUMNS BY INDUSTRY			
Industry	Application	Item n°	KONIK Phase
Oil Producers	Fatty Acids (Cis-Trans)	KAP-882162	Capillary Column KAP-CN100 60 m x 0.25 mm x 0.20 um
	Sterols	KAP-182238	Capillary Column KAP-STEROL 30 m x 0.22 mm x 0.22 um
	Waxes	KAP-120113	Capillary Column KAP-5 15 m x 0.32 mm x 0.10 um
	Fatty Alcohols & Stigmastadiene	KAP-120232	Capillary Column KAP-5 30 m x 0.25 mm x 0.25 um
	Volatiles	KAP-140262	Capillary Column KAP-WAX 60 m x 0.25 mm x 0.25 um
	Halogenated Solvents	KAP-121033	Capillary Column KAP-5 30 m x 0.32 mm x 1.00 um
Wine and Distillates Producers	Methanol and "superiors" alcohols	KAP-601833	Capillary Column KAP-624 30 m x 0.32 mm x 1.80 um
		KAP-601462	Capillary Column KAP-624 60 m x 0.25 mm x 1.40 um
		KAP-601432	Capillary Column KAP-624 30 m x 0.25 mm x 1.40 um
	Volatiles in Alcoholic beverages	KAP-810532	Capillary Column KAP-WAX 30 m x 0.25 mm x 0.50 um
		KAP-816463	Capillary Column KAP-WAX 60 m x 0.32 mm x 0.64 um
		KAP-141035	Capillary Column KAP-WAX 30 m x 0.53 mm x 1.00 um
	Wine Flavours	KAP-142168	Capillary Column SupraWAX-280 60 m x 0.25 mm x 0.25 um
	Wine Pesticides	KAP-820232	Capillary Column KAP-Meta .X5 30 m x 0.25 mm x 0.25 um
		KAP-120232	Capillary Column KAP-5 30 m x 0.25 mm x 0.25 um
	Phenols and Anisol in bottle caps	KAP-520232	Capillary Column KAP-5MS 30 m x 0.25 mm x 0.25 um
	Wine Glycols	KAP-910232	Capillary Column MTI-5 30 m x 0.25 mm x 0.25 um
KAP-151035		Capillary Column KAP-FFAP 30 m x 0.53 mm x 1.00 um	
Flavours and Fragrances		KAP-110232	Capillary Column KAPB-1 30 m x 0.25 mm x 0.25 um
		KAP-830232	Capillary Column SupraWAX-280 30 m x 0.25 mm x 0.25 um
		KAP-110262	Capillary Column KAP-1 60 m x 0.25 mm x 0.25 um
		KAP-830262	Capillary Column SupraWAX-280 60 m x 0.25 mm x 0.25 um
Volatiles in water and soils		KAP-603035	Capillary Column KAP-624 30 m x 0.53 mm x 3.00 um
		KAP-603075	Capillary Column KAP-624 75 m x 0.53 mm x 3.00 um
		KAP-6030K5	Capillary Column KAP-624 105 m x 0.53 mm x 3.00 um
		KAP-943035	Capillary Column KAP-Meta.VOC 30 m x 0.53 mm x 3.00 um
		KAP-943065	Capillary Column KAP-Meta.VOC 60 m x 0.53 mm x 3.00 um
		KAP-9430K5	Capillary Column KAP-Meta.VOC 105 m x 0.53 mm x 3.00 um
		KAP-115063	Capillary Column KAP-1 60 m x 0.32 mm x 5.00 um
		KAP-115065	Capillary Column KAP-1 60 m x 0.53 mm x 5.00 um
Analysis of Industrial Solvents		KAP-141253	Capillary Column KAP-WAX 50 m x 0.32 mm x 1.20 um
		KAP-142065	Capillary Column KAP-WAX 60 m x 0.53 mm x 2.00 um
Pharmacy Industry	Residual Solvents in Pharmaceutical Products	KAP-163035	Capillary Column KAP-G43 30 m x 0.53 mm x 3.00 um
		KAP-175035	Capillary Column KAP-G27 30 m x 0.53 mm x 5.0 um
		KAP-830233	Capillary Column SupraWAX-280 30 m x 0.32 mm x 0.25 um
	Alcohol 96 Impurities	KAP-601833	Capillary Column KAP-624 30 m x 0.32 mm x 1.80 um
	Sacarine Impurities	KAP-502045	Capillary Column KAP-17 10 m x 0.53 mm x 2.00 um
Chlorinated and Phosphorous Pesticides		KAP-360232	Capillary Column KAP-608 30 m x 0.25 mm x 0.25 um
		KAP-820232	Capillary Column KAP-Meta .X5 30 m x 0.25 mm x 0.25 um
		KAP-350232	Capillary Column KAP-35 30 m x 0.25 mm x 0.25 um
		KAP-520232	Capillary Column KAP-5MS 30 m x 0.25 mm x 0.25 um
		KAP-130232	Capillary Column KAP-1701 30 m x 0.25 mm x 0.25 um
PCB Analysis		KAP-520262	Capillary Column KAP-5MS 60 m x 0.25 mm x 0.25 um
PAH Analysis		KAP-820532	Capillary Column KAP-Meta .X5 30 m x 0.25 mm x 0.50 um
Dioxines and Furans		KAP-520262	Capillary Column KAP-5MS 60 m x 0.25 mm x 0.25 um
Petrochemical Applications	Heavies	KAP-610113	Capillary Column KAP-1ht 15 m x 0.32 mm x 0.10 um
	PONA, PNA, PIANO	KAP-110592	Capillary Column KAP-PETROL 100 m x 0.25 mm x 0.50 um
	PONA as ASTM D5134	KAP-110559	Capillary Column KAP-50.2 PONA 50 m x 0.20 mm x 0.50 um
	Fuel Detailed Analysis	KAP-1110G2	Capillary Column KAP-PETRO.150 150 m x 0.25 mm x 1.00 um
	ASTM D2887	KAP-192645	Capillary Column KAP-2887 10 m x 0.53 mm x 2,65 um
	Separation of alifatics, aromatics and alcohols in fuel	KAP-960462	Capillary Column KAP-TCEP 60 m x 0.25 mm x 0.40 um
	Alcohol in blood		KAP-851833

KONIK STANDARD PHASE COLUMNS

0.10 mm ID Columns - Polyimide coated

Phase code	Film Thickness (microns)	Length (m)			
		10	15	20	40
KAP-1	0,1	KAP-110141		KAP-110181	
	0,2				KAP-1121C1
	0,4	KAP-110441		KAP-110481	KAP-1104C1
KAP-5	0,1	KAP-120141		KAP-120181	
	0,17	KAP-121941			
	0,33	KAP-123341			
	0,4	KAP-120441		KAP-120481	
KAP-1701	0,1			KAP-130181	
	0,4			KAP-130481	
KAP-WAX	0,1	KAP-140141		KAP-140181	
	0,2	KAP-142141		KAP-142181	
KAP-FFAP	0,1			KAP-150181	
KAP-225	0,1			KAP-250181	
KAP-50	0,1	KAP-500141		KAP-500181	
	0,2	KAP-502141			
KAP-1MS	0,1	KAP-510141		KAP-510181	
KAP-5MS	0,1	KAP-520141		KAP-520181	
	0,4	KAP-520441		KAP-520481	
	0,1	KAP-520141		KAP-520181	
KAP-META.WAX	0,1	KAP-520141		KAP-520181	
	0,2	KAP-810141		KAP-810181	
KAP - META.X5	0,4	KAP-812141		KAP-812181	
KAP-SUPRAWAX-280	0,1	KAP-830141	KAP-830111	KAP-830181	
	0,2		KAP-832111	KAP-832181	

0.20 mm ID Columns - Polyimide coated

Phase code	Film Thickness (microns)	Length (m)					
		12	15	25	30	50	60
KAP-1	0,15		KAP-111319	KAP-111329	KAP-111339	KAP-111359	KAP-111369
	0,33	KAP-1133B9		KAP-113329		KAP-113359	
	0,35		KAP-110319	KAP-110329	KAP-110339	KAP-110359	KAP-110369
	0,5		KAP-110519	KAP-110529	KAP-110539		KAP-110569
KAP-5	0,15		KAP-121319	KAP-121329	KAP-121339	KAP-121359	KAP-121369
	0,33	KAP-1233B9		KAP-123329		KAP-123359	
	0,35		KAP-120319	KAP-120329	KAP-120339	KAP-120359	KAP-120369
	0,4						KAP-120469
	0,5		KAP-120519	KAP-120529	KAP-120539	KAP-120559	KAP-120569
KAP-1701	0,2		KAP-132119		KAP-132139		KAP-132169
KAP-WAX	0,2		KAP-142119		KAP-142139		KAP-142169
	0,4		KAP-140419		KAP-140439		KAP-140469
	0,5		KAP-140512				
KAP-FFAP	0,3		KAP-152119		KAP-152139		KAP-152169
KAP-225	0,2		KAP-252119	KAP-252129	KAP-252139		
KAP-5.625	0,33	KAP-2633B9		KAP-263329		KAP-263359	
KAP-1MS	0,33	KAP-5133B9	KAP-513319	KAP-513329	KAP-513339	KAP-513359	KAP-513369
KAP-5MS	0,11			KAP-520129			
	0,33	KAP-5233B9	KAP-523319	KAP-523329	KAP-523339	KAP-523359	KAP-523369
KAP-624	1,12			KAP-601129			
KAP-META.WAX	1,4				KAP-811439		
KAP-META.X5	0,33	KAP-8233B9		KAP-823329		KAP-823359	
KAP-SUPRAWAX-280	0,2		KAP-832119		KAP-832139		KAP-832169
	0,4						KAP-830469

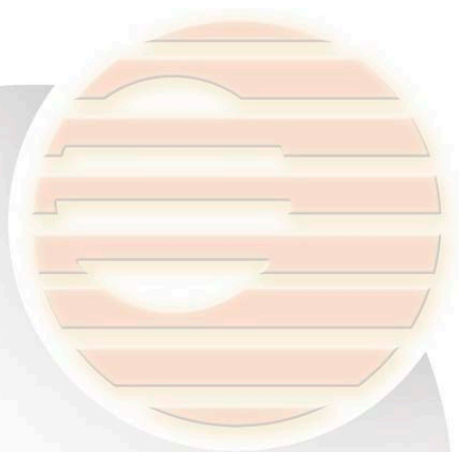
GC CAPILLARY & PACKED COLUMNS

0.25 mm ID Columns - Polyimide coated

Phase code	Film Thickness (microns)	length (m)						
		15	25	30	50	60	100	105
KAP-1	0,1	KAP-110112	KAP-110122	KAP-110132	KAP-110152	KAP-110162		
	0,25	KAP-110212	KAP-110222	KAP-110232	KAP-110252	KAP-110262		
	0,33				KAP-110352			
	0,5	KAP-110512	KAP-110522	KAP-110532	KAP-110552	KAP-110562		
	1	KAP-111012	KAP-111022	KAP-111032	KAP-111052	KAP-111062	KAP-111092	KAP-1110K2
KAP-5	0,1	KAP-120112	KAP-120122	KAP-120132	KAP-120152	KAP-120162		
	0,25	KAP-120212	KAP-120222	KAP-120232	KAP-120252	KAP-120262		
	0,5	KAP-120512	KAP-120522	KAP-120532	KAP-120552	KAP-120562		
	1	KAP-121012	KAP-121022	KAP-121032	KAP-121052	KAP-121062		
KAP-1701	0,1	KAP-130112		KAP-130132		KAP-130162		
	0,25	KAP-130212		KAP-130232		KAP-130262		
	0,5	KAP-130512		KAP-130532		KAP-130562		
	1	KAP-131012		KAP-131032		KAP-131062		
KAP-WAX	0,1	KAP-140112		KAP-140132		KAP-140162		
	0,25	KAP-140212		KAP-140232		KAP-140262		
	0,5			KAP-140532		KAP-140562		
	1			KAP-141032				
KAP-FFAP	0,25	KAP-150212		KAP-150232		KAP-150262		
KAP-20	0,25	KAP-200212		KAP-200232		KAP-200262		
	1	KAP-201012		KAP-201032		KAP-201062		
KAP-5AMINE	0,5	KAP-210512		KAP-210532		KAP-210562		
	1	KAP-211012		KAP-211032		KAP-211062		
KAP-225	0,15	KAP-251312		KAP-251332				
	0,25	KAP-250212		KAP-250232				
KAP-5.625	0,1	KAP-260112		KAP-260132		KAP-260162		
	0,25	KAP-260212		KAP-260232		KAP-260262		
	0,5	KAP-260512		KAP-260532				
	1	KAP-261012		KAP-261032				
KAP-35	0,15	KAP-351312		KAP-351332		KAP-351362		
	0,25	KAP-350212		KAP-350232		KAP-350262		
KAP-608	0,25			KAP-360232				
KAP-50	0,15	KAP-501312		KAP-501332		KAP-501362		
	0,25	KAP-500212		KAP-500232		KAP-500262		
	0,5	KAP-500512		KAP-500532		KAP-500562		
KAP-1MS	0,25	KAP-510212		KAP-510232		KAP-510262		
	1	KAP-511012		KAP-511032		KAP-511062		
KAP-5MS	0,1	KAP-520112		KAP-520132		KAP-520162		
	0,25	KAP-520212		KAP-520232		KAP-520262		
	0,5			KAP-520532				
	1	KAP-521012		KAP-521032		KAP-521062		
KAP-50ht	0,1	KAP-530112		KAP-530132				
	0,15	KAP-531312		KAP-531332				
KAP-PAG	0,25	KAP-550212		KAP-550232		KAP-550262		
KAP-F50	0,15	KAP-571312		KAP-571332				
	0,25	KAP-570212		KAP-570232				

GC CAPILLARY & PACKED COLUMNS

Phase code	Film Thickness (microns)	length (m)						
		15	25	30	50	60	100	105
	0,5	KAP-570512		KAP-570532				
KAP-1301	0,25	KAP-640212		KAP-640232		KAP-640262		
	1	KAP-641012		KAP-641032		KAP-641062		
KAP-624	1,4			KAP-601432		KAP-601462		
KAP-1ht	0,1	KAP-610112		KAP-610132				
KAP-5ht	0,1	KAP-620112		KAP-620132				
KAP-14	0,2	KAP-802112		KAP-802132		KAP-802162		
	0,4	KAP-800412		KAP-800432		KAP-800462		
	1,2	KAP-801212		KAP-801232		KAP-801262		
KAP-META.WAX	0,1	KAP-810112		KAP-810132				
	0,2		KAP-812122			KAP-812162		
	0,25	KAP-810212		KAP-810232		KAP-810262		
	0,5	KAP-810512		KAP-810532				
KAP-META.X5	0,1	KAP-820112		KAP-820132		KAP-820162		
	0,25	KAP-820212		KAP-820232		KAP-820262		
	0,5	KAP-820512		KAP-820532				
	1	KAP-821012		KAP-821032				
KAP-SUPRAWAX-280	0,25	KAP-830212		KAP-830232		KAP-830262		
	0,5	KAP-830512		KAP-830532		KAP-830562		
KAP-CN100	0,2	KAP-882112		KAP-882132	KAP-882152	KAP-882162	KAP-882192	
KAP-WAX.DB	0,2	KAP-932112		KAP-932132		KAP-932162		
	0,25	KAP-930212		KAP-930232				
	0,5			KAP-930532				



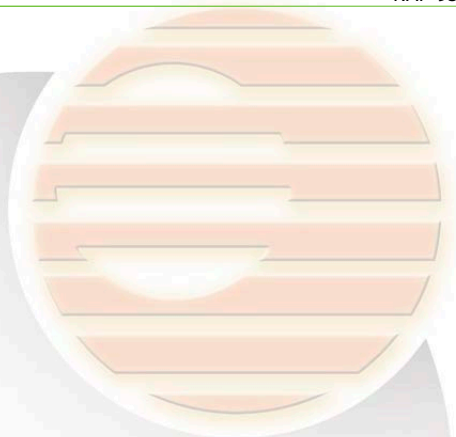
GC CAPILLARY & PACKED COLUMNS

0.32 mm ID Columns - Polyimide coated

Phase code	Film Thickness (microns)	length (m)					
		15	25	30	50	60	100
KAP-1	0,1	KAP-110113	KAP-110123	KAP-110133	KAP-110153	KAP-110163	
	0,25	KAP-110213	KAP-110223	KAP-110233	KAP-110253	KAP-110263	
	0,5	KAP-110513	KAP-110523	KAP-110533	KAP-110553	KAP-110563	
	1	KAP-111013	KAP-111023	KAP-111033	KAP-111053	KAP-111063	
	1,5		KAP-111533				
	3	KAP-113013	KAP-113023	KAP-113033	KAP-113053	KAP-113063	
	5				KAP-115063		
KAP-5	0,1	KAP-120113	KAP-120123	KAP-120133	KAP-120153	KAP-120163	
	0,25	KAP-120213	KAP-120223	KAP-120233	KAP-120253	KAP-120263	
	0,5	KAP-120513	KAP-120523	KAP-120533	KAP-120553	KAP-120563	
	1	KAP-121013	KAP-121023	KAP-121033	KAP-121053	KAP-121063	
	3	KAP-123013	KAP-123023	KAP-123033	KAP-123053	KAP-123063	
KAP-1701	0,1	KAP-130113		KAP-130133		KAP-130163	
	0,25	KAP-130213		KAP-130233		KAP-130263	
	0,5	KAP-130513		KAP-130533		KAP-130563	
	1	KAP-131013		KAP-131033		KAP-131063	
KAP-WAX	0,1	KAP-140113		KAP-140133		KAP-140163	
	0,12		KAP-141233				
	0,25	KAP-140213		KAP-140233		KAP-140263	
	0,5	KAP-140513		KAP-140533		KAP-140563	
	1					KAP-141063	KAP-141093
	1,2		KAP-141223		KAP-141253	KAP-141263	
KAP-FFAP	0,25	KAP-150213		KAP-150233		KAP-150263	
	0,5	KAP-150513		KAP-150533		KAP-150563	
KAP-20	0,25	KAP-200213		KAP-200233		KAP-200263	
	1	KAP-201013		KAP-201033		KAP-201063	
KAP-SAMINE	0,5	KAP-210513		KAP-210533		KAP-210563	
	1	KAP-211013		KAP-211033		KAP-211063	
	1,5	KAP-211513		KAP-211533		KAP-211563	
KAP-225	0,15	KAP-251313		KAP-251333			
	0,25	KAP-250213		KAP-250233			
KAP-5.625	0,1	KAP-260113		KAP-260133		KAP-260163	
	0,25	KAP-260213		KAP-260233			
	0,5	KAP-260513		KAP-260533			
	1	KAP-261013		KAP-261033			
KAP-35	0,15	KAP-351313		KAP-351333		KAP-351363	
	0,25	KAP-350213		KAP-350233		KAP-350263	
	0,5	KAP-350513		KAP-350533		KAP-350563	
KAP-50	0,15	KAP-501313		KAP-501333		KAP-501363	
	0,25	KAP-500213		KAP-500233		KAP-500263	
	0,5	KAP-500513		KAP-500533		KAP-500563	
KAP-1MS	0,25	KAP-510213		KAP-510233		KAP-510263	
	0,5	KAP-510513		KAP-510533		KAP-510563	
	1	KAP-511013		KAP-511033		KAP-511063	

GC CAPILLARY & PACKED COLUMNS

Phase code	Film Thickness (microns)	length (m)					
		15	25	30	50	60	100
KAP-5MS	0,1	KAP-520113		KAP-520133		KAP-520163	
	0,25	KAP-520213		KAP-520233		KAP-520263	
	0,5	KAP-520513		KAP-520533		KAP-520563	
	1	KAP-521013		KAP-521033		KAP-521063	
	1,4			KAP-521435			
KAP-PAG	0,25	KAP-550213		KAP-550233		KAP-550263	
KAP-F50	0,15	KAP-571313		KAP-571333			
	0,25	KAP-570213		KAP-570233			
	0,5	KAP-570513		KAP-570533			
KAP-1301	0,25	KAP-640213		KAP-640233		KAP-640263	
	1	KAP-641013		KAP-641033		KAP-641063	
KAP-624	1,8			KAP-601833		KAP-601863	
KAP-1ht	0,1	KAP-610113		KAP-610133			
KAP-5ht	0,1	KAP-620113		KAP-620133			
KAP-14	0,2	KAP-802113		KAP-802133		KAP-802163	
	0,4	KAP-800413		KAP-800433		KAP-800463	
	1,2	KAP-801213		KAP-801233		KAP-801263	
KAP-META.WAX	0,25	KAP-810213		KAP-410233		KAP-810263	
	0,5	KAP-810513		KAP-810533		KAP-810563	
	0,64					KAP-816463	
	1	KAP-811013		KAP-811033		KAP-811063	
KAP-META.X5	0,1	KAP-820113		KAP-820133		KAP-820163	
	0,25	KAP-820213		KAP-820233		KAP-820263	
	0,5	KAP-820513		KAP-820533			
	1	KAP-821013		KAP-821033			
KAP-SUPRAWAX-280	0,25	KAP-830213		KAP-830233		KAP-830263	
	0,5	KAP-830513		KAP-830533		KAP-830563	
	1			KAP-831033		KAP-831063	
KAP-CN100	0,2	KAP-882113		KAP-882133		KAP-882163	
KAP-WAX.DB	0,25	KAP-930213		KAP-930233			
	0,5			KAP-930533			
	1			KAP-931033		KAP-931063	



GC CAPILLARY & PACKED COLUMNS

0.53 mm ID Columns - Polyimide coated

Phase code	Film Thickness (microns)	length								
		10	15	25	30	50	60	75	100	105
KAP-1	0,1		KAP-110115	KAP-110125	KAP-110135	KAP-110155	KAP-110165			
	0,5		KAP-110515	KAP-110525	KAP-110535	KAP-110555	KAP-110565			
	0,88	KAP-110845			KAP-110835					
	1,5		KAP-111515	KAP-111525	KAP-111535	KAP-111555	KAP-111565			
	2,65	KAP-112645			KAP-112635					
	3	KAP-113045	KAP-113015	KAP-113025	KAP-113035	KAP-113055	KAP-113065		KAP-113095	KAP-1130K5
	5	KAP-115045	KAP-115015	KAP-115025	KAP-115035	KAP-115055	KAP-115065			
	7		KAP-117015		KAP-117035		KAP-117065			
KAP-5	0,1		KAP-120115	KAP-120125	KAP-120135	KAP-120155	KAP-120165			
	0,5		KAP-120515	KAP-120525	KAP-120535	KAP-120555	KAP-120565			
	0,88				KAP-120835					
	1			KAP-121025		KAP-121055				
	1,5		KAP-121515	KAP-121525	KAP-121535	KAP-121555	KAP-121565			
	2,65	KAP-122645			KAP-122635					
	3		KAP-123015	KAP-123025	KAP-123035	KAP-123055	KAP-123065			
	5		KAP-125015	KAP-125025	KAP-125035	KAP-125055	KAP-0125065			
KAP-1701	0,1		KAP-130115		KAP-130135		KAP-130165			
	0,5		KAP-130515		KAP-130535		KAP-130565			
	1		KAP-131015		KAP-131035		KAP-131065			
	1,5		KAP-131515		KAP-131535		KAP-131565			
	2				KAP-132035					
KAP-WAX	0,5				KAP-140535	KAP-140555				
	1	KAP-141045	KAP-141015		KAP-141035		KAP-141065			
	1,33				KAP-141735					
	2		KAP-142015		KAP-142035		KAP-142065			
KAP-FFAP	0,5		KAP-150515		KAP-150535		KAP-150565			
	1		KAP-151015	KAP-151025	KAP-151035		KAP-151065			
KAP-20	0,5		KAP-200515		KAP-200535		KAP-200565			
	1		KAP-201015		KAP-201035		KAP-201065			
KAP-SAMINE	1		KAP-211015		KAP-211035		KAP-211065			
	3		KAP-213015		KAP-213035		KAP-213065			
KAP-225	1		KAP-251015		KAP-251035					
KAP-5.625	0,25						KAP-260265			
	0,5				KAP-260535					
	1				KAP-261035					
	1,5		KAP-261515							
KAP-35	0,5		KAP-350515		KAP-350535		KAP-350565			
	1		KAP-351015		KAP-351035		KAP-351065			
	3				KAP-353035					
KAP-608	0,5		KAP-360515		KAP-360535					
	0,83		KAP-368315		KAP-368335					
KAP-50	0,5		KAP-500515		KAP-500535		KAP-500565			
	1		KAP-501015		KAP-501035		KAP-501065			
KAP-1MS	0,5		KAP-510515		KAP-510535					
	1		KAP-511015		KAP-511035					
	1,5		KAP-511515		KAP-511535					
KAP-5MS	0,5		KAP-520515		KAP-520535					
	1		KAP-521015		KAP-521035					
	1,5		KAP-521515		KAP-521535					
KAP-PAG	0,5		KAP-550515		KAP-550535		KAP-550565			
KAP-F50	1		KAP-571015		KAP-571035					
KAP-1301	1		KAP-641015		KAP-641035		KAP-641065			
KAP-624	3			KAP-603025	KAP-603035		KAP-603065	KAP-603075		KAP-6030K5
KAP-14	1		KAP-801015		KAP-801035		KAP-801065			
	2		KAP-802015		KAP-802035		KAP-802065			

GC CAPILLARY & PACKED COLUMNS

Phase code	Film Thickness (microns)	length								
		10	15	25	30	50	60	75	100	105
KAP-META WAX	0,5				KAP-810535					
	1,2		KAP-811215		KAP-811235					
KAP-META.X5	0,5		KAP-820515		KAP-820535					
	1		KAP-821015		KAP-821035					
	1,5		KAP-821515		KAP-821535					
KAP-SUPRAWAX-280	0,5		KAP-830515		KAP-830535					
	1		KAP-831015		KAP-831035		KAP-831065			
	2				KAP-832035		KAP-832065			
KAP-CN100	0,2		KAP-882115		KAP-882135		KAP-882165			
KAP-WAX.DB	0,5				KAP-930535					
	1		KAP-931015		KAP-931035		KAP-931065			
	1,5				KAP-931535					

Konik Kap Special Phase Column

Konik offers a special column for environment, petrochemical, high temperature and triglycerides analysis and columns for high speed analyses

Phase code	Item No.	Film Thickness (microns)	diameter (mm)	length (m)
KAP-50,2 PONA	KAP-110559	0,5	0,2	50
KAP-PETRO	KAP-110592	0,5	0,25	100
	KAP-1110G2	1,0	0,25	150
KAP-SULFUR	KAP-114033	4,0	0,32	30
KAP-G43	KAP-163035	3,0	0,53	30
KAP-G27	KAP-175035	5,0	0,53	30
KAP-STEROL	KAP-182238	0,22	0,22	30
KAP-2887	KAP-192645	2,65	0,53	10
KAP-META.WAX400	KAP-402153	0,2	0,32	50
KAP-17	KAP-502045	2,0	0,53	10
KAP-CRESOL	KAP-712132	0,2	0,25	30
	KAP-712162	0,2	0,25	60
KAP-WAX.OMEGA	KAP-840232	0,25	0,25	30
	KAP-840233	0,25	0,32	30
	KAP-840535	0,50	0,53	30
KAP-META.BLOOD1	KAP-851833	1,8	0,32	30
	KAP-853035	3	0,53	30
KAP-META.BLOOD2	KAP-861233	1,2	0,32	30
	KAP-862035	2	0,53	30
KAP-MTI-5	KAP-910232	0,25	0,25	30
	KAP-810233	0,25	0,32	30
	KAP-910515	0,5	0,53	15
KAP-TCEP	KAP-960432	0,4	0,25	30
	KAP-960452	0,4	0,25	50
	KAP-960462	0,4	0,25	60
KAP-META.VOC	KAP-941249	1,2	0,2	10
	KAP-941532	1,5	0,25	30
	KAP-941562	1,5	0,25	60
	KAP-941863	1,8	0,32	60
	KAP-943035	3	0,53	30
	KAP-943063	3	0,32	60
	KAP-943065	3	0,53	60
	KAP-9430K5	3	0,53	105
KAP-META.AMINE	KAP-635013	5	0,32	15
	KAP-635033	5	0,32	30
	KAP-635063	5	0,32	60

CAPILLARY COLUMN ACCESSORIES

Capillary Survival Kit™



AUC205625

Our Capillary Survival Kit was designed with the practicing chromatographer in mind. Each kit includes:

- Magnifier with built in light
- Slide-Lok tweezers for holding small items; "spacing" the column proper distances into the injection port, etc.
- 15 cm steel ruler
- 3 column scribes, for cleanly-cut columns
- 2 universal unions for joining broken capillary columns or connecting guard columns
- Single-ended pinvise holds drill bits
- 3 drill bits, 0.4 mm, 0.5 mm and 0.8 mm
- Multipurpose septum pick
- Nylon brushes, 1/8", 3/16", and 1/4"
- Pipecleaners 5 each, 1/8" OD and 1/4" OD
- Open-end wrench, 1/4" + 5/16"
- High temperature string (>400°C) 25 ft.
- Ferrule remover - 2

Description	Item No.
Capillary Survival Kit	AUC205625

Universal Fused Silica Connectors



Universal Connector;
Universal Y-Splitter

These quartz connectors will join columns from 0.25 mm to 0.53 mm id. Procedure: cut the capillary column with a ceramic column scribe; be sure the end is cut squarely. Insert the column into the appropriate leg of the connector to make a snug fit. Heat in the GC oven under carrier gas flow for one hour at 250°C, to fuse the column's polyimide coating to the wall of the union. For a stronger physical attachment we recommend using polyimide sealing resin.

Description	Item No.
Universal Connector, 5/pk	AUC207950
Universal Y-Splitter, each	AUC207960

Fused Silica Guard Column Kits



Fused Silica Guard Column Kit

Kits include one 5 meter length of deactivated fused silica tubing and 5 universal glass unions. Connect a length of tubing from 1/2 to 5 meters to your column, by inserting one end of each into a universal union snugly. Fuse at 125°C under carrier gas flow in the GC oven for one hour. When the guard column becomes contaminated break off a 1/2 meter length.

Description	Item No.
0.25 mm id Guard Column Kit	AUC207625
0.32 mm id Guard Column Kit	AUC207632
0.53 mm id Guard Column Kit	AUC207653

GC CAPILLARY & PACKED COLUMNS

Fused Silica Guard Columns

Description	dimension	diameter		
		0,25mm	0,32mm	0,53mm
Non-Polar	3x1 m	KAP-100012	KAP-100013	KAP-100015
	1x5 m	KAP-100052	KAP-100053	KAP-100055
	1x10 m	KAP-100042	KAP-100043	KAP-100045
	1 x 20 m	KAP-100082	KAP-100083	KAP-100085
Medium Polarity	3x1 m	KAP-200012	KAP-200013	KAP-200015
	1x5 m	KAP-200052	KAP-200053	KAP-200055
	1x10 m	KAP-200042	KAP-200043	KAP-200045
	1 x 20 m	KAP-200082	KAP-200083	KAP-200085
Polar	3x1 m	KAP-300012	KAP-300013	KAP-300015
	1x5 m	KAP-300052	KAP-300053	KAP-300055
	1x10 m	KAP-300042	KAP-300043	KAP-300045
	1 x 20 m	KAP-300082	KAP-300083	KAP-300085
Aquasafe	3x1 m	KAP-310012	KAP-310013	KAP-310015
	1x5 m	KAP-310052	KAP-310053	KAP-310055
	1x10 m	KAP-310042	KAP-310043	KAP-310045
	1 x 20 m	KAP-310082	KAP-310083	KAP-310085
Base-Deactivated	3x1 m	KAP-320012	KAP-320013	KAP-320015
	1x5 m	KAP-320052	KAP-320053	KAP-320055
	1x10 m	KAP-320042	KAP-320043	KAP-320045
	1 x 20 m	KAP-320082	KAP-320083	KAP-320085

Column Scribe

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

Description	Item No.
Column Scribe, 10/pk	AUC205312

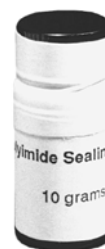


AUC205312

Polyimide Sealing Resin

Permanently seal silica columns to capillary column connectors, to eliminate leaks or premature separation of the column. It is also useful as a high temperature glue. Maximum operating temperature is 300°C. 10 grams.

Description	Item No.
Polyimide Sealing Resin	AUC204002



AUC204002

GC CAPILLARY & PACKED COLUMNS



AUC202346



AUC202348

Split Vent Trap

When using a GC in the split injection mode, up to 99% of the sample is vented to the lab atmosphere. The split vent trap contains 1200 mg of activated charcoal, a highly effective scrubber of organics, in replaceable tubes. Simply attach the split vent trap to the split vent fitting on your GC, and replace the activated charcoal tube periodically. The trap consists of glass adsorbent tubes, nickel plated 1/8" end fittings and a clear plastic sleeve. Each trap is shipped with 3 spare replaceable charcoal tubes (4 total); replacing tubes is quick and easy. We recommend changing replacement tubes every one to two weeks, depending on GC use.

Description	Item No.
Split Vent Trap	AUC202346
Replacement Charcoal Tubes, 3/pk	AUC202348



AUC206211

Injection Port Cleaning Kit

This is designed for cleaning all GC injection ports, including those in Shimadzu instruments. Kit contains three stainless steel brushes, 5 mm for Shimadzu, 1/4" and 3/8", and one scraper for removing septum residue.

Description	Item No.
Injection Port Cleaning Kit	AUC206211



AUC205220

FID Cleaning Kit

Use this kit to clean both the jet tip and collector. It includes three jet reamers, 0.016", 0.019", and 0.024" OD; one mini-drill bit 0.0102" OD; two wire mini-brushes, one brass and one stainless steel; and a dual-ended handle for the reamers and brushes.

Description	Item No.
FID Cleaning Kit	AUC205220



AUC205215

Injection Liner Cleaning Kit

This kit includes four different sizes of nylon brushes to clean most liners, and one foot of pipe cleaner. The 4 mm and 2 mm diameter brushes clean standard liners; the 1 mm and 0.5 mm diameter brushes can reach inside reversible tapered liners.

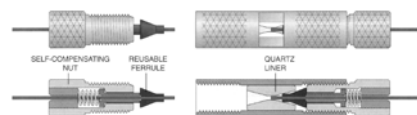
Description	Item No.
Injection Liner Cleaning Kit	AUC205215

GC CAPILLARY & PACKED COLUMNS

Fused Silica Visi-Union, Quartz Lined

This fitting may be used at temperatures up to 400°C. It has a quartz liner and self compensating nuts for correct sealing force as temperature varies. Ferrules may be re-used, and must be purchased separately.

Description	Item No.
Fused Silica Union	AWVFSKZU1
Replacement Liner	AWVFSQ1
Replacement Nut	AWVFSZN1



Fused Silica Visi-Union

Ferrules for Fused Silica Visi-Union

For column ID 0.25 mm, 10/pk	AWVFS1.35-R10
For column ID 0.32 mm, 10/pk	AWVFS1.45-R10
For column ID 0.53 mm, 10/pk	AWVFS1.75-R10



AWVEU.5

1/32" mm Ultra Low Mass External Unions

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

Description	Tubing OD	Item No.
1/32" Union, Bore 0.25 mm		AWVEU.5
1/32" Union, Bore 0.50 mm		AWVEU.5L
1/32" Union, Bore 1/32" mm		AWVEU.5T
1/32" Fused Silica Tubing Adapter	< 0.25 mm	AWVFS.25-5
1/32" Fused Silica Tubing Adapter	0.25 - 0.4 mm	AWVFS.4-5
1/32" Fused Silica Tubing Adapter	0.5 mm	AWVFS.5-5



1/32" Union

Ferrule Remover

Two tools are supplied for capillary ferrules from 0.4 mm to 0.8 mm ID. The tip has a spiral-cut ratchet design that slides into the ferrule easily then grabs on the way out.

Description	Item No.
Ferrule Remover, 2/pk	AUC205315



AUC205315

Carbide- or Diamond-Tipped Pencils

Used for cutting fused silica tubing, or special applications. Simple to use; score the tubing with a single scratch, then bend opposite the scratch to separate the tubing.

Description	Item No.
Carbide Tipped Pencil	AUC205305
Diamond Tipped Pencil	AUC205310



AUC205305

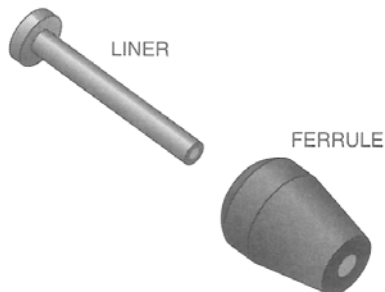


AUC205310

GC CAPILLARY & PACKED COLUMNS

Valco Removable Adapters

These provide direct connections of fused silica tubing within Valco fittings. The FSR adapter is recommended for use in valves. It consists of two polyimide components: a liner which slides over the fused silica tubing, and a ferrule. The liner and the capillary tubing will be removed from the valve as the nut is unscrewed.



Valco Removable Adapters

Description	Tubing OD	Item No.
1/32" Adapter with Removable Liner	< 0.25 mm	AWVFSR.25-5
	0.25 - 0.4 mm	AWVFSR.4-5
	< 0.5 mm	AWVFSR.5-5
1/32" Replacement Liner	< 0.25 mm	AWVFSL.25-5
	0.25 - 0.4 mm	AWVFSL.4-5
	< 0.5 mm	AWVFSL.5-5
1/32" Nut		AWVZN.5-10
1/32" Ferrule		AWVZF.5V-5
1/16" Adapter with Removable Liner	< 0.5 mm	AWVFS1R.5-5
	0.6 - 0.8 mm	AWVFS1R.8-5
1/16" Replacement Liner	< 0.5 mm	AWVFS1L.5-5
	0.6 - 0.8 mm	AWVFS1L.8-5
1/16" Nut		AWVZN1-10
1/16" Ferrule		AWVZF1V-5

Valco Fused Silica Adapters

These adapters permit easy use of capillary columns with Valco valves, and provide direct connections of fused silica tubing within Valco fittings. Made from polyimide. The one-piece fused silica adapter is not reusable; for reusable service use the Valco removable adapters.



Valco Fused Silica Adapters

Description	Tubing OD	Item No.
1/32" Fused Silica Tubing Adapter	< 0.25 mm	AWVFS.25-5
	0.25 - 0.4 mm	AWVFS.4-5
	0.5 mm	AWVFS.5-5
1/32" Nut		AWVZN.5-10
1/32" Ferrule		AWVZF.5V-5
1/16" Fused Silica Tubing Adapter	< 0.4 mm	AWVFS1.4-5
	0.5 mm	AWVFS1.5-5
	0.6 - 0.8 mm	AWVFS1.8-5
1/16" Nut		AWVZN1-10
1/16" Ferrule		AWVZF1V-5

INJECTION PORT LINERS

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

KONIK injection port liners provide a clean nonadsorptive surface for your sample. Regular replacement of liners protects your capillary column from potentially harmful non-volatiles that might otherwise deposit on your column. All liners help protect the vaporized sample from contacting the metal wall of the inlet as sample flows onto the column.

The split-splitless liner is a quartz straight tube, which gives all-around good performance at low cost. It can be used in KONIK capillary or standard injection. Other liner designs are further optimized for specific injection techniques as Solid Phase Micro Extraction with the KONIK Robokrom, Large Volume Injection with the KONIK PTV injection port or the complete range of K2 liners, for the LC-GC coupling technique.

For Konik capillary GC's

Style	length x IDmm	Item n°
split/splitless	97 mm x 2.0 mm	433AINS005/0
SPmE liner	97 mm x 0.75 mm	433AINS005/1
PTV liner	97 mm x 2.0 mm	433AINS005/2



433AINS005/0



433AINS005/1



433AINS005/2

Konik K2 adsorbent traps

KONIK K2 Adsorbent traps for the combined HPLC-HRGC K2 system. Use different type of adsorbent trap for volatile and non-volatile compounds. All traps are preconditioned and built under a proprietary technical procedure of KONIK.

All traps are design in quartz or deactivated glass. Regular replacement of the adsorbent trap gives you the maximum performance in your results.

Style	Item n°
K2 Empty trap - quartz	KNK-K2-LEMPTQ
K2 Empty trap - glass	KNK-K2-LEMPTG
K2 TENAX trap - quartz	KNK-K2-LTENXQ
K2 TENAX trap - glass	KNK-K2-LTENXG
K2 OV-17 trap - quartz	KNK-K2-LOV17Q
K2 OV-17 trap - glass	KNK-K2-LOV17G
K2 PDMS trap - quartz	KNK-K2-LPDMSQ
K2 PDMS trap - glass	KNK-K2-LPDMSG



Empty Trap



Adsorbent Trap

FERRULES

Capillary Column Ferrules

KONIK provides ferrules for capillary columns made from Graphite, Vespel®, Vespel®/Graphite and PTFE. For more information see chapter 3.

Graphite for high temperature use. This is also the softest ferrule material, so it seals gas tight with finger-tight pressures, without the risk of breaking the column. May be reused several times if not over-tightened. The one-piece design fits standard fittings, and does not need a back ferrule. Upper temperature limit is 450°C.

Vespel/Graphite Ferrules made from a polyimide/graphite blend are recommended for GC/MS interface applications. Our one-piece design requires no back ferrule, and can be reused if not over-tightened. Upper temperature limit is 400°C.

Ferrules/ Capillary Columns

- 0.25 mm ID columns use 0.4 mm ID ferrules
- 0.32 mm ID columns use 0.5 mm ID ferrules
- 0.53 mm ID columns use 0.8 mm ID ferrules

Ferrule Sizes

A 1/16" ferrule actually measures 1/8" in diameter, while 1/8" ferrules measure 1/4" in diameter. Ferrule terminology arose because a 1/16" ferrule was normally used with 1/16" OD tubing, and so required a ferrule about twice a width. Capillary chromatographers use the same 1/16" fittings, even though capillary columns are much narrower than 1/16" tubing.

Ferrules - Sold in packages of 10

Size	Graphite	Vespel/Graphite
1/16" mm to 0.3 mm		AUC213103
1/16" mm to 0.4 mm	AUC211104	AUC213104
1/16" mm to 0.5 mm	AUC211105	AUC213105
1/16" mm to 0.8 mm	AUC211108	AUC213108
1/16" mm two-hole 0.4 mm / 0.4 mm		AUC213124
1/16" mm two-hole 0.5 mm / 0.5 mm	AUC211125	AUC213125

GC CAPILLARY & PACKED COLUMNS

CUSTOM PACKED GC COLUMNS

We make custom-packed GC columns using high-quality materials. Any stationary phase can be chosen from our listings on page 27, in combination with nearly all listed supports. The use of other stationary phases are subject to special quotation. Columns are supplied as 6" diameter coils, unless instrument make and model is specified or dimensions are specified.

Stationary Phases

Usually the solid support will be coated with a liquid stationary phase. Exceptions are molecular sieves and porous polymers such as HayeSep[®] or Porapak[®], which are normally used un-coated. For a complete listing of available stationary phases.

Solid Supports

Porous Polymer Supports

- HaySep A, B, C, D, DB, DIP, N, P, Q, R, S, T
- Tenax[®]
- Porapak N, P, PS, Q, QS, R, S, T

Molecular Sieves

- 4A, 5A, 13X



Packed GC Column

Custom Column Ordering

To completely specify a custom column, please provide the information requested below.

- 1. Length** - feet or meters
- 2. Tubing Material** - stainless steel or glass
- 3. Stationary Phase**** - see listings page 27. Phases subject to surcharges; see Table 1
 - A) Stationary Phase 1, plus % loading
 - B) Stationary Phase 2* (if dual phase), plus % loading
- 4. Solid Support** - specify material and grade (for example, HayeSep[®] D)

Expensive supports have surcharges; see Table 2

 - A) Support
 - B) Mesh Size - specify one 60/80, 80/100 or 100/120
- 5. Instrument Manufacturer**
- 6. Model Number**
- 7. Fittings** - brass or stainless steel*

Table 1. Stationary Phase Surcharges

Surcharges apply to the following expensive phases:

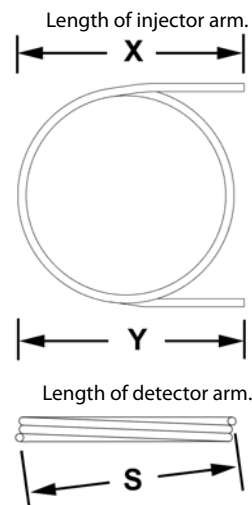
- EGSS-X
- OV-225
- OV-275
- OV-330
- OV-1701
- Polyphenylether
- Silars
- Deksils

Table 2. Support Surcharges

- Carbon Molecular Sieves
- HayeSep[®]
- Porapak[®]
- Tenax[®]
- Carbopacks

*Surcharge will be added

**Not required with solid adsorbents such as HayeSep, Molecular Sieves, etc.



Span, the distance between arms, tube center to tube center.

Glass Columns - Silane Treated



Glass Column

- Custom Packed to your specifications
- Silanized for inertness
- High quality
- Available for most instruments

Column Configuration. The length of the "arms" is indicated by dimensions X and Y. These dimensions along with the span between the arms allows confirmation that the column will fit correctly in your instrument.

Column Installation. All of our glass columns are supplied with nuts and graphite ferrules. We recommend graphite ferrules because they are soft, to seal securely around the column without excessive tightening. They will not stick to the glass, for easy removal. Complete installation instructions are included with each column.

Recommended Accessories:

- **1/4" Graphite ferrules (10/pk)** - Item AUC211400

To Order a Packed Column

Specify the "empty" catalog number with a "P" added to the end, and specify the packing (example: 3% OV-225 on Chromosorb[®] W-HP, 80/100 mesh). Some expensive packing materials are subject to a surcharge; see the Surcharge Table.

1. Stationary Phase (see listings on page 27)
Expensive phases have surcharges; see Surcharge Table
 - A) Stationary Phase 1
% Loading
 - B) Stationary Phase 2 - Surcharge for dual phase columns
% Loading
2. Solid Support - Specify material and grade (example: Chromosorb W-AW; HayeSep[®] D)
Expensive supports have surcharges; see Surcharge Table
 - C) Support
 - D) Mesh Size- specify one: 60/80, 80/100, or 100/120

Surcharge Table: Surcharges apply to the following expensive phases:

Stationary Phase Surcharges

- Dexsils
- EGSS-X
- OV-225
- OV-275
- OV-330
- OV-1701
- Polyphenylether
- Silars

Support Surcharges

- Chromosorb T
- Carbon Molecular Sieves
- HayeSep
- Porapak[®]
- Chromosorb 101 - 109
- Tenax[®]
- Carbopacks

GC CAPILLARY & PACKED COLUMNS

STATIONARY PHASES

Description	Sugg. Subst.	Sol	McReynold's					OC Min/Max	ItemNo.	Qty
			1	2	3	4	5			
Apiezon L		C	32	22	15	32	42	20/300	AUC010017	50 g
Bentone 34		T,C						20/200	AUC010030	50 g
Carbowax 1000 (G14)		M	347	607	418	626	589	40/150	AUC010059	50 g
Carbowax 1540		C	371	639	453	666	641	40/200	AUC010063	50 g
Carbowax 4000 (G15)		C	317	545	378	578	521	60/200	AUC010065	50 g
Carbowax 20M (G16)		C	322	536	368	572	510	60/200	AUC010069	50 g
Carbowax 20M Terephthalic acid (TPA)(G25)		C	321	537	367	573	520	60/250	AUC010071	50 g
Dexsil 300 (G33)		T	47	80	103	148	96	20/450	AUC010093	5 g
Dexsil 400		T	59	114	140	187	173	20/450	AUC010094	5 g
Dexsil 410		T	85	165	169	242	180	20/450	AUC010095	5 g
Diethylene glycol adipate (DEGA)		A	378	603	460	665	658	20/190	AUC010103	25 g
Diethylene glycol succinate (DEGS) (G4)		A	496	746	590	837	835	20/200	AUC010105	25 g
Di (2-Ethylhexyl) sebacate (Octoil S) (G12)		A	72	168	108	180	125	-20/125	AUC010109	50 g
Diisodecyl phthalate (DIDP) (G24)		A	84	173	137	218	155	-20/150	AUC010115	50 g
Dinonyl phthalate		A	83	183	147	231	159	20/150	AUC010133	25 g
FFAP	OV-351	C	340	580	397	602	627	50/250	AUC010156	25 g
Glycerol		M						20/100	AUC010161	50 g
Halocarbon Oil 14-25		C						20/150	AUC010163	50 g
Igepal CO-880		C	259	461	311	482	426	100/200	AUC010179	50 g
Kel-F Oil No. 10		A						20/100	AUC010189	50 g
Silicone DC-200, 12,500cstk	OV-101	T	16	57	45	66	43	0/200	AUC001012	50 g
Silicone DC-550 (G28)	OV-101	T	81	124	124	189	145	20/225	AUC001015	50 g
Silicone DC-710	OV-101	A	107	149	153	228	190	20/225	AUC001018	50 g
Silicone DC-QF-1	OV-210	A	144	233	355	463	305	20/250	AUC001021	50 g
Silicone GE-SE-30	OV-1	T	15	53	44	64	41	50/300	AUC001023	50 g
Silicone GE-SE-52	OV-73	T	32	72	65	98	67	50/300	AUC001025	50 g
Silicone GE-SE-54	OV-73	T	33	72	66	99	67	100/300	AUC001026	50 g
Silicone OV-1 (Dimethyl) (G2)		T	16	55	44	65	42	100/350	AUC001041	10 g
Silicone OV-3 (Methyl 10% Phenyl)		A	44	86	81	124	88	20/350	AUC001042	25 g
Silicone OV-7 (80% Methyl 20% Phenyl)		A	69	113	111	171	128	20/350	AUC001043	25 g
Silicone OV-17 (50% Methyl 50% Phenyl)		A	119	158	162	243	202	20/350	AUC001045	25 g
Silicone OV-25 (Phenylmethyl diphenyl) (G17)		A	178	204	208	305	280	20/350	AUC001047	10 g
Silicone OV-61 (Diphenyldimethyl)		A	101	143	142	213	174	20/250	AUC001048	10 g
Silicone OV-73 (Diphenyldimethyl Gum) (G27)		T	40	86	76	114	85	20/350	AUC001049	10 g
Silicone OV-101 (Dimethyl) (G1)		T	17	57	45	67	43	20/350	AUC001050	20 g
Silicone OV-105 (Cyanopropyl dimethyl)		A	36	108	93	139	86	20/250	AUC001051	10 g
Silicone OV-202 (Trifluoropropyl methyl) (G6)		T	146	238	358	468	310	0/275	AUC001052	10 g
Silicone OV-210 (Trifluoropropyl methyl)		T	146	238	358	468	310	20/275	AUC001053	25 g
Silicone OV-225 (Cyanopropyl methyl phenyl)		A	228	369	338	493	386	20/250	AUC001054	10 g
Silicone OV-275 (Dicyanoallyl)		A	629	872	763	1106	849	20/275	AUC001055	5 g
Silicone OV-330 (Carbowax-Silicone)		A	222	391	273	417	368	30/250	AUC001056	5 g
Silicone OV-351 (Replaces FFAP)		T	335	552	382	583	540	50/250	AUC001058	10 g
Silicone OV-1701 (Dimethylphenylcyano)		A	67	170	153	228	171	20/325	AUC001059	3 g
Silicone Silar 5CP		T	316	494	637	531		50/275	AUC001083	5 g

McReynold's Code

1 = Benzene
 2 = Butanol
 3 = 2-Pentanone
 4 = Nitropropane
 5 = Pyridine

Solvent Code

A = Acetone
 T = Toluene
 C = Chloroform
 M = Methanol

SOLID SUPPORTS AND ADSORBENTS

HayeSep® Porous Polymers



HayeSep D

Polymer Materials:

- **ACN** - Acrylonitrile
- **EGDM** - Ethyleneglycoldimethacrylate
- **NVP** - N-Vinyl-2-Pyrrolidinone
- **PEI** - Polyethyleneimine
- **VP** - 4-Vinylpyridine
- **DVB** - Divinyl Benzene

These polymer supports are suitable for a wide range of separations. HayeSep polymers are direct replacements for the equivalent type of Porapak®; for example HayeSep Q can be directly substituted for methods developed with PoraPak Q. Since there are virtually no chemically active sites in HayeSep polymers, silylation is not required.

HayeSep D - This is a high-purity divinylbenzene polymer with 80% highly-crosslinked DVB. It combines high surface area with a high operating temperature. HayeSep D polymers offer superior separation characteristics for light gases; significant separation abilities include the separation of CO and CO₂ from room air at ambient temperatures and the separation of acetylene prior to other C₂'s. It is highly recommended for the separation of water and hydrogen sulfide. HayeSep D is available in three different porosities with surface areas from 774 to 800 m²/g. This range is especially useful for certain difficult separations; for example water elutes before ethane with DB, but after ethane with Dip. Relative polarity for other HayeSep polymers is shown below; 1 is least polar and 10 is most polar.

Type	Composition	Max. Temp*	Surface Area	Polarity**
A	DVB/EGDM	165°C	526 m ² /g	7
B	DVB/PEI	190	608	8
C	DVB/ACN	250	442	6
D	DVB, 80%	290	803	1
DB	DVB, 80%	290	781	1
DIP	DVB, 80%	290	774	1
N	DVB, EGDM	165	405	9
P	DVB, Styrene	250	165	3
Q	DVB, 60%	275	582	2
R	DVB/NVP	250	344	5
S	DVB/VP	250	583	4
T	EGDM	165	250	10

HayeSep Polymers - 75 cc/ bottle

* Oxygen-free carrier gas
 ** 1 = lowest, 10 = highest

Type	Mesh Size		
	60/80	80/100	100/120
A	AUC483021	AUC483022	AUC483023
B	AUC483024	AUC483025	AUC483026
C	AUC483028	AUC483029	AUC483030
D	AUC483031	AUC483032	AUC483033
DB	AUC483041	AUC483042	AUC483043
DIP	AUC483034	AUC483035	AUC483036
N	AUC483001	AUC483002	AUC483003
P	AUC483004	AUC483005	AUC483006
Q	AUC483014	AUC483015	AUC483016
R	AUC483008	AUC483009	AUC483010
S	AUC483011	AUC483012	AUC483013
T	AUC483018	AUC483019	AUC483020

Molecular Sieve

Molecular sieves are synthetic aluminosilicates of sodium, potassium or calcium, of various pore sizes. The pores are precisely uniform in size. Molecular Sieves are used to separate the fixed gases. CO, CH₄, O₂ and Ar are easily separated at room temperature. 100 g/ bottle



Molecular Sieve 5A

Support	Mesh Size			
	40/60	60/80	80/100	100/120
Molecular Sieve 4A, 100 g	AUC485320	AUC485323	AUC485326	AUC485330
Molecular Sieve 5A, 100 g	AUC485333	AUC485336	AUC485339	AUC485442
Molecular Sieve 13X, 100g		AUC485448	AUC485451	AUC485454

GC CAPILLARY & PACKED COLUMNS

Porapaks®

Porapak column packing materials consist of spherical polymer beads. These packings are chemically and physically stable with consistent particle size, porosity and surface area.

Versatility for Special Applications

Porapak packing is a versatile polymer material available in different chemistries which increase in polarity and vary in retention properties for the efficient analysis of many compounds. These packing materials offer many advantages:

- Polar molecules elute quickly making analysis simple and straight forward
- No liquid phase eliminates stationary phase bleed
- No surface hydroxyl groups eliminates tailing of highly polar molecules or of large sample loads for trace analysis and preparative GC
- Stable baselines at high temperatures



Porapak Q

Porapak Retention Data - minutes*

Compound	P	Q	R	S	N	T
Air	.23	.24	.24	.24	.24	.24
Carbon Dioxide	.36	.65	.60	.66	.90	1.26
Nitric Oxide	.27	.30	.28	.26	.28	.28
Nitrous Oxide	.42	.76	.66	.81	.94	1.22
Methane	.26	.35	.32	.38	.35	.39
Ethylene	.45	1.15	.90	1.01	1.22	1.32
Acetylene	.53	1.15	1.16	1.20	2.00	2.96
Ethane	.54	1.15	1.16	1.36	1.50	1.54
Chlorodifluoromethane	1.22	4.32	5.61	5.61	10.99	13.88
Acetic Acid	.39	1.08	2.14	3.68	4.18	5.21
Propionic Acid	.65	2.42	4.75	9.05	9.11	10.68
Methanol	.24	.35	.39	.48	.61	.69
Ethanol	.30	.60	.63	.76	1.21	1.20
Benzene	.87	2.76	2.56	3.00	4.00	3.74
Toluene	1.33	5.72	5.31	6.41	8.54	7.61
Ethyl Benzene	2.09	11.60	10.69	12.98	17.58	15.05
o-Xylene	2.52	13.48	12.53	15.32	15.32	18.05
Methylene Chloride	.41	.98	.94	1.09	1.48	1.67
Carbon Tetrachloride	.75	2.87	2.42	2.98	3.49	3.04
Methyl Acetate	.38	1.01	.97	1.11	1.74	1.75
Ethylene Glycol	.94	2.39	3.36	4.19	9.34	12.43
Glycerol	4.92	19.15	-	-	-	-

*Operating conditions: 1m x 2.3 mm ID stainless steel column, 80/100 mesh, 175°C, 25 mL/min helium flow; FID detector.

Porapak Packings - Sold in bottles of approximately 75 cc

Type	Weight, g	Mesh Size		
		50/80	80/100	100/120
P	20	AUC489021	AUC489022	AUC489023
Q	26	AUC489054	AUC489055	AUC489066
R	24	AUC489088	AUC489009	AUC489010
S	26	AUC489011	AUC489012	AUC489013
N	29	AUC489001	AUC489002	AUC489003
T	31	AUC489018	AUC489019	AUC489020
QS*	26	AUC489014	AUC489015	AUC489016
PS*	20	AUC489004	AUC489005	AUC489006

*Silanized

PACKING ACCESSORIES

Glass Wool; Quartz Wool

KONIK offers five kinds of glass or quartz wool, for nearly all chromatographic needs. These are recommended for use in injection liners, and as end plugs in packed columns. Glass wool is sold in 50 g quantities; quartz wool is sold in 10 g quantities.



Glass Wool

- Untreated - soft, fine-denier Pyrex® wool
- Silane Treated - treated with dimethyldichlorosilane (TMCS) to yield an inert material for all-around use
- Phosphoric Acid Treated - recommended for analysis of acidic compounds such as free acids, phenols and glycols
- HMDS Treated - a superior method of deactivation, using hexamethyldisilazne. Pesticide grade 10 g
- Quartz Wool - made from high purity quartz with low metal-oxide impurities. Ideal for use with injection port liners. Fibers have 9 µm nominal diameter

Description	Item No.
Untreated Glass Wool	AUC486315
Phosphoric Treated Glass Wool	AUC486316
Silane Treated Glass Wool	AUC486318
HMDS Treated Glass Wool, 10 g	AUC486319
Quartz Wool	AUC486320

Glass Wool Inserter

Used for inserting glass wool into packed columns. Simply wrap a small piece of glass wool around the tip to push it into the column.



AUC486310

Description	Item No.
Glass Wool Inserter	AUC486310

Glass Wool Puller

This is used for pulling glass wool out of packed columns, traps or injection port liners. It has a 1 1/4" spiral barb cut into the tip, which acts as a ratchet. For 1/4" to 2 mm IDs.



AUC486313

Description	Item No.
Glass Wool Puller	AUC486313

GC CAPILLARY & PACKED COLUMNS

End Caps

Flexible and soft, to easily fit over the outside diameter of tubing. They are useful for sealing GC columns for storage.

Description	Qty.	Item No.
GC End Caps, 1/16"	100/pk	AUC205121
GC End Caps, 1/8"	100/pk	AUC205122
GC End Caps, (3/16") 5 mm	100/pk	AUC205123
GC End Caps, 1/4"	100/pk	AUC205124



GC End Caps

Vibrograver

Permanently engraves all hard and semi-hard surfaces; recommended for making column tags and tools. The etched information cannot be erased, wiped off, or rubbed out. Comes with a carbide tip.

Description	Voltage	Item No.
Vibrograver	110/120	AUC486211
Vibrograver	230/240	AUC486212
Spare Diamond Tip		AUC486213
Spare Carbide Tip		AUC486214



Vibrograver

Packed Column Change Kit

The Column Change Kit includes three ratchet wrenches, 7/16", 1/2" and 9/16"; one Imp[®] Tubing cutter, and one roll of 12.5 mm PTFE tape. The ratchet wrenches are ideal for tight spaces; the ratchet tips can be opened, then snapped closed around the fittings.

Description	Item No.
Column Change Kit	AUC205250

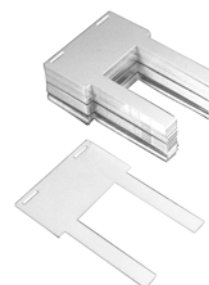


AUC205250

Column Tags, Aluminum

For packed columns; also useful for labeling computer cables, gas lines, etc. Aluminum tags are easy to inscribe and provided permanent record that cannot be erased. 22 mm x 41 mm.

Description	Qty.	Item No.
Packed Column Tags	100/pk	AUC486111



AUC486111





2 · *Ferrules, Fittings & Konik Instruments Kits*



FERRULES, FITTINGS & KONIK INSTRUMENTS KITS

FERRULES

KONIK provides a wide range of ferrules made from Vespel®, Vespel®/Graphite, Graphite and PTFE. Ferrule sizes refer to the size of the fittings into which they fit; they are not the diameter of the ferrule.

For example, 1/16" ferrules are 1/8" diameter and fit in 1/16" fittings.



KONIK Ferrules

Vespel® Ferrules - Sold in packages of 10

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



Vespel® Ferrules

Description

Item No.

Straight Ferrules - for tubing with ODs as listed

1/16" Ferrules	AUC212100
1/8" Ferrules	AUC212200
1/4" Ferrules	AUC212400

Blank Ferrules - no holes

1/16" Blank Ferrules	AUC2121XX
1/8" Blank Ferrules	AUC2122XX
1/4" Blank Ferrules	AUC2124XX

Capillary Column Ferrules

For Capillary Sizes - ID

1/16" to 0.3 mm	0.10 - 0.18 mm	AUC212103
1/16" to 0.4 mm	0.25 mm	AUC212104
1/16" to 0.5 mm	0.32 mm	AUC212105
1/16" to 0.8 mm	0.53 mm	AUC212108
1/16" to 1.0 mm	0.65 mm	AUC212110
1/16" to 1.2 mm	0.75 mm	AUC212112
1/16", two-hole, 0.4 mm each	0.25 mm	AUC212124
1/16", two-hole, 0.5 mm each	0.32 mm	AUC212125



1/16" Vespel® Ferrules:
Blank, 0.5 mm ID, Straight

Reducing Ferrules

1/8" to 0.4 mm	0.25 mm	AUC212204
1/8" to 0.5 mm	0.32 mm	AUC212205
1/8" to 0.8 mm	0.53 mm	AUC212208
1/8", two-hole, 0.5 mm each	0.32 mm	AUC212222

For Capillary Sizes - OD

1/8" to 1/16"	1/16"	AUC212210
1/4" to 1/16"	1/16"	AUC212410
1/4" to 1/8"	1/8"	AUC212420



AUC212104, AUC212100, AUC212222

Please note for all ferrules:

- 0.4 mm ID ferrules fit 0.25 mm ID capillary columns
- 0.5 mm ID ferrules fit 0.32 mm ID capillary columns
- 0.8 mm ID ferrules fit 0.53 mm ID capillary columns
- Straight ferrules are used for packed columns

FERRULES, FITTINGS & KONIK INSTRUMENTS KITS

Graphite Ferrules - Sold in packages of 10; except as noted

- Upper temperature limit: 450°C
- High-purity Graphite; preferred for capillary GC use
- Ideal for glass-to-metal connections; does not stick to glass
- Precision formed; flash free ID
- Reusable if not overtightened
- One-piece design requires no back ferrule



Graphite Ferrules

Description

Item No.

Straight Ferrules - for tubing with ODs listed

1/16" Ferrules	AUC211100
1/8" Ferrules	AUC211200
1/4" Ferrules	AUC211400
3/8" Ferrules	AUC211600
1/2" Ferrules, 5/pk	AUC211800
3/4" Ferrules, 5/pk	AUC211120

Blank Ferrules - no holes

1/16" Blank Ferrules	AUC2111XX
1/8" Blank Ferrules	AUC2112XX
1/4" Blank Ferrules	AUC2114XX

Capillary Column Ferrules

For Capillary Sizes - ID

1/16" to 0.4 mm	0.25 mm	AUC211104
1/16" to 0.5 mm	0.32 mm	AUC211105
1/16" to 0.8 mm	0.53 mm	AUC211108
1/16" to 1.0 mm	0.65 mm	AUC211110
1/16" to 1.2 mm	0.75 mm	AUC211112
1/16", two-hole, 0.5 mm each	0.32 mm	AUC211125



1/16" Graphite Ferrules:
Blank, 0.5 mm ID, Straight

For Capillary Sizes - OD

1/16" to 1/16" straight ferrule	1/16"	AUC211170
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Ferrule Remover Set

These are effective tools for removing ferrules. The threaded end locks in the ferrule hole to allow removal from the fitting. Two tools are supplied for ferrules from 0.4 mm to 0.8 mm ID.

Description

Ferrule Remover Set

Item No.

AUC205315



AUC205315

FERRULES, FITTINGS & KONIK INSTRUMENTS KITS

Graphite Ferrules - Sold in packages of 10; except where noted

- Upper temperature limit: 450°C
- High-purity Graphite; preferred for capillary GC use
- Ideal for glass-to-metal connections; does not stick to glass
- Precision-formed; flash free ID
- Reusable if not overtightened
- One-piece design requires no back ferrule



AUC211410

Description		Item No.
Reducing Ferrules		
1/8" to 0.4 mm	For Capillary Sizes - ID	AUC211204
1/8" to 0.5 mm	0.25 mm	AUC211205
1/8" to 0.8 mm	0.32 mm	AUC211208
1/8", two-hole, 0.5 mm each	0.53 mm	AUC211222
1/4" to 0.5 mm	0.32 mm	AUC211405
1/4" to 0.8 mm	0.53 mm	AUC211408
For Capillary Sizes - OD		
1/8" to 1/16"	1/16"	AUC211210
1/4" to 4 mm	4 mm	AUC211440
1/4" to 6 mm	6 mm	AUC211406
1/4" to 1/8"	1/16"	AUC211410
1/4" to 1/8"	1/8"	AUC211420

FERRULES, FITTINGS & KONIK INSTRUMENTS KITS

Vespel®/Graphite Ferrules - Sold in packages of 10; except as noted

- Upper temperature limit: 400°C
- Made from quality DuPont polyimide/graphite blend
- Recommended for GC/MS interface applications
- One-piece design requires no back ferrule
- Precision drilled ID



Vespel®/Graphite Ferrules

Description

Item No.

Straight Ferrules - for tubing with ODs as listed

1/16" Ferrules	AUC213100
1/8" Ferrules	AUC213200
1/4" Ferrules	AUC213400
1/2" Ferrules, 5/pk	AUC213800

Blank Ferrules - no holes

1/16" Blank Ferrules	AUC2131XX
1/8" Blank Ferrules	AUC2132XX
1/4" Blank Ferrules	AUC2134XX



1/16" Vespel®/Graphite Ferrules:
Blank, 0.5 mm ID, Straight

Capillary Column Ferrules

For Capillary Size - ID

1/16" to 0.3 mm		AUC213103
1/16" to 0.4 mm	0.25 mm	AUC213104
1/16" to 0.5 mm	0.32 mm	AUC213105
1/16" to 0.8 mm	0.53 mm	AUC213108
1/16" to 1.0 mm	0.65 mm	AUC213110
1/16", two-hole, 0.4 mm each	0.25 mm	AUC213124
1/16", two-hole, 0.5 mm each	0.32 mm	AUC213125

Reducing Ferrules

1/8" to 0.4 mm	0.25 mm	AUC213204
1/8" to 0.5 mm	0.32 mm	AUC213205
1/8" to 0.8 mm	0.53 mm	AUC213208
1/8", two-hole, 0.5 mm each	0.32 mm	AUC213222
1/8", two-hole, 0.8 mm each	0.53 mm	AUC213228
1/4" to 0.4 mm	0.25 mm	AUC213404
1/4" to 0.5 mm	0.32 mm	AUC213405
1/4" to 0.8 mm	0.53 mm	AUC213408



AUC213200

For Capillary Sizes - OD

1/8" to 1/16"	1/16"	AUC213210
1/4" to 1/16"	1/16"	AUC213410
1/4" to 6 mm	6 mm	AUC213406
1/4" to 1/8"	1/8"	AUC213420



FERRULES, FITTINGS & KONIK INSTRUMENTS KITS

PTFE Ferrules - Sold in packages of 10

- Upper temperature limit: 250°C
- 100% PTFE; completely inert
- One-piece design requires no back ferrule



PTFE Ferrules



AUC2144XX

Description	Item No.
Straight Ferrules - for tubing with ODs as listed	
1/16" Ferrules	AUC214100
1/8" Ferrules	AUC214200
3/16" Ferrules	AUC214300
1/4" Ferrules	AUC214400
Blank Ferrules - no holes	
1/16" Blank Ferrules	AUC2141XX
1/8" Blank Ferrules	AUC2142XX
1/4" Blank Ferrules	AUC2144XX
Capillary Column Ferrules	
For Capillary Sizes - ID	
1/16" to 0.3 mm	AUC214103
1/16" to 0.4 mm	0.25 mm AUC214104
1/16" to 0.5 mm	0.32 mm AUC214105
1/16" to 0.8 mm	0.53 mm AUC214108
1/16" to 1.0 mm	0.65 mm AUC214110
1/16" to 1.2 mm	0.75 mm AUC214112
Reducing Ferrules	
1/8" to 0.4 mm	0.25 mm AUC214204
1/8" to 0.5 mm	0.32 mm AUC214205
1/8" to 0.8 mm	0.53 mm AUC214208
For Capillary Sizes - OD	
1/8" to 1/16"	1/16" AUC214210
1/4" to 6 mm	6 mm AUC214406
1/4" to 1/16"	1/16" AUC214410
1/4" to 1/8"	1/8" AUC214420
1/4" to 3/16"	3/16" AUC214430

FERRULES, FITTINGS & KONIK INSTRUMENTS KITS

FITTINGS

Swagelok® Fittings

KONIK carries a full line of quality Swagelok fittings for GC and HPLC. Please call if you do not see the size you need. When ordering Swagelok fittings, prefix the catalog number with one of the following letters:

B for brass, SS for stainless steel.

For example, a 1/4" OD tube union in stainless steel is part number FASSS-400-6.

Description	Size	Item No.
Nut	1/16"	FAS102-1
	1/8"	FAS202-1
	1/4"	FAS402-1
Front Ferrule	1/16"	FAS103-1
	1/8"	FAS203-1
	1/4"	FAS403-1
Back Ferrule	1/16"	FAS104-1
	1/8"	FAS204-1
	1/4"	FAS404-1
Cap	1/16"	FAS100-C
	1/8"	FAS200-C
	1/4"	FAS400-C
Plug	1/16"	FAS100-P
	1/8"	FAS200-P
	1/4"	FAS400-P
Unions	1/16" to 1/16"	FAS100-6
	1/8" to 1/8"	FAS200-6
	1/4" to 1/4"	FAS400-6
Reducing Unions	1/16" to 1/8"	FAS200-6-1
	1/16" to 1/4"	FAS400-6-1
	1/8" to 1/4"	FAS400-6-2
Union Tees	1/16" x 1/16" x 1/16"	FAS100-3
	1/8" x 1/8" x 1/8"	FAS200-3
	1/4" x 1/4" x 1/4"	FAS400-3
Male Connector	1/16" to 1/16" NPT	FAS100-1-1
	1/8" to 1/8" NPT	FAS200-1-2
	1/4" to 1/4" NPT	FAS400-1-4
	1/16" to 1/8" NPT	FAS100-1-2
	1/8" to 1/16" NPT	FAS200-1-1
	1/4" to 1/8" NPT	FAS400-1-2
	1/8" to 1/4" NPT	FAS200-1-4
	1/8" to 1/8" NPT	FAS200-7-2
	1/8" to 1/4" NPT	FAS200-7-4
1/4" to 1/8" NPT	FAS400-7-2	
Female Connector	1/4" to 1/4" NPT	FAS400-7-4
	1/16" to 1/8" tube	FAS100-R-2
	1/8" to 1/4" tube	FAS200-R-2
Reducers	1/4" to 1/8" tube	FAS400-R-2

FAS202-1



FAS203-1



FAS204-1



FAS200-C



FAS200-P



FAS200-6



FAS200-6BT



FAS200-3



FAS200-1-2



FAS200-7-4



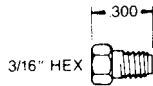
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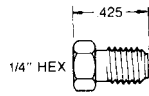
FERRULES, FITTINGS & KONIK INSTRUMENTS KITS

Valco Fittings

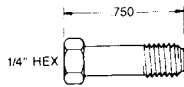
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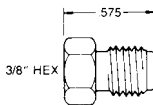
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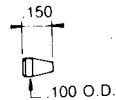
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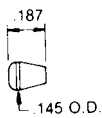
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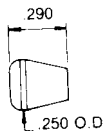
AWVZF.5



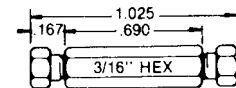
AWVZF1



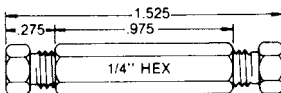
AWVZF2



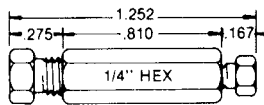
AWVZU.5



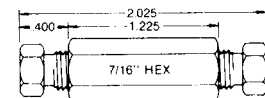
AWVZU1



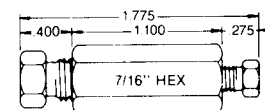
AWVZRU1.5



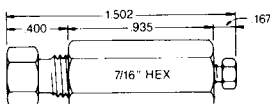
AWVZU2



AWVZRU21



AWVZRU2.5



Valco Nuts

All standard nuts are labeled with the letters ZN. They can be used with Valco fittings as well as most other manufacturers. The longer nut is used when the fitting head may not be accessible or may interfere with adjacent fittings, as on some Valco mutiposition valves. Nuts are made from stainless steel.

Description	Size	Item No.
Standard Nut	1/32"	AWVZN.5-10
Standard Nut	1/16"	AWVZN1-10
Long Nut	1/16"	AWVLZN1-10
Standard Nut	1/8"	AWVZN2-10

Note: -10 Indicates pk10, -5 Indicates pk5.

Valco Ferrules

Valco ferrules may be used with all Valco fittings and those of most other manufacturers. Ferrules made of stainless steel can be used with metal or PTFE tubing. The polyimide ferrules can be used up to 350°C. Glass-filled PTFE ferrules can be used on metal or glass tubing if the temperature is less than 200°C or 125°C with PTFE tubing.

Description	Size	Material	Item No.
Ferrule	1/32"	300 Series Stainless	AWVZF.5-10
Ferrule	1/32"	Polyimide	AWVZF.5V-5
Ferrule	1/16"	300 Series Stainless	AWVZF1-10
Ferrule	1/16"	PTFE	AWVZF1TFG-10
Ferrule	1/16"	Polyimide	AWVZF1V-5
Ferrule	1/8"	300 Series Stainless	AWVZF2-10
Ferrule	1/8"	Polyimide	AWVZF2V-5

Note: -10 Indicates pk10, -5 Indicates pk5.

Valco Unions

These join two tubes of uniform bore, without introducing unswept or "dead" volume. Nuts and ferrules included. Made from stainless steel.

Description	Size	Bore	Item No.
Union	1/32"	0.25 mm (.010")	AWVZU.5
Union	1/32"	0.8 mm (1/32")	AWVZU.5T
Union	1/16"	0.75 mm (.029")	AWVZU1
Union	1/16"	0.25 mm (.010")	AWVZU1C
Union	1/16"	1/16"	AWVZU1T
Reducing Union	1/16" to 1/32"	0.25 mm (.010")	AWVZRU1.5
Reducing Union	1/16" to 1/32"	0.8 mm (1/32")	AWVZRU1.5T
Union	1/8"	0.75 mm (.029")	AWVZU2
Union	1/8"	2 mm (.080")	AWVZU2L
Union	1/8"	1/8"	AWVZU2T
Reducing Union	1/8" to 1/16"	0.75 mm (.029")	AWVZRU21
Reducing Union	1/8" to 1/16"	0.25 mm (.010")	AWVZRU21C
Reducing Union	1/8" to 1/16"	1/16"	AWVZRU21T
Reducing Union	1/8" to 1/32"	0.25 mm (.010")	AWVZRU2.5
Reducing Union	1/8" to 1/32"	0.8 mm (1/32")	AWVZRU2.5T

FERRULES, FITTINGS & KONIK INSTRUMENTS KITS

KONIK INSTRUMENTS INSTALLATION KITS

The Installation KITS supplied with each instruments (GC, LC, MS or Autosampler), contain enough consumable items for the installation and immediate use of the system.

- KONIK HRGC Installation Kits
- KONIK HPLC Installation Kit
- KONIK ROBOKROM AUTOSAMPLER Installation Kits
- KONIK LC-GC K2 Installation Kit

Konik HRGC Installation Kits

Capillary column Installation Kit **KNK-5000BCCINS**

Contains:

Description	Item n°	Qty.
Capillary column KAP-5 15m x 0.25mm x 0.25um	KAP-120212	1
Polypropylene Tube 30 m	31POL0108030	1
10µl Syringe	ACH80300	1
Swagelok brass «T» 1/8"	30SWL08MTE/0	3
Nut brass 1/8"	30SWL08/T000	10
Back front ferrule brass 1/8"	30SWL08/F000	10
Swagelok female cap1/8"	30SWL08H00/0	2
Swagelok male cap 1/8"	30SWL08M000/	1
Swagelok Union male-male 1/8"	30SWL08M08M/	1
Reducer DET/INY 1/16M - 1/8F	GC4102ACOLD/I-0	2
Graphite Ferrule 0.5"(10u)	AUC211105	1
Graphite Ferrule 0.8"(10u)	AUC211108	1
Fixed key 1/4" - 5/16"	29FIJ104516/	2
Combined key 7/16"	29COM716000/	2
SS Extractor Multiuse	29KNK00EXT/0	1
Blue Septa (PK100)	AUC234905	1
Column Scribes	KNK-COL-CUT	1



HRGC 5000B

Note: You can order also Capillary column installation kit without column KNK-5000BCINS.



KNK-5000BCCINS

FERRULES, FITTINGS & KONIK INSTRUMENTS KITS

Packed column Installation Kit

KNK-5000BCPINS1/2

Contains:

Description	Item n°	Qty.
Col. OV101SE-30/Chromosorb 2 m	KNK-SS2-KIT1	1
Col. SS Mol. Sieve 5A 80/100 mesh 18" 2 m	KNK-SS2-KIT2	1
Polypropylene Tube 30 m	31POL0108030	1
10µl Syringe	ACH80300	1
Swagelok brass «T» 1/8"	30SWL08MTE/0	3
Nut brass 1/8"	30SWL08/T000	10
Back front ferrule brass 1/8"	30SWL08/F000	10
Swagelok female cap 1/8"	30SWL08H00/0	2
Swagelok male cap 1/8"	30SWL08M000/	1
Swagelok Union male-male 1/8"	30SWL08M08M/	1
Fixed key 1/4" - 5/16"	29FIJ104516/	2
Combined key 7/16"	29COM716000/	2
SS Extractor Multiuse	29KNK00EXT/0	1
Blue Septa (PK100)	AUC234905	1

Capillary column Kit

KNK-5000BCCIK

Contains:

Description	Item n°	Qty.
Reducer DET/INY 1/16M - 1/8F	GC4102ACOLD/I-0	2
Graphite Ferrule 0.5"(10u)	AUC211105	1
Column Scribes	KNK-COL-CUT	1



KNK-5000BCCIK

Monovial Head Space Installation Kit

KNK-419-318

Contains:

Description	Item n°	Qty.
Allen key 2.5 mm	29ALL0025/00	1
20 ml vial (PK125)	KNK-V00-200	1
Al cap 20 mm (PK125)	KNK-TAL-200	1
Chlorbutyl/PTFE septum 20 mm (PK125)	KNK-S01-200	1
20 mm Manual Crimper	AUC320990	1
T Brass 1/8"	30SWL08MTE/0	3
Nut Brass 1/8"	30SWL08/T000	10
Back and front ferrule Brass 1/8in	30SWL08/F000	10
Ppolypropylene tubing 1/8in (1m)	31POL0108001	5

FERRULES, FITTINGS & KONIK INSTRUMENTS KITS

KONIK HPLC Installation Kit

HPLC 560/600 system Installation Kit

KNK-069-900

Contains:

Description	Item n°	Qty.
Fast coupling Konik Kwik-Snap (pk2)	KKS-029-000	1
HPLC COL. KONIK EXCEL 120 ODS B, 5um 15 cm x 0.4 cm	KKS-015697	1
Teflon joints (pk10)	KKS-015324	1
Guard column cartridge C18 (pk5)	KKS-015326	1
KEL-F Ferrule 1/8"	ACE00000470	2
PEEK Nut 1/8", 1/4"-28 threads	ACE00000450	2
SS Ferrule 1/16"	ACE00000080	2
SS Nut 1/16", 10-32 threads	ACE00000120	2
PEEK One-Piece Handtight Nut 1/16", 10-32	ACE00000121	2
SS Tubing OD 1/16" x ID 0.25 mm, 0.2 m	ACE990215	1
Open End Wrench 8-10 mm	ACE990383	1
Open End Wrench 7-5,5 mm	ACE990403	1
Hexagon socket screw key SS 3 mm	ACE07700	1
Open End Wrench 13-17 mm	ACE990392	1
PTFE Tubing OD 2.1mm x ID 1.5 mm, 1 m	ACES1810-20	1
Tub cutting 1/16" OD	29KNKTUBCUT/	1
Valco Nut INOX 1/16" in pk10	AWVZF1-10	1
Valco connector 1/16" pk10	AWVZN1-10	1
Tub INOX 316 1/16"x ID 0.25 mm, 3 m	31INX1625/00	1
Fixed key 1/4" - 5/16"	29FIJ04516/	1
100 µl Syringe	ACH80665	1



KONIK HPLC 560



KONIK HPLC 600



KNK-415-310

Konik Robokrom Autosampler Installation Kits

Installation kit General

KNK-415-300

Contains:

Description	Item n°	Qty.
Allen key 1.5 mm	29ALL0015/00	1
Allen key 2.5 mm	29ALL0025/00	1
Allen key 3 mm	29ALL0030/00	1

Installation kit GC

KNK-415-310

Contains:

Description	Item n°	Qty.
Top syringe adapter 10 µl	AS5147ADAP010-0	1
Bottom syringe adapter 5 µl, 10 µl	AS5148ADAP--A-0	1
10 µl Syringe	ACH80300	1
10 ml Screwtop vial (pk10)	ADC10-HSV	1
18 mm Metallic Screw Cap (pk10)	ADC18-MSV	1
18 mm PTFE/Silicone Seal (pk10)	ADC18-ST-101	1



KNK-415-310

Installation kit LC

KNK-415-320

Contains:

Description	Item n°	Qty.
Bottom syringe adapter 0.5, 1, 25,100 i 500 µl	AS5148ADAP--B-0	1
Top syringe adapter 100 µl	AS5147ADAP100-0	1
100 µl Syringe	ACH80665	1
10 ml Screwtop vial (pk10)	ADC10-HSV	1
18 mm Metallic Screw Cap (pk10)	ADC18-MSV	1
18 mm PTFE/Silicone Seal (pk10)	ADC18-ST-101	1
Fixed Key 1/4"-5/16"	29FIJ04516/	1

Installation kit Head Space

KNK-415-330

Contains:

Description	Item n°	Qty.
HS needle support complete	AS5148AGHS----1	1
Swagelok brass «T» 1/8"	30SWL08MTE/0	1
Nut brass 1/8"	30SWL08/T000	10
Back front ferrule brass 1/8"	30SWL08/F000	10
Swagelok Union male-male 1/16"	30SWL16M16M/	1
Polypropylene Tube 1/8" 1 m	31POL0108001	5



KNK-415-330

Installation kit Purge&Trap

KNK-415-340

Contains:

Description	Item n°	Qty.
P&T/TD needle support complete	AS5148AGP&T---1	1
Swagelok brass «T» 1/8"	30SWL08MTE/0	1
Nut brass 1/8"	30SWL08/T000	10
Back front ferrule brass 1/8"	30SWL08/F000	10
Swagelok Union male-male 1/16"	30SWL16M16M/	1
Polypropylene Tube 1/8" 1 m	31POL0108001	5
Tenax Trap	MRS21059-U	1

FERRULES, FITTINGS & KONIK INSTRUMENTS KITS

Installation kit SPmE KNK-415-350

Contains:

Description	Item n°	Qty.
10 µl top syringe adaptor for SPME	AS5147ADASPME-0	1
SPME needle centering piece	AS5148CENTAGU-0	1
Fiber adapter complete	AS5148ADAPSPME0	1
SpmE Polydimethylsiloxane fiber (PK3)	ABS57301	1
Drilled Septa 9.5 mm (PK50)	ABS23162-U	1

Installation kit Magnetic Stirrer KNK-415-360

Contains:

Description	Item n°	Qty.
Magnetic stir bar (12x6 mm) (pk10)	MVASWN532	10

Installation Tray Kit for GC/LC 1 mL Vial Size KNK-415-1111

Contains:

Description	Item n°	Qty.
171 vials tray	AS5163BAND171-0	1
1 ml vial (PK125)	KNK-V00-010	1
Al cap with PTFE septum 8 mm (PK125)	KNK-TS0-008	1
8 mm precision hand crimper	AUC308000	1

Installation Tray Kit for GC/LC 2 mL Vial Size KNK-415-2222

Contains:

Description	Item n°	Qty.
105 vials tray	AS5163BAND105-0	1
2 ml vial (PK100)	KNK-V00-020	1
Al cap with PTFE septum 11 mm (PK100)	KNK-TS0-011	1
11 mm precision hand crimper	AUC311990	1

Installation Tray Kit for HS 6 mL Vial Size KNK-415-3343

Contains:

Description	Item n°	Qty.
32 vials tray	AS5163BAND032-0	1
6 ml vial (PK125)	KNK-V00-060	1
Magnetic cap 20 mm (PK125)	KNK-TMG-200	1
Chlorbutyl/PTFE septum 20 mm (PK125)	KNK-S01-200	1
20 mm precision hand crimper for mag cap	ADCCR-20	1

Installation Tray Kit for HS 10 mL Vial Size KNK-415-3443

Contains:

Description	Item n°	Qty.
32 vials tray	AS5163BAND032-0	1
10 ml vial (PK125)	KNK-V00-100	1
Magnetic cap 20 mm (PK125)	KNK-TMG-200	1
Chlorbutyl/PTFE septum 20 mm (PK125)	KNK-S01-200	1
20 mm precision hand crimper for mag cap	ADCCR-20	1



ROBOKROM MULTIMODE AUTOSAMPLER



KNK-415-2222



KNK-415-3443

FERRULES, FITTINGS & KONIK INSTRUMENTS KITS

Installation Tray Kit for HS 20 mL Vial Size **KNK-415-3543**

Contains:

Description	Item n°	Qty.
32 vials tray	AS5163BAND032-0	1
20 ml vial (PK125)	KNK-V00-200	1
Magnetic cap 20 mm (PK125)	KNK-TMG-200	1
Chlorbutyl/PTFE septum 20 mm (PK125)	KNK-S01-200	1
20 mm precision hand crimper for mag cap	ADCCR-20	1

Installation Tray Kit for P&T 20 mL Vial Size **KNK-415-3534**

Contains:

Description	Item n°	Qty.
32 vials tray	AS5163BAND032-0	1
20 ml vial (PK125)	KNK-V00-200	1
Al cap 20 mm (PK125)	KNK-TAL-200	1
Silicon/Al septum 20 mm (PK125)	KNK-S00-200	1
20 mm precision hand crimper	AUC320990	1

Installation Tray Kit for SPmE 6 mL Vial Size **KNK-415-3346**

Contains:

Description	Item n°	Qty.
32 vials tray	AS5163BAND032-0	1
6 ml vial (PK125)	KNK-V00-060	1
Magnetic cap 20 mm (PK125)	KNK-TMG-200	1
High purity Si/PTFE septum (PK125)	KNK-S03-200	1
20 mm precision hand crimper for mag cap	ADCCR-20	1

Installation Tray Kit for SPmE 10 mL Vial Size **KNK-415-3446**

Contains:

Description	Item n°	Qty.
32 vials tray	AS5163BAND032-0	1
10 ml vial (PK125)	KNK-V00-100	1
Magnetic cap 20 mm (PK125)	KNK-TMG-200	1
High purity Si/PTFE septum (PK125)	KNK-S03-200	1
20 mm precision hand crimper for mag cap	ADCCR-20	1

Installation Tray Kit for TD 20 mL Vial Size **KNK-415-3544**

Contains:

Description	Item n°	Qty.
32 vials tray	AS5163BAND032-0	1
20 ml vial (PK125)	KNK-V00-200	1
Magnetic cap 20 mm (PK125)	KNK-TMG-200	1
Si/Al septum (PK125)	KNK-S00-200	1
20 mm precision hand crimper for mag cap	ADCCR-20	1

FERRULES, FITTINGS & KONIK INSTRUMENTS KITS

Instalation Kit For ROBOKROM GC Autoinjector 2 AXIS KNK-415-310-15

Contains:

Description	Item n°	Qty
Top syringe adapter 10 µl	AS5147ADAP010-0	1
Bottom syringe adapter 5 µl, 10 µl	AS5148ADAP--A-0	1
10 ml Screwtop vial (pk10)	ADC10-HSV	1
18 mm Metallic Screw Cap (pk10)	ADC18-MSC	1
18 mm PTFE/Silicone Seal (pk10)	ADC18-ST-101	1
10 µl Syringe	ACH80300	2
1.8 ml Clear Screw Top Std. Mouth Vial Combo-Pack (100/pk)	AUC123225	1

Installation Kit RBK LC Autoinjector 2 AXIS KNK-415-320-15

Contains:

Description	Item n°	Qty
Bottom syringe adapter 0.5, 1, 25,100 i 500 µl	AS5148ADAP--B-0	1
Top syringe adapter 100 µl	AS5147ADAP100-0	1
100 µl Syringe	ACH80665	2
10 ml Screwtop vial (pk10)	ADC10-HSV	1
18 mm Metallic Screw Cap (pk10)	ADC18-MSC	1
18 mm PTFE/Silicone Seal (pk10)	ADC18-ST-101	1
1.8 ml Clear Screw Top Std. Mouth Vial Combo-Pack (100/pk)	AUC123225	1



ROBOKROM AUTOINJECTOR 2 AXIS

Installation Kit SH For RBK Autoinjector 2 AXIS KNK-415-330-08

Contains:

Description	Item n°	Qty
HS needle support complete	AS5148AGHS----1	1
T Brass 1/8"	30SWL08MTE/0	1
Nut Brass 1/8"	30SWL08/T000	10
Back and front ferrule Brass 1/8"	30SWL08/F000	10
Swagelok Union male-male 1/16"	30SWL16M16M/	1
Ppolypropylene tubing 1/8" (5m)	31POL0108001	1
10 ml vial (PK125)	KNK-V00-100	1
Magnetic cap 20 mm (PK125)	KNK-TMG-200	1
Chlorbutyl/PTFE septum 20 mm (PK125)	KNK-S01-200	1
20 mm precision hand crimper for mag cap	ADCCR-20	1

Konik K2 Installation Kit

K2 system Installation Kit KNK-K2-500

Contains:

Description	Item n°	Qty.
¼" Graphite Ferrules	AUC211400	2
SS tubing 0.75 mm, 1 m	31INX1675/00	1
SS tubing 0.25 mm, 1 m	31INX1625/00	1
Viton O'ring 2.9 x 1.78	37TOR02917/V	10
Viton O'ring 5 x 2	37TOR05020/V	10
K2 Empty trap - quartz	KNK-K2-LEMPTQ	1
K2 Tenax trap - quartz	KNK-K2-LTENXQ	1
1/16", 2-Hole, 0.5 mm Graphite Ferrules	AUC211125	1
Guard Column 0.32 mm (3 m)	AUC433116	1
Graphite/Vespel Ferrule (10u)	AUC213105	1
10 µm PEEK filter	AWV JR-68251	1
Backferrule special tool	29FIJ055070/	1
Reducer DET/INY 1/16M - 1/8F	GC4102ACOLD/I-0	1



K2Q12 MULTIDIMENSIONAL HPLC+GC-MS





PREMIUM SEPTA

Premium Septa - are preconditioned and packed in glass jars. Premium Septa generally have much lower bleed than general purpose septa.



Marathon with CenterGuide

CenterGuide™ Septa for Improved Performance

- Center point guides the needle for easy penetration
- Reduce needle bending
- Precision molding assures accurate fit
- Available in selected sizes of our premium septa

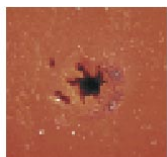
Precision-molded septa have a recess on the injection side, to guide the syringe needle to the same point with every injection. The CenterGuide design requires less force for initial penetration, for a smoother feel. Septum life may be enhanced in some applications by minimizing tearing and coring.

Septum	High Temperature	Long Life	Low Bleed	Suggested Applications
Marathon™	✓	✓	•	Autosampler use; extremely long lifetime, trace analysis
BTO®	✓	•	✓	High injection port temperature, lowest bleed, trace analysis
Advanced Green 3™	✓	•	•	General purpose use; low sticking

Upper Temperature Limit

Septa BTO, Marathon and Advanced Green 3 can be used at 400°C and higher injector set point temperatures in most instruments. Slight sticking may occur in new injection ports when holding septa above 300°C over periods of many days.

Septum Without CenterGuide™



Septum With CenterGuide™



CenterGuide can help reduce coring when used with tapered (rounded-tip) needles.

Septa Cross Reference

Instrument	Septum Size
KONIK	
4000B, 5000A, 5000B	9.5 mm
Agilent / HP	
5880A, 5890, 6890, 6850	11 mm
5700, 5880	9.5 mm
On-column injection	5 mm
Purged packed column	11 mm
Fisons / Carlo Erba	
8000 Series	17 mm
PerkinElmer	
Slgma Series, 8000 Series, Clarus	11 mm
AutoSystem / AutoSystem XL	11 mm
Shimadzu	
All	Plug
Thermo Instruments	
Trace, Focus Split / Splitless	17 mm
9001, GCQ	9.5 mm
PTV Injector	12.7 mm
Varian	
1177 Injector	9 mm
1040 / 41 / 60 / 61	9.5 mm
1075 / 77 / 78 / 79, 1093 / 94 SPI	11.5 mm

Septa BTO®

- Extended temperature range, low-bleed
- Maximum temperature 400°C
- Virtually eliminates injection-port sticking
- Pre-conditioned; packaged in glass to prevent contamination
- Each batch GC-FID tested
- Ideal for use with low-bleed, "Mass Spec" capillary columns

Septa BTO is Bleed and Temperature Optimized for today's most demanding GC and GC/MS applications. Septa BTO is formulated to extend low-bleed and outstanding mechanical properties of premium GC septa to the highest-temperature applications. It retains remarkable softness and pierceability at high temperatures, with extremely low bleed. Septa are 3 mm thick, and are packaged in glass vials.



AUC298717

Description	Qty	Item No.
5 mm BTO CenterGuide™	50/pk	AUC298787
1/4" (6.4 mm) BTO	50/pk	AUC298755
9 mm BTO CenterGuide	50/pk	AUC298713
3/8" (9.5 mm) BTO	50/pk	AUC298705
10 mm BTO	50/pk	AUC298745
7/16" (11 mm) BTO CenterGuide	50/pk	AUC298717
7/16" (11 mm) BTO CenterGuide	100/pk	AUC298718
11.5 mm BTO CenterGuide	50/pk	AUC298777
1/2" (12.7 mm) BTO CenterGuide	50/pk	AUC298727
17 mm BTO	50/pk	AUC298817



AUC298717

Advanced Green 3™

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

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



AUC246225

Description	Qty	Item No.
5 mm AG3 CenterGuide	50/pk	AUC246525
9 mm AG3 CenterGuide	50/pk	AUC246713
3/8" (9.5 mm) AG3	50/pk	AUC246124
7/16" (11 mm) AG3 CenterGuide	50/pk	AUC246225
7/16" (11 mm) AG3 CenterGuide	100/pk	AUC246228
11.5 mm AG3 CenterGuide	50/pk	AUC246725
1/2" (12.7 mm) AG3 CenterGuide	50/pk	AUC246325
17 mm AG3	50/pk	AUC246624



AUC246424



AG3 with CenterGuide



AUC239698



AUC239297



AUC239488

Marathon™ Septa

Excellent Performance with Long Injection Life

- Outstanding lifetime
- Premium septum for autosamplers
- CenterGuide™ Marathon are pre-pierced for extremely reliable performance
- Up to 400 injections per septum
- Maximum temperature setting 400°C

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

Description	25/pk	50/pk	100/pk
5 mm Marathon	AUC239587	AUC239597	
9 mm Marathon CenterGuide	AUC239778	AUC239779	
3/8" (9.5 mm) Marathon	AUC239188	AUC239198	
7/16" (11 mm) Marathon CenterGuide	AUC239287	AUC239297	AUC239888
11.5 mm Marathon CenterGuide	AUC239787	AUC239798	
1/2" (12.7 mm) Marathon CenterGuide	AUC239387	AUC239397	
17 mm Marathon	AUC239688	AUC239698	

GENERAL-PURPOSE SEPTA

Puresep T™

- The better PTFE coated septum
- Recommended maximum temperature is 225°C

Silicone-based septum is faced on one side with a double layer of polyimide and PTFE. The polyimide adheres to both the silicone and PTFE, providing a better bond and enhanced durability. The outer PTFE coating assures maximum inertness and helps minimize bleed.

Description	Qty	Item No.
1/4" (6.0 mm) Puresep T	50/pk	AUC230665
3/8" (9.5 mm) Puresep T	50/pk	AUC230675
7/16" (11 mm) Puresep T	50/pk	AUC230685
11.5 mm Puresep T	50/pk	AUC230697
1/2" (12.7 mm) Puresep T	50/pk	AUC230695
13 mm Puresep T	50/pk	AUC230698



Puresep T

Puresep P™

- Made from silicone rubber coated with a layer of high-temperature polyimide
- 3 mm thick

The polyimide layer is stable to 400°C, however the recommended upper limit for the septum as a whole is 300°C, due to the characteristics of silicone.

Description	Qty	Item No.
1/4" (6.0 mm) Puresep P	50/pk	AUC230630
3/8" (9.5 mm) Puresep P	50/pk	AUC230640
7/16" (11 mm) Puresep P	50/pk	AUC230650
11.5 mm Puresep P	50/pk	AUC230670
1/2" (12.7 mm) Puresep P	50/pk	AUC230660



Puresep P

Ultrasep® R

This is a good general-purpose septum. Ultrasep R has a 45 - 55 durometer hardness rating and is easy to penetrate. The upper temperature limit is 350°C. They have a long injection lifetime at 300°C.

Description	Qty	Item No.
3/8" (9.5 mm) Ultrasep R	50/pk	AUC236905
7/16" (11 mm) Ultrasep R	50/pk	AUC236115
1/2" (12.7 mm) Ultrasep R	50/pk	AUC236125



Ultrasep R



Microsep Septa F-138

Microsep® Septa F-138

This is a general-purpose septum recommended for low-temperature use. Microsep Septa F-138 is made of a special silicone rubber formulation with a PTFE backing. It is pre-treated by washing in distilled water, then baking under vacuum at 200°C. Off-white color. The septa stabilize rapidly after installation to minimize septum bleed.

Description	Qty	Item No.
1/4" (6.0 mm) Microsep F-138	50/pk	AUC220625
3/8" (9.5 mm) Microsep F-138	50/pk	AUC220900
0.394" (10 mm) Microsep F-138	50/pk	AUC220100
7/16" (11 mm) Microsep F-138	50/pk	AUC220110
1/2" (12.7 mm) Microsep F-138	50/pk	AUC220120



Microsep Septa F-174

Microsep Septa F-174

This is a medium-performance silicone septum faced on one side with a layer of PTFE. Thickness is approximately 3 mm. They have lower bleed than the F-138 septa.

Description	Qty	Item No.
3/8" (9.5 mm) Microsep F-174	50/pk	AUC230905
7/16" (11 mm) Microsep F-174	50/pk	AUC230115
1/2" (12.7 mm) Microsep F-174	50/pk	AUC230125



Economy Blue Septa

Economy Blue Septa

Our Blue Septa are designed for non-demanding, routine applications. They are easy to penetrate, with a durometer rating of 40 - 45. The septa can be used up to 200 - 250°C and are suitable for 90% of all GC analyses. Made from silicone.

Description	Qty	Item No.
1/4" (6.4 mm) Economy Blue Septa	100/pk	AUC234625
3/8" (9.5 mm) Economy Blue Septa	100/pk	AUC234905
7/16" (11 mm) Economy Blue Septa	100/pk	AUC234115
1/2" (12.7 mm) Economy Blue Septa	100/pk	AUC234125



AUC960270

Microsep F-145 Cylindrical Septa

These can be used with glass columns or any item with a standard cylindrical septum port, such as gas sampling bulbs. Microsep F-138 with a PTFE facing is molded into red silicone, for three-layer protection. Half-depth hole design. Dimensions are approximately 6 x 8 mm.

Description	Qty	Item No.
Cylindrical Septa	50/pk	AUC960270

ACCESSORIES

Septa Sheets

For those with special size requirements or special applications. Sheets are approximately 11.5" x 11.5" x 1/8" (3 mm).

Description	Qty	Item No.
Economy Blue Septum Sheet	1 sheet	AUC234100
Ultrasep® R Septum Sheet	1 sheet	AUC236100
Puresep TTM Septum Sheet	1 sheet	AUC230696



AUC230696

Injection Port Cleaning Kit

This is designed for cleaning all GC injection ports, including those in Shimadzu instruments. Included are three stainless steel brushes, 5 mm (for Shimadzu), 1/4" and 3/8", and one scraper for removing septum residue.

Description	Item No.
Injection Port Cleaning Kit	AUC206211



AUC206211

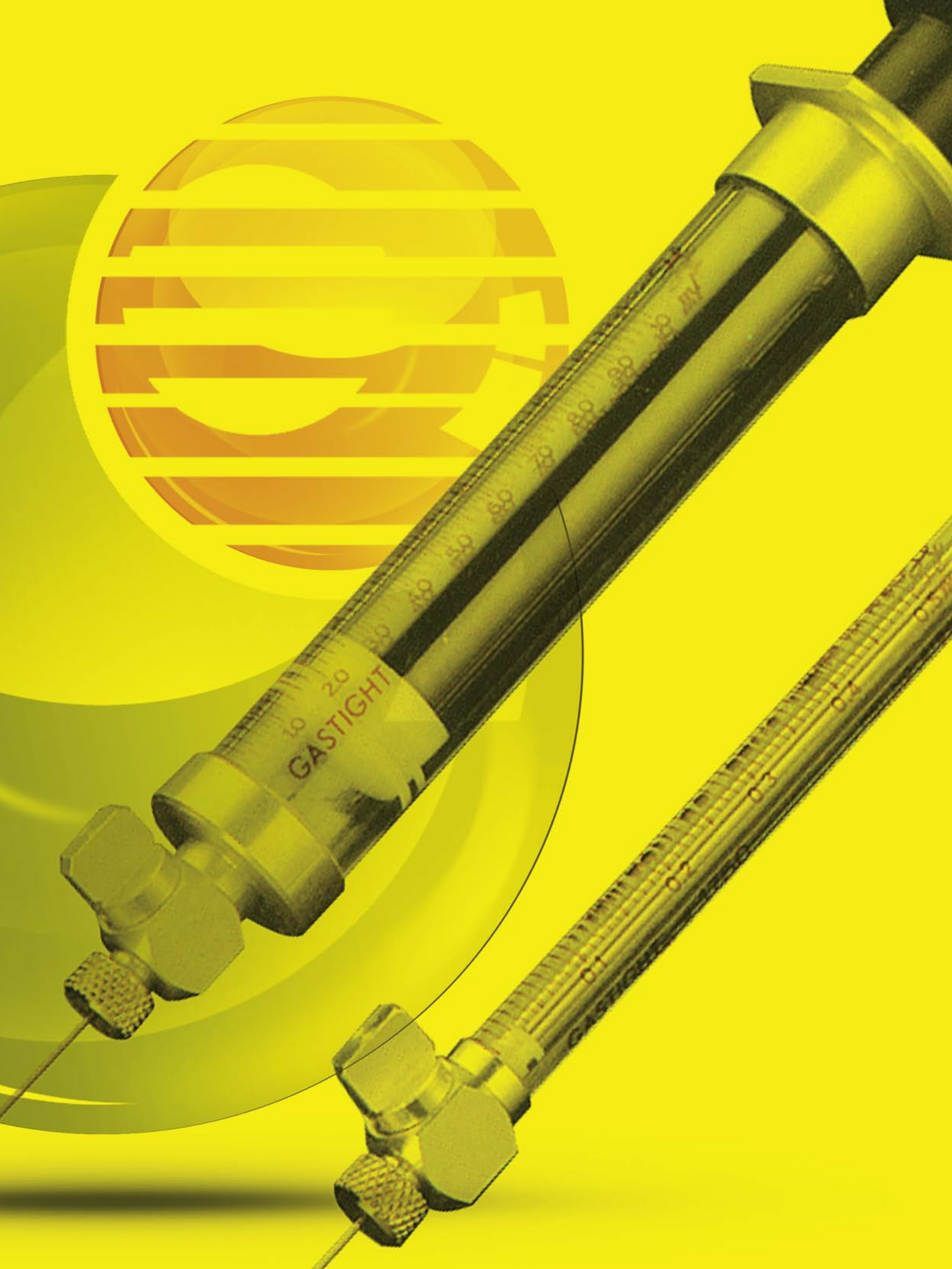
Septa Pick

The Septa Pick is useful for removing small pieces of septa lodged in the threads and corners of the septum cap or injection port. It can also be used to remove small bits of graphite ferrule from the cap and fittings of column connectors; other small cleaning jobs.

Description	Item No.
Septa Pick	AUC205465



AUC205465





4 · *Syringes*

HAMILTON SYRINGES

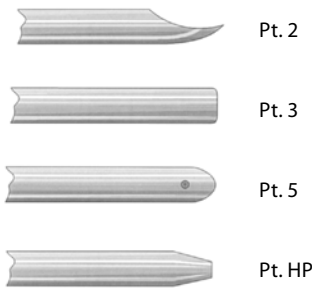


Hamilton syringes are designed as precision measuring instruments, and find wide use for sample introduction into analytical instruments, as well as volume dispensers for accurate, small-scale dilutions.

Hamilton Syringe Types

- **Microliter**[®] - For use with liquids. It has an individually-fitted stainless steel plunger.
- **Modified Microliter** - For micro-sampling liquids, the entire sample is contained in the needle. A tungsten-wire plunger travels the length of the needle to displace the sample.
- **Gastight**[®] - This features a precision PTFE plunger tip, for use with both gases and liquids.

Hamilton Point Styles



Hamilton Point Styles

- **Point Style 2** - For septa penetration and GC injections
- **Point Style 3** - For pipetting and HPLC injections
- **Point Style 5** - Used to minimize septum coring
- **Point Style HP** - Used on Agilent 7673 / 1683 Autosamplers

Syringe Terminations



Syringe Terminations

- **N, Cemented Needle** - Needles are cemented into the glass syringe barrel at a point corresponding to the zero graduation mark. Not autoclavable.
- **RN, Removable Needle** - Removable needles seat precisely to the zero graduation mark of the syringe; damaged needles are easily replaced. Autoclavable when disassembled.
- **TLL, PTFE Luer Lock** - The male luer taper accepts all luer-hub needles and connectors; locks luer hubs in place. Autoclavable when disassembled.
- **LT, Luer Tip** - Ground glass syringe barrel with a male luer taper accepts most hypodermic needles. Autoclavable when disassembled.
- **LTN, Luer Tip Cemented Needle** - Needles are cemented into the glass syringe barrel at a point corresponding to the zero graduation mark. Not autoclavable.
- **KH, Knurled Hub** - The knurled hub, with replaceable needle, is used on 7000 series syringes only. Autoclavable when disassembled. The knurled hub enables high injection pressures and attachment of spacers, for repeatable-depth injections.

HAMILTON DIGITAL SYRINGES

- The only N.I.S.T. traceable, calibrated syringe device available
- Easy-to-read LCD displays volume dispensed within +/- 0.5% of the syringe volume
- Used with Hamilton syringes with total volumes of 0.5 to 500 µl
- Comes with certificates of analysis

KONIK offers the Hamilton Digital Syringe, for unsurpassed accuracy and precision. With the Digital Syringe, problems of plunger tip positioning and consistency are eliminated.

Note: The "handle" can be used with any existing syringe of the types listed. However, it is only N.I.S.T. traceable with the serialized syringe that comes with it when ordered.



Digital Syringe

Microliter® Digital Syringes

Model	Volume	Gauge	Length	Pt. 2	Pt. 3
N- Cemented Needle					
75	5 µl	26s	2" / 51 mm	ACHDS87900	
701	10 µl	26s	2" / 51 mm	ACHDS80300	
701	10 µl	22s	2" / 51 mm		ACHDS80365
710	100 µl	22s	2" / 51 mm	ACHDS80600	
750	500 µl	22	2" / 51 mm	ACHDS80800	
RN- Removable Needle					
701	10 ul	26s	2" / 51 mm	ACHDS80330	

Gastight® Digital Syringes

Model	Volume	Gauge	Length	Pt. 2	Pt. 3
N- Cemented Needle					
701	10 µl	26s	2" / 51 mm	ACHDS80000	
702	25 µl	22s	2" / 51 mm		ACHDS80275
710	100 µl	22s	2" / 51 mm	ACHDS81000	ACHDS81075
725	250 µl	22s	2" / 51 mm	ACHDS81100	
RN- Removable Needle					
705	50 µl	22s	2" / 51 mm	ACHDS80930	
750	500 µl	22	2" / 51 mm	ACHDS81230	

*Cemented luer-tip needle (LTN).

HAMILTON MICROLITER® SYRINGES

Microliter - This is the standard syringe for use with liquids. It has a stainless steel plunger individually fitted to the barrel.



Digital Syringe

Explanation of Codes



700 Series - The standard Microliter syringeSM

Codes	Model:	5 µl 75	10 µl 701	25 µl 702	50 µl 705	100 µl 710	250 µl 725	500 µl 750
N		ACH87900	ACH80300	ACH80400	ACH80500	ACH80600	ACH80700	ACH80800
RN		ACH87930	ACH80330	ACH80430	ACH80530	ACH80630	ACH80730	ACH80830
LT			ACH80301	ACH80401	ACH80501	ACH80601	ACH80701	ACH80801
PT5			ACH80339	ACH80439	ACH80539	ACH80639	ACH80739	ACH80839
N- 6 pack			ACH80366					
RN- 6 pack			ACH80336					
Gauge/Length/Point		26s/2/2	26s/2/2	22s/2/2	22s/2/2	22s/2/2s	22s/2/2	22/2/2

600 Series - The compact Microliter syringe

Codes	Model:	2.5 µl 62	5 µl 65
RN		ACH87942	ACH87943
Gauge/Length/Point		22s/2/3	22s/2/3

800 Series - The Microliter syringe with a handle and replaceable parts

Codes	Model:	5 µl 75	10 µl 701	25 µl 702	50 µl 705	100 µl 710	250 µl 725
N		ACH84850	ACH84852	ACH84854	ACH84856	ACH84858	
RN		ACH84851	ACH84853	ACH84855	ACH84857	ACH84859	ACH84861
Gauge/Length/Point		26s/2/2	26s/2/2	22s/2/2	22s/2/2	22s/2/2s	22s/2/2

Note: "s" with a gauge designates narrow-bore.

Pt. 5



900 Series - The economical Microliter syringe with a handle

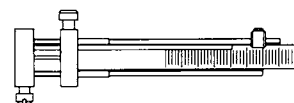
Codes	Model:	5 µl 95	10 µl 901
N		ACH87920	ACH80360
RN		ACH87925	ACH80370
Gauge/Length/Point	26s/2/2	26s/2/2	



Hamilton Microliter Syringes, from left to right; 700, 800, 900 and 7000 series.

7000 Series - The Modified Microliter syringe with the sample in the needle

Codes	Model:	0.5 µl 7000.5	1 µl 7001	1 µl 7101	2 µl 7002	2 µl 7102	5 µl 7105
KH		ACH86259	ACH80135	ACH86211	ACH88411	ACH88511	ACH88011
Gauge/Length/Point		25s/2.75/2	25s/2.75/2	22s/2.75/2	25s/2.75/2	23s/2.75/2s	24/2.75/2



For 700, 1700 and 7000 series

Note: "s" with the gauge designates narrow-bore.

Chaney (Reproducibility) Adapters

- For consistent, reproducible injections
- Prevents syringe plunger bending
- Adjustable stop prevents plunger damage
- Easily installed

Description

Chaney Adapters

For 700, 1700; 10 µl

For 700 above 10 µl; 7000

For 1700; 25 - 500 µl

For 800, 1800

For 900

Item No.

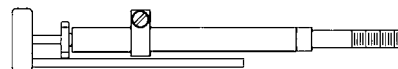
ACH14700

ACH14725

ACH14725

ACH32146

ACH32148



For 800, 900 and 1800 series

Guide Assembly

- Prevents syringe plunger bending
- Adjustable stop prevents plunger damage
- Easily installed

Description

Guide Assembly

For 700, 5 µl and 10 µl; 1700

For 700, 1700; above 10 µl

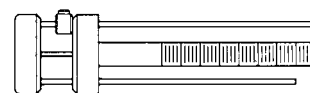
For 7000 Series

Item No.

ACH14806

ACH14906

ACH14906



ACH14806

HAMILTON GASTIGHT® SYRINGES



N

Gastight

This type of syringe features a precision-machined PTFE plunger tip, for use with both gas and liquid samples.



RN

1700 Series - The standard Gastight syringeSM



LT



KH

		10 µl	25 µl	50 µl	100 µl	250 µl	500 µl
Codes	Model:	1701	1702	1705	1710	1725	1750
N		ACH80000	ACH80200	ACH80900	ACH81000	ACH81100	ACH81217
RN		ACH80030	ACH80230	ACH80930	ACH81030	ACH81130	ACH81230
LT		ACH80001	ACH80201	ACH80901	ACH81001	ACH81101	ACH81201
TLL				ACH80920	ACH81020	ACH81120	ACH81220
Gauge/Length/Point		26s/2/2	22s/2/2	22s/2/2	22s/2/2	22s/2/2s	22/2/2



LTN

1800 Series - The Gastight syringe with a handle and replaceable partsSM



TLL

		10 µl	25 µl	50 µl	100 µl	250 µl
Codes	Model:	1801	1802	1805	1810	1825
N		ACH84875	ACH84878	ACH84881	ACH84884	ACH84887
RN		ACH84877	ACH84880	ACH84883	ACH84886	ACH84889
Gauge/Length/Point		26s/2/2	22s/2/2	22s/2/2	22s/2/2s	22s/2/2

Note: "s" with a gauge designates narrow-bore.



Pt. 5

1000 Series - The high performance Gastight syringe

	1 mL	1.25 mL	2.5 mL	5 mL	10 mL	
Codes	Model:	1001	1001.25	1002	1005	1010
RN		ACH81330		ACH81430	ACH81530	ACH81630
LT		ACH81301	ACH82001	ACH81401	ACH81501	ACH81601
LTN		ACH81317	ACH82017	ACH81417	ACH81517	ACH81617
TLL		ACH81320		ACH81420	ACH81520	ACH81620
LTNPT5		ACH81343		ACH81443	ACH81543	ACH81643
Gauge/Length/Point		22/2/2	22/2/2	22/2/2	22/2/2	22/2/2



Gastight syringe

1000 Series, 25 - 100 mL - The high performance Gastight syringe

	25 mL	50 mL	100 mL	
Codes	Model:	1025	1050	1100
TLL		ACH82520	ACH85020	ACH86020

Super Syringes

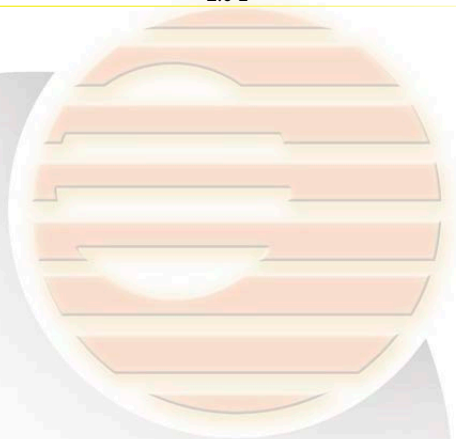
- For air sampling, preparing gas standards, calibrating reservoirs
- PTFE luer lock termination for many applications
- Acrylic plastic barrel

Hamilton Company's Super Syringes will handle your big jobs. These are suitable for many measuring and sampling applications in the lab and field. The PTFE luer lock fitting takes standard luer-hub needles (needles not included). Please note the acrylic barrel is not suitable for use with solvents.

Description	Volume	Item No.
SO500	0.5 L	ACH86311
S1000	1.0 L	ACH86312
S1500	1.5 L	ACH86313
S2000	2.0 L	ACH86314



Super Syringe



HAMILTON SAMPLELOCK SYRINGES

- Lock your sample in the SampleLock syringe with the easy-to-use twist valve
- Inject internal standards through the valve port into samples contained in the SampleLock syringe
- Pressurize gaseous samples prior to GC injection
- Prevent loss of sample and plunger blowout at elevated pressures with the positive rear plunger stop

SampleLock syringes allow you to collect, store, transport, and analyze liquid or gaseous samples without the danger of evaporative loss or environmental contamination. Common applications for SampleLock syringes include environmental sample collection and storage, pre-pressurization of gaseous samples for GC analyses, and sample spiking.

The SampleLock syringe combines the quality of the world-renowned Hamilton Gastight® syringe with an easy-to-use twist valve. The syringe is available in sizes ranging from 50 µl to 100 mL. A positive rear stop on the SampleLock syringe (250 µl to 100 mL) prevents plunger blowout and loss of sample. In addition, for improved precision and accuracy, the SampleLock syringes may be used in conjunction with Hamilton Company's new Digital Syringe.

SampleLock syringes come with 2", point style 2 RN needles, 22 gauge (except 22s gauge for 50 - 250 µl).

Valve Operation - The SampleLock valve is easy to use; a simple twist is all it takes to open or close the valve. Open the valve by turning it so that the cap is in line with the fluid path. Close the valve by turning it so that the cap is perpendicular to the fluid path.

Purge & Trap Syringe - A purge and trap (P & T) version of the SampleLock syringe is available in 5 mL capacity. It comes with a male luer fitting, and is designed for analysis of drinking water following methods such as EPA 502, 503 and 524.

SampleLock Syringes



SampleLock Syringes

Model	Volume	Item No.
1705SL	50 µl	ACH80956
1710SL	100 µl	ACH81056
1725SL	250 µl	ACH81156
1750SL	500 µl	ACH81256
1001SL	1.0 mL	ACH81356
1002SL	2.5 mL	ACH81456
1005SL	5 mL	ACH81556
1005SLPT	5 mL P&T	ACH81570
1010SL	10 mL	ACH81656
1025SL	25 mL	ACH86326
1050SL	50 mL	ACH86336
1100SL	100 mL	ACH86346

HAMILTON SPECIALTY SYRINGES

GC Syringe Pack

This convenient package contains three of the most often needed syringes for GC:

701N (10 µl - standard liquid measuring device); 1702N (25 µl - for gas or liquid injections); 7001KH (1 µl - eliminates dead volume).

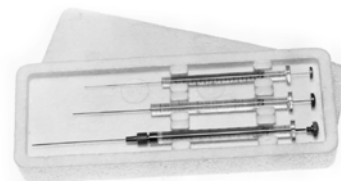
Description	Item No.
GC Syringe Pack	ACH80380

0.5 µl Syringe with Stainless Steel Needle

For Capillary On-Column Injection

Inject small samples directly onto columns (0.25 mm ID and greater) with this fine-diameter needle syringe. Capacity is 0.5 µl. The stainless steel needle has a 0.23 mm OD.

Description	Item No.
7000.5 OC Syringe	ACH86257
Spare Needle/Plunger Assembly	ACH86258



ACH80380

Fused Silica Needle Syringe

For Capillary On-Column Injection

Hamilton combines their popular Microliter® syringes with a needle made from fused silica (coated with high-temperature polyimide for strength), for direct injection onto your fused silica capillary column. The deactivated fused silica needles and precision syringe hubs and ferrules ensure accurate, reproducible and essentially inert sample handling. The needles are available in various lengths and they can be used with 10 µl Microliter syringes as well as the 10 µl Gastight® syringe. Accuracy and reproducibility are within 1% of the syringe volume.

Description	Item No.
Fused-Silica Needle Syringes	
701 RNFS Syringe, 10 µl capillary	ACH87402
1701 RNFS Syringe, 10 µl capillary	ACH87404

Replacement Parts

FS Needle, 10 cm x 0.17 mm OD	ACH17737
PTFE Ferrule, 0.17 mm bore diameter	ACH30947
Spacer	ACH30946



ACH87402

Rheodyne, Altrex, Valco VISF-2 Injectors Syringes

- 2" length
- 0.028" OD
- Point style 3, no taper

Model / Capacity	Gauge	Item No.
600 Series Removable Needle Syringes		
2.5 µl	22s	ACH87942
5 µl	22s	ACH87943
700 Series Cemented Needle Syringes		
10 µl	22s	ACH80365
25 µl	22s	ACH80465
50 µl	22s	ACH80565
100 µl	22s	ACH80665
250 µl	22	ACH80765
500 µl	22	ACH80865
1700 Series Removable Needle Syringes		
10 µl	22s	ACH80065
25 µl	22s	ACH80265
50 µl	22s	ACH80965
100 µl	22s	ACH81065
250 µl	22	ACH81165
500 µl	22	ACH81265



ACH80665

Removable Needle RN Style

Capacity	Gauge	Qty	Item No.
For Rheodyne, Alex, Valco VISF-2 Injectors			
5 - 100 µl	22s	6/pk	ACH7770-01
250 - 10 mL	22	6/pk	ACH7780-04

HAMILTON NEEDLES

Point Style 2 - For septa penetration and GC injections; 220 bevel
 Point Style 3 - For pipetting and HPLC injections; blunt tip
 Point Style 5 - Used to minimize septum coring; conical point with side port



Pt. 2



Pt. 3



Pt. 5

Removable Needles for RN Style Syringes, 6/pk

Description	Point Style 2	Point Style 3	Point Style 5
For 5 - 100 ul Syringes			
22 gauge	ACH7758-01	ACH7770-02	ACH7784-06
22s gauge	ACH7758-03	ACH7770-01	ACH7784-05
26 gauge	ACH7758-04	ACH7768-02	ACH7784-08
26s gauge	ACH7758-02	ACH7768-01	ACH7784-07
For 250 ul - 10 mL Syringes			
22 gauge	ACH7779-01	ACH7780-04	ACH7784-02
22s gauge	ACH7779-03	ACH7780-03	ACH7784-01
26 gauge	ACH7779-04		ACH7784-04
26s gauge	ACH7779-02		ACH7784-03



RN Style Needles

Luer Lock Needles for Hamilton LT and TLL, 6/pk

These are replacement needles for LT and TLL syringes. They are available with a metal (nickel-plated brass) or fluorocarbon (Kel-F) hub. Needles are made from type 304 stainless steel. Needles are 2" long and have point style 2, 3 or 5.



Metal Hub



Kel-F® Hub

Gauge	OD x ID mm	Metal Point 2	Metal Point 3	Metal Point 5	Kel-F Point 2	Kel-F Point 3
28	.36 x .17	ACH90028	ACH91028	--	ACH90128	ACH90528
26s	.47 x .11	ACH90039	ACH91039		ACH90139	ACH90539
26	.46 x .24	ACH90026	ACH91026		ACH90126	ACH90533
24	.56 x .29	ACH90024	ACH91024	ACH7729-05	ACH90124	ACH90524
22s	.71 x .14	ACH90038	ACH91038	ACH7729-02	ACH90138	ACH90534
22	.71 x .39	ACH90022	ACH91022		ACH90122	ACH90134
20	.90 x .62	ACH90020	ACH91020		ACH90120	ACH90520
18	1.26 x .80	ACH90018	ACH91018		ACH90118	ACH90535

Chromatographic Luer Hub Needles, 6/pk

- Made from 304 stainless steel tubing, 2" long
- Electrotapered

Gauge	Metal Hub	CTFE Hub
22s	ACH90051	ACH90151
25s	ACH90052	ACH90152
26s	ACH90053	ACH90153

ACCESSORIES

Needle Cleaning Kit

This kit is specifically designed for cleaning syringes and needles. It includes one bottle of organic, biodegradable cleaning solution, and 10 each of five different diameter tungsten wires, ranging in diameter from 0.0035" to 0.0121". Suggested cleaning procedures are included. This kit is especially recommended for use with Hamilton needles and syringes.

Description

Needle Cleaning Kit

Item No.

ACH76620



ACH76620

Fine Wire Kit

The KONIK Fine Wire Kit lets you clean many small items around the lab; also useful for bending into microhooks, other uses. The kit contains a pin vise and 30 stainless steel wires, 10 of each of the following sizes: 0.006", 0.010" and 0.020". Please note: the wires in this kit cannot be used to clean 26s or 22s gauge needles.

Description

Fine Wire Kit

Item No.

ACH205230



ACH205230

Hamilton Syringe Cleaner

The Hamilton Syringe Cleaner effectively cleans 7000 Series syringes by vaporizing residues with a combination of high heat (approximately 370OC) and vacuum (0.1 mm Hg). The syringe needle is inserted through the septum for 30 seconds while the plunger is reciprocated several times. This cleaner is not effective against syringes with plugged needles or frozen plungers. Care should be used when handling because of the extreme temperature generated. The cleaner is available in 120 or 220 volt versions.

Description

Syringe Cleaner, 120 V

Syringe Cleaner, 220 V

Item No.

ACH76610

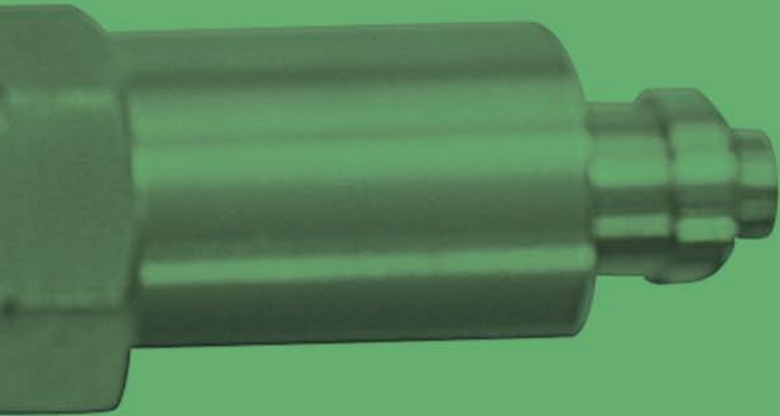
ACH76615



ACH76610



5 · *Gas Handling & Purification*



KONIK DIGITAL FLOWMETER FOR GAS CHROMATOGRAPHY

Accurate and repeatable gas flow measurement is fundamental to obtaining good results from your Gas Chromatography. The traditional Bubble Flowmeter, relying as it does on the reaction time of the operator, is a potential source of error.

KONIK Flowmeter (REF: KNK-319-990) eliminates this source of error and makes gas flow measurement easier and more accurate. In addition, traceability to the internationally recognised UK National Physical Laboratory (NPL) standards also helps with the performance of Standard Operating Procedures (SOP's) and GLP compliance.



KONIK MODEL 6000 SOLID STATE FLOWMETER

6000 SOLID STATE FLOWMETER

The KONIK Digital Solid State Flowmeter provides, as standard, measurement of eight different gases, detailed in the specification. In addition it provides the following:

Split Flowrate

The column flow is measured followed by the flow through the split line. Simultaneous displays of column flow, split line flow and split ratio are displayed.

Linear Velocity

The user selects a column diameter from the list provided and then the linear velocity is calculated and displayed. The result is simultaneously displayed with the flowrate so that the operator can view them both and independently set either parameter.

Calibration

This provides, as standard, for eight common gases used in gas chromatography. A calibration certificate is supplied with each flowmeter and re-calibration is recommended annually.

TECHNICAL SPECIFICATIONS OF THE KONIK DIGITAL FLOWMETER

P/N: KNK-319-990

Range: 0.1 to 500 ml/min

Resolution: 0.1 ml/min

Accuracy: Typically better than $\pm 2.5\%$ of reading

Gases: As Standard: Air, Argon, Argon/5% Methane, Carbon Dioxide, Helium, Hydrogen, Nitrogen, Oxygen

Display Modes: Flowrate (ml/min)
Linear Velocity (cm/sec)
Split Flow (ml/min)
Split Ratio

Power Supply: One MN1604 Battery (included)

Dimensions: 9 cm(W)x4 cm(D)x16 cm(H)

Description

Konik Digital Flowmeter

Item No.

KNK-319-990

FLOWMETERS & CONTROLLERS

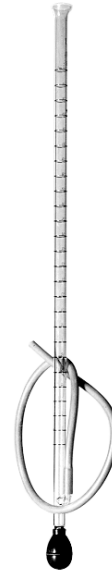
Soap Bubble Flowmeters

Simple to use; just measure the time it takes a soap film to travel between two calibration marks with a stopwatch. Soap Bubble Flowmeters are made from borosilicate glass. All are graduated in milliliters, except the 50 mL flowmeter, which has marks at 0,25 and 50 mL, and the Triple Stage Flowmeter. Flowmeters are supplied with a rubber bulb for the soap solution, rubber tubing, and an instruction sheet. Snoop® liquid leak detector can be used as the bubble solution (not included).

Description	Item No.
1 mL Soap Bubble Flowmeter	AUC261301
10 mL Soap Bubble Flowmeter	AUC261310
25 mL Soap Bubble Flowmeter	AUC261325
50 mL Soap Bubble Flowmeter	AUC261350

Replacement Parts and Accessories

Replacement Bulb, for 1 or 10 mL	AUC261335
Replacement Bulb, for 25 mL	AUC261337
Replacement Bulb, for 50 mL	AUC261338
Snoop Leak Detector	AUC205300



25 mL Soap Bubble Flowmeter

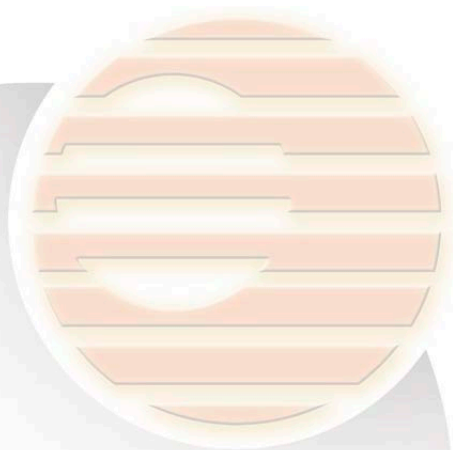
Triple Stage Flowmeter

This uses three different volume regions (1 mL - 10 mL - 100 mL) that allow measurement of gas flow rates from 0.5 to 500 mL/min. It comes complete with rubber bulb and soap solution, ring stand and clamp sold separately.

Description	Item No.
Triple Stage Flowmeter	AUC261390



Triple Stage Flowmeter





AUC205300

Snoop® Leak Detector

Snoop is specifically formulated for better and longer bubbling to indicate leaks. A 30 cm long tube permits application in hard-to-reach places. Snoop is non-toxic, non-flammable and leaves no residue. Supplied 236 mL in a plastic squeeze bottle.

Description	Item No.
Snoop Leak Detector	AUC205300

Nupro® Needle Valves

Nupro Fine Metering Valves give extremely fine flow control in the 0 to 400 cc/min flow range with up to 6.9 bar (100 psi) line pressure. The Nupro Valve has a knurled handle that is adjusted to the desired flow, with no backlash. Eight to ten full turns opens the valve to maximum flow. This valve can be panel mounted, and is available for use with 1/8" or 1/4" tubing. Needle valves are not recommended for shutting off flow, use toggle valves instead.



AUC264125

Description	Item No.
1/8" Straight Pattern, Brass	AUC261125
1/8" Angle Pattern, Stainless Steel	AUC264125
1/4" Straight Pattern, Brass	AUC261250
1/4" Angle Pattern, Brass	AUC263250
1/4" Angle Pattern, Stainless Steel	AUC264250

Rotameter

The Rotameter is an adjustable, direct-reading flowmeter. Because it is direct reading, no calibration charts are needed, and each Rotameter is calibrated for a particular gas, with +/- 5% accuracy. Repeatability is +/- 0.25%. Flow tubes are 65 mm long and have a minimum pressure rating of 13.8 bar (200 psi). They can be panel mounted, or used on a bench top with the optional stand. The Triple Rotameter is useful for FIDs and is calibrated for either He or N² as the carrier. Gas flow of 1/10th the maximum flow is necessary to raise the indicating ball. Fittings are 1/8" female NPT.



AUC261202

Description	Maximum Flow	Item No.
Single Rotameter for H ²	100 mL/min	AUC261201
Single Rotameter for He	65 mL/min	AUC261202
Single Rotameter for N ²	50 mL/min	AUC261204
Triple Rotameter for H ² , N ² , Air	100/50/500 mL/min	AUC261203
Triple Rotameter for H ² , He, Air	100/65/500 mL/min	AUC261205
Tripod Stand for Single Rotameter		AUC261207

Porter Flow Controller

This controller provides constant low gas flow regardless of the pressure down stream. This allows gas flows to be kept constant through a GC column as the temperature and back pressure increase. The flow rate is linear over a range of 14 full turns of the knob. The Porter Flow Controller is made from aluminum, with an o-ring made of Viton® and a stainless steel diaphragm. Both models include a replaceable inlet filter. Maximum inlet pressure is 17 bar (250 psi), while the minimum pressure is 1 bar (15 psi) higher than the system back pressure. Flow precision is 0.3%, and it comes with 1/8" fittings. The Flow Controller is available in ranges of 0 - 110 cc/min for packed columns, and 0 - 10 cc/min for capillary columns.

Description	Item No.
Porter Flow Controller, 110 cc/min	AUC265110
Porter Flow Controller, 10 cc/min	AUC265010



AUC265110

Inline Particulate Filter

These Parker A-Lok® filters remove small particles from carrier gas and FID streams, to protect fine metering valves or sampling valves from internal damage. 5 micron filter element. They are available in brass or stainless steel; maximum pressure is 68 bar (1000 psi).

Description	Item No.
1/8" Filter, Brass, 5 µm	AUC2A-F2L-5-B
1/8" Filter, Stainless Steel, 5 µm	AUC2A-F2L-5-SS



AUC2A-F2L-5-B

On-Off Toggle Valve

Toggle valves are the preferred method for shutting off low-pressure gas at the point of use, and are particularly useful when multiple instruments are run from a single source. The sealing surfaces are made from PTFE to assure gas purity. The handle flips up 90° and latches in the open position. Maximum pressure is 17 bar (250 psig).

Description	Item No.
1/8" Toggle Valve, Brass	AUC2A-V4LQ-B
1/8" Toggle Valve, Stainless Steel	AUC2A-V4LQ-SS
1/4" Toggle Valve, Brass	AUC4A-V4LQ-B
1/4" Toggle Valve, Stainless Steel	AUC4A-V4LQ-SS



AUC2A-V4LQ-SS

REGULATORS

Two-stage regulators



KNK-319-902

These are high-purity two-stage regulators for more accurate pressure regulation; recommended for GC applications. Maximum inlet pressure is 200 bar (3000 psig). Maximum outlet pressure is 8.5 bar (125 psig). The outlet is 1/8" compression fitting for use with 1/8" OD tubing (may be removed for 1/4" female NPT).

Description	Item No.
High Purity Regulator for Hydrogen	KNK-319-902
High Purity Regulator for N2	KNK-319-903
High Purity Regulator for He	KNK-319-904
High Purity Regulator for Air	KNK-319-905



KNK-319-920

Manifold

Description	Item No.
4 Gases Regulation Manifold	KNK-319-920

Copper Tubing

Standard grade; it should be cleaned before use in gas lines.

Description	Item No.
1/8" x 0.065"	AUC432001
1/4" x 0.190"	AUC432003



Copper Tubing

Copper Tubing, Pre-Cleaned

Recommended for carrier gas lines. Tubing is cleaned by solvent rinse, then baked under inert gas flow.

Description	Item No.
1/8" x 0.065"	AUC432002
1/4" x 0.190"	AUC432005

Polypropylene tubing

Recommended for any gas lines.

Description	Item No.
Polypropylene tube 1/8" OD, 0.080" ID	31POL010830

GAS SAMPLING

Stainless Steel Sampling Cylinder

- Store high-pressure samples safely
- Sturdy construction for on-site use
- Type 304 Stainless Steel
- 6.8 bar (100 psi) maximum pressure with sampling port
- 68 bar (1000 psi) maximum pressure without sampling port

These seamless stainless steel cylinders allow easy field sampling of high-pressure gases, for sample integrity and safe transportation back to the lab. Two options are available for the end valves

1. Needle Valves - High-flow needle valves at each end control the sample inlet and outlet. The soft Kel-FTM seal requires only light tightening for a high-pressure, leak-tight seal. Valve materials are 316 stainless steel, Kel-F and PTFE. Outlets are 1/4" female NPT. 68 bar (1000 psig) maximum pressure.

2. Needle Valve / Needle Valve with Sampling Port - Needle valves are the same as above. A Mininert® valve is in-line between the sample cylinder and one valve, to allow syringe needle penetration directly into the cylinder for sample withdrawal or gas standard preparation. 6.8 bar (100 psig) maximum pressure.

Description	Volume	Item No.
Sampling Cylinder with Valves & Port	75 cc	AUC410315
Sampling Cylinder with Valves	150 cc	AUC410320
Sampling Cylinder with Valve & Port	150 cc	AUC410325
Sampling Cylinder with Valves	500 cc	AUC410330
Sampling Cylinder with Valves & Port	500 cc	AUC410335
Sampling Cylinder with Valves	2250 cc	AUC410350



AUC410335

Gas Sampling Bulbs with Septum Ports

- Borosilicate glass for low surface activity
- Suitable for low-pressure (atmospheric) storage of gas samples prior to analysis
- Bulbs have septum ports for easy access by syringe needle through a standard cylindrical septum

Description	Volume	Item No.
Gas Sampling Bulb, PTFE Stopcock	125 mL	AUC410001
Gas Sampling Bulb, PTFE Stopcock	250 mL	AUC410002
Gas Sampling Bulb, PTFE Stopcock	500 mL	AUC410003
Gas Sampling Bulb, PTFE Stopcock	1000 mL	AUC410004



Gas Sampling Bulb with Septum Port

GAS HANDLING & PURIFICATION



Sampling Bags

Gas Sampling Bags

Available in four port configurations. Dual ports are placed on opposite sides.

- Polypropylene Fitting - has removable ferrule; use with included septum or 1/4" tube
- Halkey Roberts Valve - twist the barb to open / close
- Dual Valves - Halkey Roberts and Polypropylene Fitting, for use with septa or 1/4" tube.
- Dual valves recommended; fill the bag through the Halkey Roberts Valve; then withdraw sample through the septum

**All bags have a 10 bag minimum order.*

Tedlar® Sampling Bags, 0.05 mm Thickness

Recommended for collecting organic vapors, such as automotive or plant gas emissions. Tedlar has low permeability and can be used for most applications.



Polypropylene Fitting for Septum or Tube

Size	Volume	PP Fitting Septa/Tube	On/Off Halkey-Roberts	Two Ports Halkey-Roberts & PP Septa/Tube
6" x 6"	0.6 L	AUC410100-1	AUC410100-2	AUC410100-4
9" x 9"	1.6 L	AUC410101-1	AUC410101-2	AUC410101-4
12" x 12"	3.8 L	AUC410102-1	AUC410102-2	AUC410102-4
7" x 22"	3.8 L	AUC410103-1		
15" x 15"	8.1 L	AUC410105-1	AUC410105-2	AUC410105-4
18" x 18"	20.3 L	AUC410106-1		AUC410106-4
18" x 34"	53 L	AUC410109-1		
24" x 24"	37.7 L	AUC410108-1		
24" x 36"	73 L	AUC410110-1		AUC410110-4



On-Off Halkey-Roberts

PTFE Sampling Bags, 0.13 mm Thickness

Have an inertness of PTFE and are recommended for atmospheric ozone and acid gas collection.

Size	Volume	PP Fitting Septa/Tube	On/Off Halkey-Roberts
6" x 6"	0.6 L	AUC410200-1	AUC410200-2
9" x 9"	1.6 L	AUC410201-1	AUC410201-2
12" x 12"	3.8 L	AUC410202-1	AUC410202-2
7" x 22"	3.8 L	AUC410203-1	AUC410203-2
15" x 15"	8.1 L	AUC410205-1	AUC410205-2
18" x 18"	20.3 L	AUC410206-1	AUC410206-2
24" x 24"	37.7 L	AUC410208-1	AUC410208-2
24" x 36"	73 L	AUC410210-1	AUC410210-2

Replacement Septa

Description	Item No.
Replacement Septa for PP fitting, 12/pk	AUC410125

Gas Permeability of Sampling Bags

0.05 mm for Tedlar; 0.13 mm for PTFE

cc/ (100 sq. in) (24 hrs) (atm)

Gas	Tedlar	PTFE
CO ₂	5.6	334
Hydrogen	29	440
Nitrogen	1.3	64
Oxygen	1.6	150

grams/ (100 sq. in) (24 hrs)

Vapor	Tedlar	PTFE
Water	0.014	0.090
Hexane	0.004	0.11

Gas Sampling Bags & Tubing

Metallized-Film Gas Sampling Bags

- Impermeable aluminum film layer
- Each bag is individually leak tested

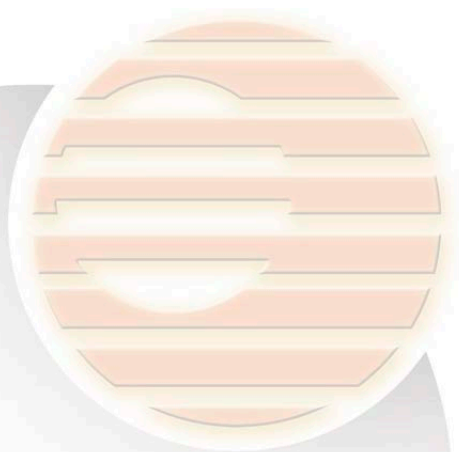
These are made from a five-layer composite material consisting of nylon/aluminum/ polyethylene with adhesive on both sides of the aluminum. The polyethylene contacts the gas sample, for purity and chemical inertness. These bags are recommended for auto emissions and other samples that need storage before analysis. Bags come with two ports: Halkey Roberts valve and polypropylene Septa/Tube fittings.

**All bags have a 10 bag minimum order.*



Metallized-Film Gas Sampling Bag

Description	Volume	Two Valves Halkey-Roberts & PP Septa/Tube
6" x 6"	0.6 L	AUC410300-4
9" x 9"	1.6 L	AUC410301-4
12" x 12"	3.8 L	AUC410302-4
7" x 22"	3.8 L	AUC410303-4
15" x 15"	8.1 L	AUC410305-4
18" x 18"	20.3 L	AUC410306-4
18" x 34"	53.0 L	AUC410309-4
24" x 24"	37.7 L	AUC410308-4
24" x 34"	73.0 L	AUC410310-4



GAS HANDLING & PURIFICATION

GAS PURIFIERS

Product	Contaminant Removed Capacity, g	Output Purity ppbv	Total Adsorbent Volume, cc	Product Size/Weight cm; kg	Shipping Size/Weight cm; kg
Cartridge Systems - 13.8 bar maximum (200 psi)					
Gas Purification Kit	Oxygen, 1.1	< 1	225	30 x 5 x 5; 1.7	47 x 21 x 11; 2.6
	Water, 12	< 20			
	Hydrocarbons ^{1, 8}	< 2			
All-In-One ²	Oxygen, 0.6	< 1	200	31 x 12 x 8; 1.3	44 x 14 x 13; 1.6
	Water, 13	< 100			
	Hydrocarbons ^{1, 4.7}	< 1			
Inline Filters - 13.8 bar maximum (200 psi)					
ZPure TM Dual ²	Oxygen, 0.8	< 5	125	29 x 3 x 3; 0.5	29 x 4 x 4; 0.6
	Water, 12	< 20			
ZPure H ² O	Water, 15	< 20	125	29 x 3 x 3; 0.5	29 x 4 x 4; 0.6
ZPure HC	Hydrocarbons ^{1, 10}	< 5	125	29 x 3 x 3; 0.5	29 x 4 x 4; 0.6
ZPure O ² ²	Oxygen, 3.2	< 5	125	29 x 3 x 3; 0.5	29 x 4 x 4; 0.6
Inline Filters - 6.9 bar (100 psi)					
Indicating Oxygen	Oxygen	< 100	8	26 x 3.2 x 3.2; 0.2	30 x 4 x 4; 0.3
Safe Glass Moisture	Moisture, 6	< 50	55	26 x 3.2 x 3.2; 0.3	30 x 4 x 4; 0.4
Model 100	Moisture, 3	nd	55	26 x 3.2 x 3.2; 0.3	30 x 4 x 4; 0.4
	Hydrocarbons ^{1, 2.6}	nd			
Gas Dry Filter Trap	Moisture/Oil/Dust, 15	nd	125	33 x 4 x 4; 0.4	37 x 5 x 5; 0.6
Big Trap	Moisture/Oil/Dust, 50	nd	400	43 x 6 x 6; 1	47 x 7 x 7; 1.2
Inline Filters - 69 bar maximum (1000 psi)					
Model 1000 ²	Oxygen, 3.5	< 10	500	37 x 5 x 5; 1.2	40 x 6 x 6; 1.4
Model 500	Water, 63	< 20	500	37 x 5 x 5; 1.2	40 x 6 x 6; 1.4
Model 300	Hydrocarbons ^{1, 45}	< 1	500	37 x 5 x 5; 1	40 x 6 x 6; 1.2
Carbon Dioxide Trap	Carbon Dioxide, 100	nd	500	37 x 5 x 5; 1.3	40 x 6 x 6; 1.2

1. Pentane and heavier hydrocarbons. Adsorption capacity and breakthrough volumes vary depending on the compound.

2. Special shipping restrictions apply.

Advanced Filter System

All New Advanced Filter System

- Two visible indicators for oxygen and water
- All metal and glass construction
- High capacity and efficiency in a single cartridge
- Expected life of 1 year or more in typical use with up to four GCs
- Safety double seal construction, especially using hydrogen gas
- Check valves protect gas lines during cartridge replacement
- Easy cartridge replacement with simple twist on / off knob

Carrier gas contaminants can lead to GC column phase degradation, which can cause interference with your chromatographic results. Common problems resulting from phase degradation are decreased sensitivity and increase in baseline noise.

Innovative Design

Two part system includes a small stainless steel manifold and a high capacity filter cartridge. The manifold can be attached to a laboratory wall or bench with brackets included in the installation kit. It connects to a 1/8" gas line with stainless steel compression fittings.



Advanced Filter System



AFS Cartridge and Bench Mounted Manifold



AFS Wall Mount



AFS Bench Mount

Table 1.

AFS capacity and efficiency levels.

	Capacity	Efficiency
Oxygen	750 cc	< 1 ppb
Water	12 g	< 10 ppb
Hydrocarbons *	*	< 1 ppb

*Hydrocarbons (C5 and higher) capacity depends on the compound.

The cartridge easily attaches and detaches from the manifold with an assembly knob. To change the cartridge simply twist the knob to disconnect the cartridge from the manifold and slide on a new cartridge; twist the knob back for a tight, secure fit. Check valves open and close automatically during cartridge replacement.

Excellent Capacity and Efficiency in One Cartridge.

The Advanced Filter System has high capacity and efficiency levels for oxygen, water and hydrocarbons (Table 1).

The recommended maximum flow rate is 2 L/min at 200 psi maximum operating pressure. The extremely sensitive moisture and oxygen indicators allow cartridge replacement at the appropriate time, and ensures maximum protection and uninterrupted quality results from your GC instrument.

Safety Double Sealing System

Each connection in the AFS is made with two fluoro-elastomer seals.

In addition, the polycarbonate shield that surrounds the glass indicator section of the filter is sealed, so the gas flow is secure even if the glass is broken (Figure 1).

The redundant sealing system and robust construction provides a new level of security in gas filtration.

Description

Gas Purification Kit, 1/8" fittings

Replacement Cartridge, Gas Purification Kit

Reconditioned Cartridge*, Gas Purification Kit

Item No.

KNK-319-910

AUC202910

AUC202920

*Requires exchange of depleted cartridge.



Figure 1. Polycarbonate shield surrounds the glass indicator.

New ZPure™ Purifiers

- Compact design fits many existing installations that use small aluminum filters
- Stainless steel body with either brass or stainless steel compression fittings
- Oxygen filters use new advanced adsorbent technology



ZPure Dual Purifier

ZPure Dual Purifier

- High capacity - reduces O₂ and water to low ppb levels
- Advanced adsorbent technology
- Compact filter design for use with GC/MS

The KONIK ZPure Dual Purifier is a compact filter designed for GC/MS carrier gas lines. It will protect the column's stationary phase from oxygen and water degradation, for improved baseline and sensitivity. It is also recommended for other point-of-use applications that require ultra-pure inert gas. Oxygen and water are removed to low ppb levels from He, Ar, N₂, H₂ or methane, at flow rates up to 2 L/min. Advanced adsorbent technology allows high removal capacities of 600 cc for oxygen and 12 g for water.

Description	Brass	Stainless
ZPure Dual Purifier, 1/8" fittings	AUC202206-B	AUC202206-SS
ZPure Dual Purifier, 1/4" fittings	AUC202207-B	AUC202207-SS

ZPure O₂ Purifier

- High capacity - reduces O₂ to low ppb levels
- Advanced adsorbent technology
- Outstanding efficiency in a small high performance design
- Recommended for GC/MS carrier gases

The KONIK ZPure O₂ Purifier provides the same high 2.5 L capacity for oxygen removal as our Model 1000 oxygen trap, with improved efficiency, in a smaller, high performance design. Superior results are made possible with our new advanced adsorbent technology. It will remove oxygen at ambient conditions to low ppb levels from He, Ar, N₂, H₂ or methane at flow rates up to 2 L/min. It is recommended for GC/MS carrier gases to protect the column's stationary phase from oxygen degradation. It may also be used in any application requiring zero-grade oxygen-free gas.

Description	Brass	Stainless
ZPure O ₂ Purifier, 1/8" fittings	AUC202216-B	AUC202216-SS
ZPure O ₂ Purifier, 1/4" fittings	AUC202217-B	AUC202217-SS

ZPure HC Purifier

- High capacity - reduces hydrocarbons to low ppb levels
- Recommended for use with FID gas lines

The KONIK ZPure HC Purifier removes C5 weight and heavier hydrocarbons from inert gases, air or hydrogen to low ppb levels. It is recommended for use with FID gas lines to improve baseline noise and sensitivity. Its compact size allows easy positioning for point-of-use operation.

Description	Brass	Stainless
ZPure HC Purifier, 1/8" fittings	AUC202232-B	AUC202232-SS
ZPure HC Purifier, 1/4" fittings	AUC202233-B	AUC202233-SS



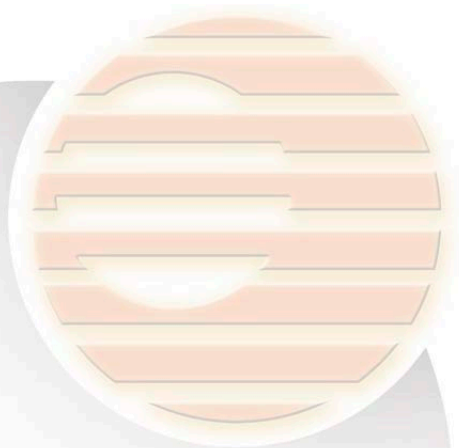
ZPure H²O Purifier

ZPure H²O Purifier

- High capacity - reduces moisture to low ppb levels

The KONIK ZPure H²O Purifier removes water from inert gases, air or hydrogen to less than 20 ppb at flow rates up to 2 L/min. It has a long lifetime, with capacity for water of 15 g.

Description	Brass	Stainless
ZPure H ² O Purifier, 1/8" fittings	AUC202230-B	AUC202230-SS
ZPure H ² O Purifier, 1/4" fittings	AUC202231-B	AUC202231-SS



All-In-One Gas Purification System

- One cartridge removes oxygen, water and non-methane hydrocarbons
- Maximum purification in a minimum space
- Wall-mount and bench-mount hardware included
- Regenerable; saves time and money



Bench Mount

Wall Mount

The All-In-One Gas Purification System removes trace level contaminants in a single-cartridge system. The system removes oxygen and water to better than research grade levels (< 0.2 ppm). The single cartridge format offers low operating costs and is easily replaced. The purifier consists of a manifold head and multi-sorbent cartridge for efficient removal of water, oxygen, sulfur compounds and hydrocarbons. It is shipped fully activated and filled with high-purity helium. It is available with either 1/8" or 1/4" fittings. Regeneration service is available.

Dimensions are 12 cm x 31 cm x 8 cm.

Weight is 1.3 kg. Replacement cartridge only weighs 0.6 kg.

Construction

The all-welded stainless steel cartridge contains a multiple-layer adsorbent bed to sequentially remove contaminants to trace levels. The system comes ready to wall mount, but may be bench mounted by removing the bracket and attaching to a bench mount base which is included.

Capacity

The All-In-One Gas Purification System has a capacity for oxygen of at least 0.58 g, enough to purify eight 292 cubic feet tanks of 99.997% pure helium, or a larger number of tanks when higher-purity helium is used. Water capacity is about 13 grams to an output level of 100 ppb, while capacity for hydrocarbons is n-butane is 4.7 grams.

Efficiency

The All-In-One Gas Purification System has been shown to remove residual oxygen and water from research grade helium (99.9999% minimum purity). Oxygen is removed to an output concentration of 1 ppb, when measured under test conditions. Water and hydrocarbons (as n-butane) are removed with an efficiency greater than 99.8%.

Warning: Becomes hot when exposed to air, use only with inert, non-oxidizing gases!

Description	Item No.
All-In-One Gas Purification System, 1/8" fittings	AUC202890
All-In-One Gas Purification System, 1/4" fittings	AUC202892
Replacement Cartridge, All-In-One Purifier	AUC202839
Regeneration Service, All-In-One Cartridge	AUC202879

Oxygen Traps

Indicating Oxygen Trap

- High efficiency - reduces O² to less than 0.1 ppm
- Changes color from bright green to gray when adsorption capacity is depleted
- Non-contaminating glass tube

Although intended to serve primarily as an indicator, this compact unit has a capacity of 0.05g of oxygen at STP. The non-contaminating, heavy-walled inner glass tube of catalyst is protected from accidental breakage by the outer plastic tube. Maximum pressure is 6.9 bar (100 psi). Approximate dimensions: 3.2 x 26 cm; weight 0.2 kg. Factory regeneration service is available.

Description	Item No.
Indicating Oxygen Trap, 1/8" fittings	AUC202236-B
Indicating Oxygen Trap, 1/4" fittings	AUC202223
Regeneration Service, 1/8"	AUC202224
Regeneration Service, 1/4"	AUC202225



Indicating Oxygen Trap

Model 1000 Oxygen Trap

- High-capacity - can remove 3.5 g of O₂
- Exceptional efficiency - less than 10 ppbv oxygen concentration at the outlet

High capacity oxygen trap, for long term protection of capillary column stationary phases against oxidation at GC operating temperatures. It is also effective for removing sulfur compounds, such as hydrogen sulfide and mercaptans. The Model 1000 is intended for use with non-oxidizing gases such as He, Ar, N₂, H₂ or CH₄, containing less than 1% oxygen. The Model 1000 oxygen trap is a high-pressure metal cylinder filled with 500 cc of active oxygen adsorbent. The adsorbent binds covalently with oxygen; no gas is generated from this reaction. Maximum flow rate for nominal pressure drop is 1 liter/min; maximum pressure is 69 bar (1000 psig).

Approximate dimension: 5 x 37 cm with fittings. Weight is 1.2 kg. Regenerable with hydrogen treatment; instructions included. However, we recommend returning to KONIK for regeneration. Note that sulfur compounds permanently poison the adsorbent.

Description	Item No.
Model 1000 Oxygen Trap, 1/8" fittings	AUC202200
Model 1000 Oxygen Trap, 1/4" fittings	AUC202202
Regeneration Service, 1/8"	AUC202204
Regeneration Service, 1/4"	AUC202205



Model 1000 Oxygen Trap

All KONIK gas purifiers are shipped filled with high-purity helium

**Warning: Becomes hot when exposed to air, use only with inert, non-oxidizing gases!*

GAS HANDLING & PURIFICATION

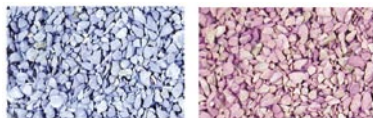


AUC202240 AUC202280

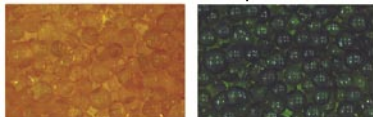


Insert keeps the packing from spilling during cartridge removal, in the Gas-Dry Filter Trap and Big Trap.

Indicator Color Changes



Drierite Active / Depleted



CoFree Active / Depleted



AUC202260, AUC202290



A base plate version is available for both the Big Trap and Gas-Dry Filter Trap with Indicating Drierite.

Moisture / Oil / Dust Traps

- Molecular sieve 5A provides high-efficiency drying
- Moisture indicators warn of leaks in the gas stream
- Cobalt- and phenolphthalein-free indicator is available

Gas-Dry Filter Trap

This contains 120 cc total volume of molecular sieve 5A and moisture indicator in a clear acrylic tube. Available with traditional Indicating Drierite®, or CoFree™ cobalt-free indicator. The trap's o-ring design allows hand-removal of the cartridge without disconnecting the fittings from the line. 6.9 bar maximum pressure (100 psi). Approximate dimensions: 4 x 33 cm. Weight 0.4 kg. For high-efficiency moisture removal we recommend the Model 500. For carrier gas purification we recommend the Advanced Filter System.

Description

Description	Item No.
Gas-Dry Filter Trap, Indicating Drierite, 1/8" fittings	AUC202240
Gas-Dry Filter Trap, Indicating Drierite, 1/4" fittings	AUC202242
Gas-Dry Filter Trap on Base Plate, 1/8" fittings	AUC202248
Gas-Dry Filter Trap on Base Plate, 1/4" fittings	AUC202249
Gas-Dry Filter Trap, CoFree Indicator, 1/8" fittings	AUC202280
Gas-Dry Filter Trap, CoFree Indicator, 1/4" fittings	AUC202282
Regeneration Service	AUC202254

Big Trap

This removes moisture, oil and dust from supply gas before it flows into your FID detector. The Big Trap has a 400 cc total volume of molecular sieve 5A and indicator in a clear acrylic tube. Available with Indicating Drierite or CoFree cobalt-free indicator. Both indicators change color at low relative humidity. Our unique O-ring design allows hand-removal of the cartridge without disconnecting the fittings from the line, while a plastic insert at each end keeps the packing from spilling. Maximum pressure is 6.9 bar (100 psi). Dimensions are 6 x 43 cm including fittings; weight is 1.0 kg. For high-efficiency moisture removal we recommend the Model 500. For carrier gas purification we recommend the Advanced Filter System.

Base Plate: The Big Trap with Indicating Drierite is available on a base plate to bench mount.

Description

Description	Item No.
Big Trap, Indicating Drierite, 1/8" fittings	AUC202260
Big Trap, Indicating Drierite, 1/4" fittings	AUC202262
Big Trap on Base Plate, 1/8" fittings	AUC202258
Big Trap on Base Plate, 1/4" fittings	AUC202259
Big Trap, CoFree Indicator, 1/8" fittings	AUC202290
Big Trap, CoFree Indicator, 1/4" fittings	AUC202292
Regeneration Service	AUC202254

Moisture Traps

Safe Glass Moisture Trap

Gas contacts only glass, metal and the adsorbents for purity. The indicator changes color at low levels of moisture. The Safe Glass Trap is enclosed in a plastic outer sheath for safety.

Because of the internal seal design, refilling is not recommended. The trap can be regenerated at KONIK. 55 cc total adsorbents. Maximum pressure is 6.9 bar (100 psi). Dimensions are 3.2 x 26 cm; weight 0.3 kg.

Description	Item No.
Safe Glass Moisture Trap, 1/8" fittings	AUC202266
Safe Glass Moisture Trap, 1/4" fittings	AUC202268
Regeneration Service	AUC202254



Safe Glass Moisture Trap

Model 500 Moisture Trap

- Moisture trap contains molecular sieve 5A for high-efficiency drying
- Recommended for detector support gases and carrier gases

500 cc of molecular sieve in this metal trap reduces moisture to less than 20 ppbv, at instrument flow rates of 1 liter/min or less. Internal frits at each end prevent particle contamination of your instruments. The Model 500 will remove water from over 20 standard cylinders of compressed air. The trap can be regenerated, instructions included. Maximum pressure is 69 bar (1000 psig). Regeneration service is available. Approximate dimensions are 5 x 37 cm with fittings. Weight is 1.2 kg. Mounting clamps are sold separately for attachment to a wall or bench; mounting screws are not included.

Description	Item No.
Model 500, Molecular Sieve Drying Trap, 1/8" fittings	AUC202270
Model 500, Molecular Sieve Drying Trap, 1/4" fittings	AUC202272
Regeneration Service	AUC202254



Model 500 Moisture Trap

Hydrocarbon Traps

Model 300 High Pressure Hydrocarbon Trap

This is a high-pressure metal cylinder filled with 500 cc of activated charcoal. It will remove all hydrocarbons at room temperature except methane, from your FID air and H2 lines, to minimize noise and extraneous peaks in the signal. It is also recommended for use with purge and trap apparatuses, and with GC carrier gases for trace analyses. Frits in each end prevent particulates from entering the gas stream. Maximum pressure is 69 bar (1000 psig). Approximate dimensions are 5 x 37 cm with fittings. Weight is 1.0 kg. Regeneration service is available.

Description	Item No.
Model 300 Hydrocarbon Trap, 1/8" fittings	AUC202330
Model 300 Hydrocarbon Trap, 1/4" fittings	AUC202332
Regeneration Service	AUC202254



Model 300 Hydrocarbon Trap

Model 100 Safe Glass Hydrocarbon Trap

The Model 100 is designed to provide organics-free gas, with an indicator for moisture contamination. The gas contacts only metal or glass for high purity. The Model 100 contains activated charcoal and a moisture indicator; the inner glass tube is protected by an outer tube of clear plastic. Internal stainless steel screens at each end of the trap protect against fines entering the gas stream. Maximum pressure is 6.9 bar (100 psig). Approximate dimensions are 3.2 x 26 cm. Weight is 0.3 kg.

Description	Item No.
Model 100 Hydrocarbon Trap, 1/8" fittings	AUC202340
Model 100 Hydrocarbon Trap, 1/4" fittings	AUC202342
Regeneration Service	AUC202254



Model 100 Hydrocarbon Trap

Split Vent Trap

Split Vent Trap

- Remove organics before they reach the lab atmosphere
- Filled with activated charcoal, a highly-efficient adsorbent
- Attaches to your GC's split vent



AUC202346, AUC202348

Contains 1200 mg of activated charcoal. We recommend weekly or bi-weekly replacement of the charcoal tubes, depending on GC use. The split vent trap consists of glass adsorbent tubes, 1/8" end fittings and a clear plastic protective sleeve. Each trap comes with 3 replacement charcoal tubes. Length 16 cm.

Description	Item No.
Injector Split Vent Trap	AUC202346
Replacement Split Vent Tubes, 3/pk	AUC202348
1/8" PTFE Ferrules, 10/pk	AUC214200
1/8" to 1/16" PTFE Reducing Ferrules, 10/pk	AUC214210

CO2 Trap

Carbon Dioxide Trap



Carbon Dioxide Trap

Remove carbon dioxide from your gas stream with our Carbon Dioxide Trap. High-capacity; it will irreversibly bind 100 g of carbon dioxide (cannot be regenerated). Its unique design uses NaOH blended with molecular sieve to scrub out CO₂. The reaction produces water which is adsorbed by the molecular sieve. When downstream water is a concern we recommend using a second moisture trap in line as a safety measure. Not recommended for GC use. Maximum pressure for the Carbon Dioxide Trap is 69 bar (1000 psig); approximate dimensions 5 x 37cm. Weight is 1.3 kg.

Description	Item No.
Carbon Dioxide Trap, 1/8" fittings	AUC202350
Carbon Dioxide Trap, 1/4" fittings	AUC202352

TUBING & ACCESSORIES

PTFE Tubing



PTFE Tubing

Pure PTFE tubing has many low-pressure fluid transfer uses. It is ideal for HPLC solvent lines.

Description	50' Coil
1/16" x 1/32"	AUC430026
1/8" x 1/16"	AUC430036
1/4" x 3/16"	AUC430046

PTFE Inner-Coated Tubing

Both aluminum and stainless steel tubing are available with a chemically deposited interior coating of PTFE. The coating is free from pinholes and is approximately 0.001" thick. This tubing requires preconditioning at 250°C under inert gas flow for three hours before use.

Description	Length	Item No.
PTFE Lined Aluminum		
1/8" x 0.075"	50' Coil	AUC433002
1/4" x 0.188"	50' Coil	AUC433004
PTFE Lined 304 Stainless Steel		
1/8" x 0.083"	50' Coil	AUC434002
1/4" x 0.208"	50' Coil	AUC434004

Stainless Steel Tubing

KONIK provides premium GC/HPLC-grade welded tubing for making custom columns, HPLC connections and other uses. Tubing is suitable for chromatographic use, and has a smooth interior with uniform surface finish.

- **Type 304** - High quality for general purpose use. Recommended for the manufacture of packed GC columns
- **Type 316** - Superior corrosion resistance for special applications



Stainless Steel Tubing

Type 304

OD x ID	50' Coil
1/8" x 0.085"	AUC430015
1/4" x 0.210"	AUC430018

Type 316

1/16" tubing is seamless; 1/8" and 1/4" tubing is welded.

OD x ID	50' Coil	200' Coil
1/16" x 0.010"	AUC430002	AUC430003
1/16" x 0.020"	AUC430005	AUC430006
1/16" x 0.030"	AUC430010	AUC430011
1/16" x 0.040"	AUC430013	

Copper Tubing

Pre-Cleaned - Recommended for carrier gas lines. The tubing is cleaned by solvent rinse, then baked under inert gas flow.

Standard Grade - Standard grade copper tubing is a good low-cost choice for many purposes. It should be cleaned before use in critical applications, such as gas transfer lines.

OD x ID	Pre-Cleaned 50' Coil	Standard 50' Coil
1/8" x 0.065"	AUC432002	AUC432001
1/4" x 0.190"	AUC432005	AUC432003



Copper Tubing

Aluminum Tubing

Low cost for general-purpose use; low-pressure gas transfer lines. 50 feet coils.

OD x ID	Length	Item No.
1/8" x 0.075"	50' coil	AUC431001
1/4" x 0.190"	50' coil	AUC431003

TUBING ACCESSORIES

Imp® Tubing Cutter Junior

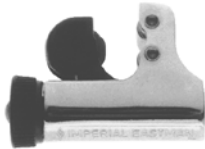


AUC227-FA

For 1/8" and 3/4" OD tubing. Use this aluminum, copper, brass and thin-wall steel.

Description	Item No.
Imp Tubing Cutter	AUC227-FA

Imp Tubing Cutter



AUC436001

The Imp is ideal for tight spaces; it requires only 1 3/4" swing radius. It will cut copper, nickel and other soft tubing, from 1/8" to 5/8" OD. Not recommended for stainless steel.

Description	Item No.
Imp Tubing Cutter	AUC436001
Spare Cutting Wheels, 2/pk	AUC436002

Terry Tool Tubing Cutter



AUC460008

This is a uniquely-designed precision tubing cutter that cuts any 1/16" OD metal tubing. Its compact design allows use in awkward, hard-to-reach places without removing tubing from the HPLC.

Description	Item No.
Terry Tool Tubing Cutter	AUC460008
Spare Cutting Wheel	AUC460009

Heavy Duty Tubing Cutter



AUC436003

This cuts stainless steel, copper, nickel or aluminum tubing from 1/8" to 1 1/8" OD. Comes with both standard and heavy-duty cutting wheel.

Description	Item No.
Heavy Duty Tubing Cutter	AUC436003
Cutting Wheels, Heavy Duty, 2/pk	AUC436004

Inner Reamer

These deburr your tubing for cleaner flow and easier packing. The knurled metal handle fits comfortably in your hand. The tip of the reamer is made from high speed steel, so it can handle all types of tubing including stainless steel. The small reamer is for 1/32" to 1/16" tubing, while the large is for 1/8" to 3/8" tubing.

Description	Item No.
Small Inner Reamer, 1/32" - 1/16"	AUC205261
Large Inner Reamer, 1/8" - 3/8"	AUC205260



AUC205261

Outer Reamer

These deburr the outer edge of your tubing, for easy insertion into fittings. The reamer tip is made from hardened steel and is mounted in an anodized aluminum handle for a sure grip.

Description	Item No.
Outer Reamer for 1/16" tubing	AUC205271
Outer Reamer for 1/8" to 1/4" tubing	AUC205272



AUC205260

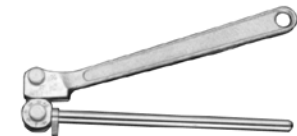


AUC205271

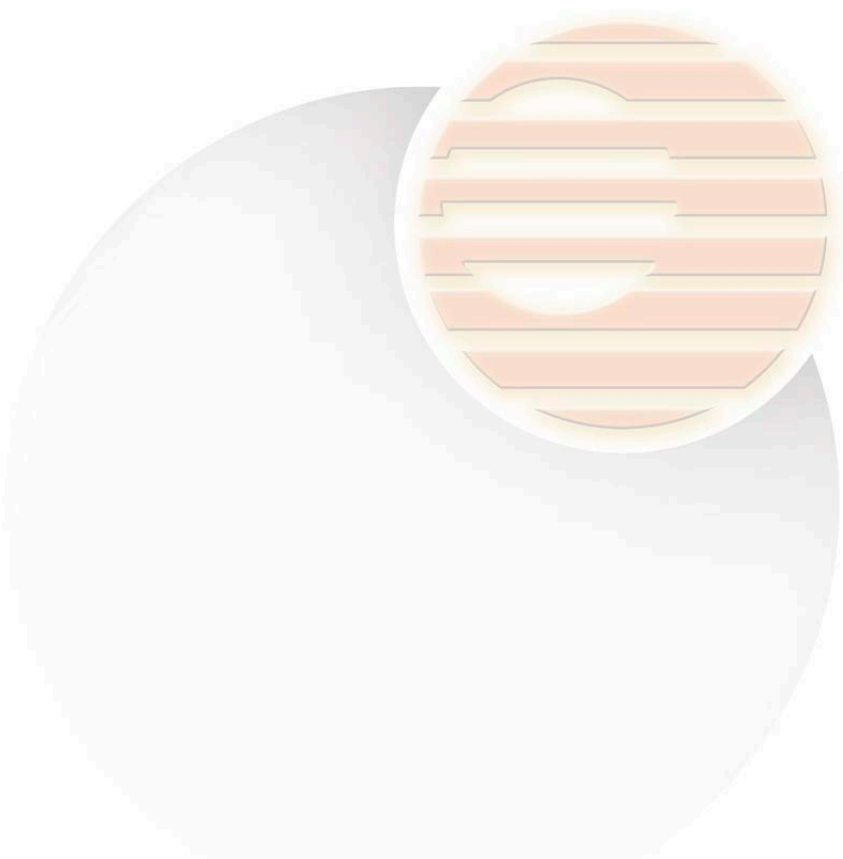
Tubing Bender

This can be used with copper, aluminum, brass, steel and other metal tubing. The open side design slips over the tube at any point and the wide hook grips the tubing securely. The tubing bender makes smooth short-radius bends up to 180°. It is calibrated to show the angle of bend.

Description	Item No.
1/8" Tubing Bender	AUC436021
1/4" Tubing Bender	AUC436020



AUC436020



COMPRESSED
AIR



CONIK





6 • *Gas Generators*

KONIK GAS GENERATORS Hydrogen Generators



HYDROGEN GENERATOR

Laboratory Hydrogen Generators No Maintenance

The KONIK series Hydrogen Gas Generators are the economical alternative to high pressure gas cylinders in the laboratories. Purities up to 99.9999 % are available and the generators offer silent operation at pressures up to 10 barg (155 psig).

The generators require just demineralised or distilled water to produce hydrogen. No caustic solutions are needed and no cell maintenance is required at all. Ideal as a feed gas for GC-FID's and as a reaction gas for HALL detectors as well as for carrier gas. Hydrogen from the model H₂FID is the ideal fuel gas for the GC-FID's or as reactor gas for the other types of detectors in gas-chromatography. The model H₂CARRIER has been designed to replace Helium or Nitrogen as carrier gas.

Hydrogen from the H₂FID Generator offers important advantages over Helium and Nitrogen in terms of speed analysis, sensitivity and resolution. Other Hydrogen applications include total hydrocarbon analyzers, sulfur analyzers and air-pollution monitoring systems.

The H₂FID and the H₂CARRIER hydrogen generators are "No Maintenance" systems which require little bench space. In addition, H₂CARRIER is optionally available with cascading and remote control capabilities. These unique and exclusive features open a wide range of new applications.

The Hydrogen gas generators are very compact, safe, ergonomic and cost effective. In addition to their high safety (production of Hydrogen only when required), the generators have been designed to meet highest quality and reliability standards.

Zero Air Generators

Zero Air Generators / Zero Air Stations

The KONIK series has developed a full range of Zero Air Generators which fits almost any laboratory requirement for clean air. The ZERO AIR series is split into two families: the low flow capacity models as table-top units and the high flow capacity models with built-in oil-free air compressors (within floor casing).

The KONIK series of Zero Air Generators produces laboratory grade purified air for the most accurate and convenient calibration of vehicle emission testing equipment as well as for gas analyzers, and all type of analytical instruments such as GC-FID etc. Models up to 30L/min are available.

The KONIK Ultra Zero Air Generator remove particles, CO₂, CO, HC, and NO_x, SO₂, O₃ contaminants down to 1 ppm or less as well as moisture.

Eliminating gas cylinders reduces annual operating costs associated with materials, labor, etc. Operation of the generator requires low levels of air consumption and electrical power. This complete turnkey system is engineered with the highest quality components, is easy to install, and requires only minimal annual maintenance.



ZERO AIR GENERATOR

Hydrogen-Air FID Station

The H₂-Air FID Station has been designed to feed GC's with Hydrogen and Zero Air at the same time. The bench-top unit has a small footprint which is an advantage with limited lab space.

The hydrocarbon free Hydrogen flow rate is up to 250 NmL/min. The hydrocarbon free Zero Air flow rate is up to 1500 NmL/min with less than 0.1 ppm of total hydrocarbons.

The H₂-Air FID Station is very simple to take into operation: needing only demineralised or distilled water for the Hydrogen part and an external source of compressed air for the Zero Air part. Requires Air Compressed.

Nitrogen Generators

Space and noise are issues more and more important in laboratories. The N²-Garbi Gas Generator is small in size and includes – as an option – an internal oil-free air compressor.

It works on the PSA (Pressure Swing Adsorption) principle and delivers a continuous stream of N² with a purity of up to 99,999% without the need of additional purification.

The N²-Garbi series is ideal for all kinds of laboratory and chromatography applications where Nitrogen is required. Other typical applications are ICP, ELSD, PID or incubators.

The N²-Xaloc models have been designed for applications requesting larger flow and highest purity of Nitrogen. They use the DS-PSA (Double Stage PSA) principle to produce high purity Nitrogen which eliminates the need for costly, inconvenient high pressure cylinders in laboratories.

N²-Xaloc models include internal oil free compressors and deliver a continuous stream of 99.999% pure Nitrogen.

The Gregal-LCMS has been specially designed to aliment LCMS systems. Working with the PSA technology and including an internal compressor, the Gregal-LCMS delivers up to 35 L/min Nitrogen with a quality of 98.5%.

The N²-Gregal-0 Nitrogen Generator is based on the hollow fibre technology, enabling the separation of air into Nitrogen and Oxygen enriched air from an external compressed air supply.

The N²-Gregal-0 is designed for LCMS applications by supplying Nitrogen with the purity, pressure and flow required.

The generator will automatically switch on and off depending on the Nitrogen demand.

The N²-Gregal-0 works pneumatically, no power supply is needed. The compressed air can be sourced either from a centralised compressed air source or a dedicated air compressor. The installation has no moving parts, resulting in reliable and trouble free operation with virtually no maintenance.



NITROGEN GENERATOR

GAS GENERATORS



H2 Carrier Gas Generator



H2 FID Gas Generator



H2-AIR FID STATION



ANSN2-GARBI-500-C



ANSN2-GARBI-4000-C

HIDROGEN GENERATORS

H2 CARRIER

Description	Item n°
100 Nml/min of Hydrogen	ANSH2-CARRIER-100
160 Nml/min of Hydrogen	ANSH2-CARRIER-160
250 cc/min of Hydrogen	ANSH2-CARRIER-250
400 Nml/min of Hydrogen	ANSH2-CARRIER-400
500 Nml/min of Hydrogen	ANSH2-CARRIER-500
700 Nml/min of Hydrogen	ANSH2-CARRIER-700
900 Nml/min of Hydrogen	ANSH2-CARRIER-900

H2 FID

Description	Item n°
100 Nml/min of Hydrogen, HC free < 0,1ppm	ANSH2-FID-100
160 Nml/min of Hydrogen, HC free < 0,1ppm	ANSH2-FID-160
250 cc/min of Hydrogen, HC free < 0,1ppm	ANSH2-FID-250
400 Nml/min of Hydrogen, HC free < 0,1ppm	ANSH2-FID-400
500 Nml/min of Hydrogen, HC free < 0,1ppm	ANSH2-FID-500
700 Nml/min of Hydrogen, HC free < 0,1ppm	ANSH2-FID-700
900 Nml/min of Hydrogen, HC free < 0,1ppm	ANSH2-FID-900

H2-AIR FID STATION

Description	Item n°
100 Nml/min H2, 1500 Nml/min Air, HC free < 0,1ppm	ANSH2/AIR-FID-100
160 Nml/min H2, 1500 Nml/min Air, HC free < 0,1ppm	ANSH2/AIR-FID-160
250 Nml/min H2, 1500 Nml/min Air, HC free < 0,1ppm	ANSH2/AIR-FID-250

NITROGEN GENERATORS

MINI HIGH PURITY NITROGEN GENERATORS

Description	Item n°
500 Nml/min of Nitrogen (with compressor)	ANSN2-GARBI-500-C
500 Nml/min of Nitrogen (requires compressed air)	ANSN2-GARBI-500-NC
750 Nml/min of Nitrogen (with compressor)	ANSN2-GARBI-750-C
750 Nml/min of Nitrogen (requires compressed air)	ANSN2-GARBI-750-NC
1300 Nml/min of Nitrogen (with compressor)	ANSN2-GARBI-1300-C
1300 Nml/min of Nitrogen (requires compressed air)	ANSN2-GARBI-1300-NC
4000 Nml/min of Nitrogen (requires compressed air)	ANSN2-GARBI-4000-NC
4000 Nml/min of Nitrogen (requires compressed air)	ANSN2-GARBI-4000-C

STANDARD HIGH PURITY NITROGEN GENERATORS

Description	Item n°
3 NL/min of Nitrogen (with compressor)	ANSN2-XALOC-3
5 NL/min of Nitrogen (with compressor)	ANSN2-XALOC-5
up to 25 NL/min of Nitrogen (requires compressed air)	ANSN2-XALOC-FLEX

LCMS NITROGEN GENERATORS (PSA)

Description	Item n°
35 NL/min of Nitrogen (with compressor)	ANSN2-GREGAL-LCMS

GAS GENERATORS

LCMS NITROGEN GENERATORS (MEMBRANE)

Description	Item n°
25 Nl/min of Nitrogen (requires compressed air)	ANSN2-GREGAL-0-25-L
40 Nl/min of Nitrogen (requires compressed air)	ANSN2-GREGAL-0-40-L
60 Nl/min of Nitrogen (requires compressed air)	ANSN2-GREGAL-0-60-L
120 Nl/min of Nitrogen (requires compressed air)	ANSN2-GREGAL-0-120-L



LCMS N2 Generator (membrane)

AIR GENERATORS

ZERO AIR GENERATORS (requires compressed air)

Description	Item n°
1500 Nml/min Zero Air, HC free < 0.1ppm, CO free < 0.05ppm	ANSZERO AIR - 1.5L
3000 Nml/min Zero Air, HC free < 0.1ppm, CO free < 0.05ppm	ANSZERO AIR - 3L
6000 Nml/min Zero Air, HC free < 0.1ppm, CO free < 0.05ppm	ANSZERO AIR - 6L



Ultra Zero Air Generator

ZERO AIR STATION (with internal compressor)

Description	Item n°
1500 Nml/min Zero Air, HC free < 0.1ppm, CO free < 0.05ppm	ANSZAS - 1.5L
3000 Nml/min Zero Air, HC free < 0.1ppm, CO free < 0.05ppm	ANSZAS - 3L
6000 Nml/min Zero Air, HC free < 0.1ppm, CO free < 0.05ppm	ANSZAS - 6L
10000 Nml/min Zero Air, HC free < 0.1ppm, CO free < 0.05ppm	ANSZAS - 10L
20000 Nml/min Zero Air, HC free < 0.1ppm, CO free < 0.05ppm	ANSZAS - 20L
30000 Nml/min Zero Air, HC free < 0.1ppm, CO free < 0.05ppm	ANSZAS - 30L

ULTRA ZERO AIR GENERATORS (requires compressed air)

Description	Item n°
1500 Nml/min Ultra Zero Air	ANS-ULTRA ZERO AIR - 1.5L
3000 Nml/min Ultra Zero Air	ANS-ULTRAZERO AIR - 3L
6000 Nml/min Ultra Zero Air	ANS-ULTRAZERO AIR - 6L

ULTRA ZERO AIR STATION (with internal compressor)

Description	Item n°
1500 Nml/min Ultra Zero Air	ANSUZAS - 1.5L
3000 Nml/min Ultra Zero Air	ANSUZAS - 3L
6000 Nml/min Ultra Zero Air	ANSUZAS - 6L
10000 Nml/min Ultra Zero Air	ANSUZAS - 10L
20000 Nml/min Ultra Zero Air	ANSUZAS - 20L
30000 Nml/min Ultra Zero Air	ANSUZAS - 30L



Compressed Air Station

AIR COMPRESSORS

COMPRESSED AIR STATION

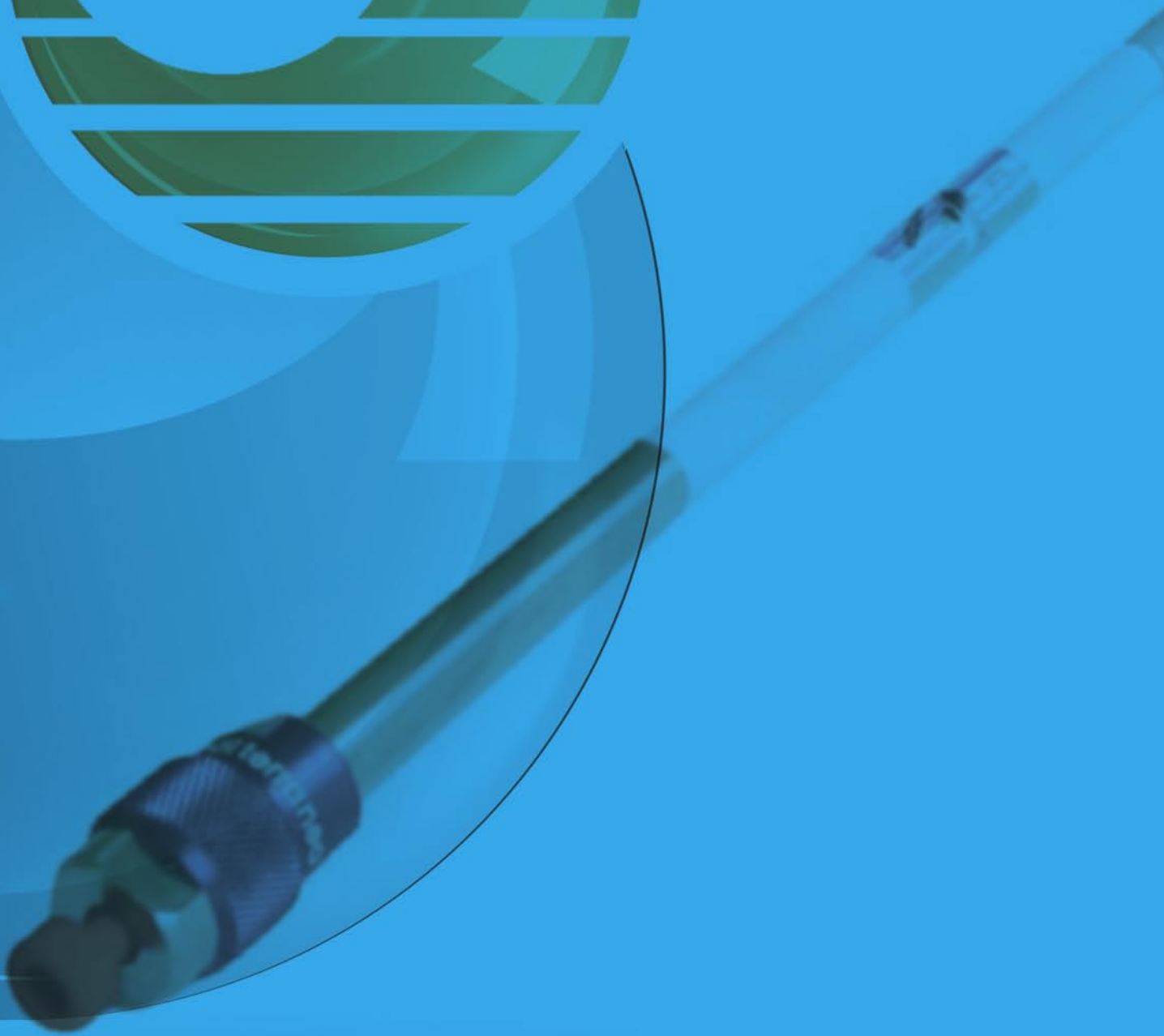
Description	Item n°
20 NL/min Compressed Air	ANS-AIR STATION -20
40 NL/min Compressed Air	ANS-AIR STATION -40
80 NL/min Compressed Air	ANS-AIR STATION -80
120 NL/min Compressed Air	ANS-AIR STATION -120

MINI COMPRESSED AIR STATION

Description	Item n°
1500 Nml/min Compressed Air	ANS-MINI AIR STATION -1.5



Mini Air Station





7 · *HPLC Columns*

KONIK HPLC COLUMNS

Analytical Columns

To get HPLC columns with maximum efficiency and peak symmetry, KONIK uses tubing and connections designed and fully optimized to provide you superior performance than achievable with columns from the major manufacturers.

The analytical column, use the best bonding reagents, packing support materials and proprietary procedures. The tubing uniformity and polished interior finish generates higher efficiencies than columns from the major manufacturers. The latest in current research trends are included in KONIK analytical columns; including smaller particle size, greater particle uniformity, reduced tubing internal diameters and shorter columns for LC-GC and LC-MS applications. KONIK columns are designed with a new generation of tubing interior surfaces, connections, end-fittings and packing procedures. Our proprietary procedures allows us to manufacture columns as small as 2 mm ID with 3 μm particles and columns as short as 5 cm long with 2 mmID with no loss in theoretical efficiency.

Microbore Columns

Low dispersion Chromatography

These columns of 2 and 3 mm of internal diameter, packed with the same packing than 3 and 5 μm analytical column, contribute to an important solvent saving and at the time a detectability considerable increase.

Sensibility of detection

Since the detectability depends on the grade of dilution of the sample while it passes through the column, a reduction of the internal diameter of the column redounds directly in a minor dilution and therefore in an increment of the detection sensibility.

Solvent Saving

The same chromatogram obtained with a conventional 4,6 mm ID column working at 2 mL/min can be obtained with a flow of 0,4 mL/min when it is worked with a 2,1 mm ID microbore column. This represents a 80 % saving of the eluyent wasted in HPLC, which means that for a standard job in a chromatograph will represent a saving of 15 liters of solvent.

Column (mm)	Eluyent Waste	Detectability
4.6	480	1
4.0	363	1.322
3.2	232	2.066
2.1	100	4.798
1.0	22.68	21.16



Ultrarapid Columns

High-Speed Chromatography

The use of ultrarapid columns is ideal when short times of analysis are needed (0.5-3.0 min) and high efficiencies of separation. These columns 3-10 cm of length, are packed with spherical packs of 3 μm , and offer efficiencies of 5-15000 N columns (equivalent to 120-150000 N/m), more than enough for the majority of separations.

Sensibility of detection

Reducing the size of particle the dispersion of the sample in the inside of the column decreases also. In this way, the use of ultrarapid column give a significant improvement of the limit of detection when compared with the one obtained with analytical conventional columns.

High Resolution

Columns of 15-25 cm length packaged with 3 μm packs achieve efficiencies of over 30000 N/column, which can be very useful when very complex samples require high separation capabilities.

Economy

The reduced time of analysis that is achieved with these columns and therefore the elevated number of samples that can be processed per time unit, compared with conventional columns, allows optimizing to the full the performance of one chromatographic equipment. The extensive selection of available phases allows turning any chromatographic separation into ultrarapid, with all the advantages that this bears.

Instrumentation

The use of this kind of columns does not require any especial chromatographic equipment.

Preparative Columns

Preparative Chromatography

Preparative columns had been developed with the same criteria of quality and versatility that has taken us to lead the market on HPLC analytical columns.

Versatility

KONIK offers the highest range of phases of the market, covering practically all kind of functional groups. This simplifies enormously the transposition from the analytical scale to the preparative. Beside, a complete range of dimensions of column, from 7.8 mm to 21 mm of diameter, with lengths up to 25 cm and with a high selection of particle size, makes it easy the definition of the ideal configuration of column in relation to its volume capacity and the kind of chromatographic equipment available in the laboratory.

Quality

Each column is individually tested to guarantee that will fulfil the high standard of quality demanded, controlling the parameters of efficiency, peak symmetry and selectivity.

Analytical quality packing

The preparative columns packaged with 5 and 10 μm analytical packing offer exactly the same benefit levels then the correspondent analytical columns. Its high pressure packing ensures a high stability and consequently a long life of use.

The packing of preparative columns quality are the recommended for 20 mm ID or upper columns. These packings are manufactured under the same quality standards, with the difference that they present a particle size normally bigger and a size dispersion not as adjusted as the analytical packings.

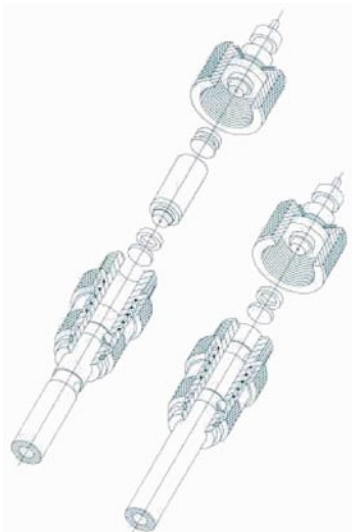
1 • KONIK KWIK-SNAP HPLC

Columns-Cartridges

KONIK KWIK-SNAP Quality

KONIK has always achieved its best in offering top-quality products and services. This quality-excellence philosophy has helped KONIK achieve HPLC market leadership wherever its products are marketed. Our research scientists have utilized the same quality-excellence philosophy to meticulously design the new KWIK-SNAP HPLC Cartridge System. KWIK-SNAP Cartridges are made from chosen materials and select bonded packings that guarantee the greatest column efficiency, peak symmetry and reproducibility.

In addition, KONIK proprietary Novabond™ packing procedures are the result of years of exhaustive research and detailed manufacturing of HPLC columns. Novabond packing procedures provide you with the best column efficiency, peak symmetry and column lifetime available on the market.



KONIK KWIK-SNAP Easy Handling

The mechanism for rapid connection designed in the KWIK-SNAP Cartridge System does not require you to use any tools for its assembly or dismantling. This design feature makes KWIK-SNAP columns simple and easy to handle.

KONIK KWIK-SNAP Functional Design

Without requiring any additional accessories, the KWIK-SNAP Cartridge System permits the insertion a 1cm-long pre-column at the head of the analytical cartridge. This is achieved without introducing any dead volume, thereby maximizing column efficiency and peak symmetry

KONIK KWIK-SNAP Efficiency

The KWIK-SNAP HPLC Cartridge supplies the highest theoretical efficiency. These typically high efficiencies are achieved due to the zero dead-volume connections and proprietary KWIK-SNAP packing procedures.

Particle Size μm	Typical Efficiencies N/m
3	120-150.000
5	80-110.000
10	35-65.000

KONIK KWIK-SNAP Stability

The design of the KONIK KWIK-SNAP HPLC Cartridge System ensures not only maximum efficiencies, but also long useful lifetimes. KONIK KWIK-SNAP Cartridges provide maximum stability for packing materials in the precolumn and analytical column cartridges, no matter how frequently the precolumn is exchanged.

KONIK KWIK-SNAP Reproducibility

Only the best bonded packings are available in the KONIK KWIK-SNAP HPLC Cartridges in order to guarantee the best column-to-column reproducibility for selectivity, resolution, stability and chromatographic efficiency.

KONIK KWIK-SNAP Versatility

KONIK provides a wide range of bonded packings and configurations in the KONIK KWIK-SNAP HPLC Cartridge System. This includes the most popular bonded packings on the market as well as packings for special applications. The KONIK KWIK-SNAP versatility of packings represents a great advantage over other cartridge systems that normally limit the range of packings to one or a few select packings.

- Packings of 3, 4 and 10 μm
- Lengths of 7.5, 15 and 25 cm
- Different internal diameters
- Packings of Nucleosil 100, Nucleosil 120, Kromasil, Hypersil, Lichrosorb, Lichrosphere, Supersphere

Guarantee

At KONIK, we guarantee the maximum quality of our products. This starts with quality in the mechanical components and finishes with final computerized quality control test on each KONIK KWIK-SNAP HPLC Cartridge. Our quality controls ensure that you will receive only those cartridges which conform to the high quality demanded in our KONIK KWIK-SNAP Cartridge specifications.

Economy

To the criteria of maximum functionality and quality, we have also integrated the criterion of economy in the KONIK KWIK-SNAP Cartridge System. The Novabond bonding and packing processes are rigidly controlled to produce superior yields of high-quality products. The Novabond processing makes KONIK KWIK-SNAP the most economical choice in the global HPLC market.



HPLC CARTRIDGES KIT & ACCESSORIES

Description

KONIK KWIK-SNAP Fast coupling accessorie (pk2)
Teflon Seals (pk10)

Item n°

KKS-029-000
KKS-015324

GUARD COLUMN CARTRIDGE

Function	Pkg	Reference
SILICA	5 units	KKS-015325
ODS	5 units	KKS-015326
CN	5 units	KKS-015327
NH ₂	5 units	KKS-015328
SAX	5 units	KKS-015329
SCX	5 units	KKS-015330
CARBOHID	5 units	KKS-015531
ANIONS	5 units	KKS-015335
C-8	5 units	KKS-015510
DIOL	5 units	KKS-015511
C ₆ H ₅	5 units	KKS-015512
C-1	5 units	KKS-015513

HPLC COLUMN-CARTRIDGES

KWIK-SNAP CARTRIDGE MEDITERRANEA SEA

0.40 cmID

Function	µm	length (cm)			
		7.5	10	15	25
Sea18	3	KKS-010063	KKS-010064	KKS-010065	KKS-010066
Sea8	3	KKS-010465	KKS-010466	KKS-010467	KKS-010468
Sea4	3	KKS-010469	KKS-010470	KKS-010471	KKS-010472
Sea18	5	KKS-010035	KKS-010036	KKS-010037	KKS-010038
Sea8	5	KKS-010423	KKS-010424	KKS-010425	KKS-010426
Sea4	5	KKS-010427	KKS-010428	KKS-010429	KKS-010430

KWIK-SNAP CARTRIDGE EXCEL 120

0.40 cmID

Function	µm	length (cm)		
		7.5	15	25
ODS-A	3	KKS-016427	KKS-016428	KKS-015731
ODS-B	3	KKS-015732	KKS-015733	KKS-015734
Si	3	KKS-015735	KKS-015736	KKS-015737
C8	3	KKS-015738	KKS-015739	KKS-015740
C4	3	KKS-015741	KKS-015742	KKS-015743
C1	3	KKS-015744	KKS-015745	KKS-015746
NH2	3	KKS-015747	KKS-015748	KKS-015749
CN	3	KKS-015750	KKS-015751	KKS-015752
Phenyl	3	KKS-015753	KKS-015754	KKS-015755
ODS-A	5	KKS-015693	KKS-015694	KKS-015695
ODS-B	5	KKS-015696	KKS-015697	KKS-015698
Si	5	KKS-015705	KKS-015706	KKS-015707
C8	5	KKS-015708	KKS-015709	KKS-015710
C4	5	KKS-015714	KKS-015715	KKS-015716
C1	5	KKS-015717	KKS-015718	KKS-015719
NH2	5	KKS-015720	KKS-015721	KKS-015722
CN	5	KKS-015723	KKS-015724	KKS-015725
Phenyl	5	KKS-015726	KKS-015727	KKS-015728

KWIK-SNAP CARTRIDGE EXCEL 300

0.40 cmID

Function	µm	length (cm)		
		7.5	15	25
ODS-A	5	KKS-416417	KKS-416418	KKS-416419
C8	5	KKS-416420	KKS-416421	KKS-416422
C4	5	KKS-416423	KKS-416424	KKS-416425

KWIK-SNAP CARTRIDGE EXTRASIL

0.40 cmID

Function	µm	length (cm)		
		7.5	15	25
ODS-1	3	KKS-015666	KKS-015667	KKS-015668
ODS-2	3	KKS-015669	KKS-015670	KKS-015671
Si	3	KKS-015672	KKS-015673	KKS-015674
C-1	3	KKS-015675	KKS-015676	KKS-015677
C-6	3	KKS-015678	KKS-015679	KKS-015680
C-8	3	KKS-015681	KKS-015682	KKS-015683
CN	3	KKS-015684	KKS-015685	KKS-015686
NH2	3	KKS-015687	KKS-015688	KKS-015689
Phenyl	3	KKS-015690	KKS-015691	KKS-015692
ODS-1	5	KKS-015600	KKS-015601	KKS-015602
ODS-2	5	KKS-015603	KKS-015604	KKS-015605
Si	5	KKS-015606	KKS-015607	KKS-015608
C-1	5	KKS-015609	KKS-015610	KKS-015611
C-6	5	KKS-015612	KKS-015613	KKS-015614
C-8	5	KKS-015615	KKS-015616	KKS-015617
CN	5	KKS-015618	KKS-015619	KKS-015620
NH2	5	KKS-015621	KKS-015622	KKS-015623
Phenyl	5	KKS-015624	KKS-015625	KKS-015626
SCX	5	KKS-015627	KKS-015628	KKS-015629
SAX	5	KKS-015630	KKS-015631	KKS-015632
ODS-1	10	KKS-015633	KKS-015634	KKS-015635
ODS-2	10	KKS-015636	KKS-015637	KKS-015638
Si	10	KKS-015639	KKS-015640	KKS-015641
C-1	10	KKS-015642	KKS-015643	KKS-015644
C-6	10	KKS-015645	KKS-015646	KKS-015647
CN	10	KKS-015651	KKS-015652	KKS-015653
NH2	10	KKS-015654	KKS-015655	KKS-015656
SCX	10	KKS-015660	KKS-015661	KKS-015662
SAX	10	KKS-015663	KKS-015664	KKS-015665

KWIK-SNAP CARTRIDGE ADVANTIX

0.40 cmID

Function	µm	length (cm)			
		7.5	10	15	25
ODS	5	KKS-010249	KKS-010250	KKS-010251	KKS-010252

KWIK-SNAP CARTRIDGE HYPERPACK

0.40 cmID

Function	µm	length (cm)			
		7.5	10	15	25
C8	5	KKS-011049	KKS-011050	KKS-011051	KKS-011052

KWIK-SNAP CARTRIDGE NUCLEOSIL 100

0.40 cmID

Function	µm	length (cm)		
		7.5	15	25
Si	3	KKS-015462	KKS-015463	KKS-015464
C18	3	KKS-015465	KKS-015466	KKS-015467
Si	5	KKS-015514	KKS-015515	KKS-015516
C18	5	KKS-015517	KKS-015518	KKS-015519
C8	5	KKS-015520	KKS-015521	KKS-015522
C2	7	KKS-015523	KKS-015524	KKS-015525
C6H5	5	KKS-015526	KKS-015527	KKS-015528
CN	5	KKS-015529	KKS-015530	KKS-015531
NO2	5	KKS-015532	KKS-015533	KKS-015534
NH2	5	KKS-015535	KKS-015536	KKS-015537
N(CH3)2	5	KKS-015538	KKS-015539	KKS-015540
DIOL	7	KKS-015118	KKS-015119	KKS-015120
SAX	5	KKS-015121	KKS-015122	KKS-015123
SB	5	KKS-015124	KKS-015125	KKS-015126
Si	10	KKS-016598	KKS-015541	KKS-015542
C18	10	KKS-015543	KKS-015544	KKS-015545
C8	10	KKS-015546	KKS-015547	KKS-015548
CN	10	KKS-015549	KKS-015550	KKS-015551
NO2	10	KKS-015552	KKS-015553	KKS-015554
NH2	10	KKS-015555	KKS-015556	KKS-015599
SAX	10	KKS-015151	KKS-015152	KKS-015153
SB	10	KKS-015154	KKS-015155	KKS-015156

KWIK-SNAP CARTRIDGE NUCLEOSIL 120

0.40 cmID

Function	µm	length (cm)		
		7.5	15	25
Si	3	KKS-015468	KKS-015469	KKS-015470
C8	3	KKS-015471	KKS-015472	KKS-015473
C18	3	KKS-015474	KKS-015475	KKS-015476
Si	5	KKS-015100	KKS-015101	KKS-015102
C18	5	KKS-015103	KKS-015104	KKS-015105
C8	5	KKS-015106	KKS-015107	KKS-015108
C6H5	7	KKS-015109	KKS-015110	KKS-015111
CN	7	KKS-015112	KKS-015113	KKS-015114
NH2	7	KKS-015115	KKS-015116	KKS-015117
Si	10	KKS-015130	KKS-015131	KKS-015132
C18	10	KKS-015133	KKS-015134	KKS-015135
C8	10	KKS-015136	KKS-015137	KKS-015138

KWIK-SNAP CARTRIDGE LICHROSORB

0.40 cmID

Function	µm	length (cm)		
		7.5	15	25
RP-18	5	KKS-015199	KKS-015200	KKS-015201
RP-8	5	KKS-015202	KKS-015203	KKS-015204
CN	5	KKS-015211	KKS-015212	KKS-015213
RP-18	10		KKS-015182	KKS-015183
RP-8	10	KKS-015184	KKS-015185	KKS-015186
DIOL	10	KKS-015187	KKS-015188	KKS-015189
CN	10	KKS-015193	KKS-015194	KKS-015195
RP-SELECT B	10	KKS-015561	KKS-015562	KKS-015563

KWIK-SNAP CARTRIDGE LICHROSPHER

0.40 cmID

Function	µm	length (cm)		
		7.5	15	25
100 RP-18	5	KKS-015241	KKS-015242	KKS-015243
100RP-18 ec	5	KKS-015244	KKS-015245	KKS-015246
100 RP-8	5	KKS-015247	KKS-015248	KKS-015249
100 RP-8 ec	5	KKS-015250	KKS-015251	KKS-015252
100 NH2	5	KKS-015253	KKS-015254	KKS-015255
100 CN	5	KKS-015256	KKS-015257	KKS-015258
100 DIOL	5	KKS-015259	KKS-015260	KKS-015261
60 RP-SELECT B	5	KKS-015572	KKS-015573	KKS-015574
Si 100	10	KKS-015214	KKS-015215	KKS-015216
100 RP-18	10	KKS-015217	KKS-015218	KKS-015219
100RP-18 ec	10	KKS-015220	KKS-015221	KKS-015222
100 RP-8	10	KKS-015223	KKS-015224	KKS-015225
100 RP-8 ec	10	KKS-015226	KKS-015227	KKS-015228
100 NH2	10	KKS-015229	KKS-015230	KKS-015231
100 CN	10	KKS-015232	KKS-015233	KKS-015234

KWIK-SNAP CARTRIDGE SUPERSHER

0.40 cmID

Function	µm	length (cm)		
		7.5	15	25
Si 60	4		KKS-015263	KKS-015264
60 RP-8	4	KKS-015265	KKS-015266	KKS-015267
100 RP-18	4	KKS-015268	KKS-015269	KKS-015270
60 RP-8 ec	4	KKS-015271	KKS-015272	KKS-015273
100 RP-18 ec	4	KKS-015274	KKS-015275	KKS-015276

KWIK-SNAP CARTRIDGE PARTISIL

0.40 cmID

Function	µm	length (cm)		
		7.5	15	25
Si	5	KKS-015423	KKS-015424	KKS-015425
ODS 3	5	KKS-015426	KKS-015427	KKS-015428
C8	5	KKS-015429	KKS-015430	KKS-015431
PAC	5	KKS-015432	KKS-015433	KKS-015434
Si	10	KKS-015435	KKS-015436	KKS-015437
ODS	10	KKS-015438	KKS-015439	KKS-015440
ODS 2	10	KKS-015441	KKS-015442	KKS-015443
ODS 3	10	KKS-015444	KKS-015445	KKS-015446
PAC	10	KKS-015447	KKS-015448	KKS-015449
SAX	10	KKS-015450	KKS-015451	KKS-015452
SCX	10	KKS-015453	KKS-015454	KKS-015455

2• KONIK MEDITERRANEA SEA18

The mediterranea™ sea18 column provides a performance level that, until now, has not been reached in efficiency, inertness, pH robustness, reproducibility and reliability. mediterranea™ sea18 columns simplify and make your HPLC work more pleasant. You won't worry about the extreme basic or acidic natures of your samples with the mediterranea™ sea18 column.

Purity of Silica

After evaluating many materials as a base for the global-best reverse phase chromatographic packing, the clear consensus is that the special characteristics of silica packings classify them as unsurpassable. No other packing material, apart from ultrapure silica, achieves the perfect balance of physical resistance, functional use, chemical inertness, reproducibility and efficiency. Ultra-pure silica is also compatible with practically all solvents.

An essential condition for obtaining the global-best reverse phase packing is extremely pure silica. The silica particle, on which the new mediterranea™ sea18 packing is based, is obtained from ultra-pure materials, using rigorously controlled manufacturing processes to ensure that the slightest possibility of contamination is avoided. The mediterranea™ sea18 silica required intensive optimisation of numerous processing factors to achieve a perfectly spherical, rigid and inert particle possessing unusually low metal content. The almost total absence of metals is one of the pillars over which the extraordinary properties of the mediterranea™ sea18 column reside.

More than 98% of the silica surface area responsible for chromatographic separation of the sample is found inside the particle - within the pores. This explains the extreme importance of obtaining a very homogeneous pore distribution and the least possible number of nanopores. For most reverse-phase silica packings, these nanopores are not properly chemically bonded, endcapped or deactivated. So when nanopores are accessible to analytes, surface-analyte interactions frequently dominate. These surface-analyte interactions slow down the chromatographic process ("load transfer"), often resulting in decreased column efficiency. These treacherous nanopores may also negatively influence the phenomenon of dewetting which occurs with totally aqueous mobile phases.

Multifunctional Endcapping Deactivation (MED)

The endcapping process is a critical step in obtaining a perfectly deactivated mediterranea™ sea18 column. Our proprietary Multifunctional Endcapping Deactivation (MED) technology maximizes surface-bonding, blocking practically all the active centres that may have remained on the surface of the silica after bonding the C18 chains. Thanks to our new MED technology, the mediterranea™ sea18 column enjoys an unusual low level of silanol activity - helping you to obtain symmetrical peaks from even the most basic and acidic pharmaceuticals and their metabolites. mediterranea™ sea18 bonding chemistries will help you to achieve an extraordinary resistance and column lifetime when running at extreme pH levels.

Moreover, the mediterranea™ sea18 column has been designed to show an excellent retention of polar compounds in a 100% aqueous environment without the problems of unwanted interactions which inefficiently endcapped conventional packings produce. Packing chemistry based on the new MED technology, "multifunctional endcapping deactivated", achieves levels of deactivation, resistance to extreme pH values and versatility in its chromatographic applications never reached by conventional or polar-embedded reverse phase packings. The MED technology has been rigorously developed to achieve the maximum reproducibility, with the objective that its chromatographic separations will be, column to column, exactly the same.

Specifications:

- Efficiency, inertness, PH-robutness, reproducibility and reliabiliy has not been reach until now
- Purity of Silica
- MED Technology (Multifunctional Endcapping Deactivation)
- Optimised Porosity SEA(Surface enhanced accessibility)
- 100 % aqueous or reverse phase standard
- Excellent results in the test of characterization of phase NIST SRM870
- Possible to work with eluents from pH 1 to pH 12
- Extremely low bleed allows its use in LC/MS applications



New Generation HPLC Column

MEDITERRANEA SEA COLUMNS

ANALYTICAL COLUMNS

0.46 cm ID

Function	μm	length (cm)						
		3	4	5	10	15	20	25
Sea18	5	KKS-010000	KKS-010001	KKS-010002	KKS-010003	KKS-010004	KKS-010005	KKS-010006
Sea8	5	KKS-010355	KKS-010356	KKS-010357	KKS-010358	KKS-010359	KKS-010360	KKS-010361
Sea4	5	KKS-010362	KKS-010363	KKS-010364	KKS-010365	KKS-010366	KKS-010367	KKS-010368

0.40 cm ID

Function	μm	length (cm)						
		3	4	5	10	15	20	25
Sea18	5	KKS-010007	KKS-010008	KKS-010009	KKS-010010	KKS-010011	KKS-010012	KKS-010013
Sea8	5	KKS-410368	KKS-410369	KKS-410370	KKS-410371	KKS-410372	KKS-410373	KKS-410374
Sea4	5	KKS-410374	KKS-410375	KKS-410376	KKS-410377	KKS-410378	KKS-410379	KKS-410380

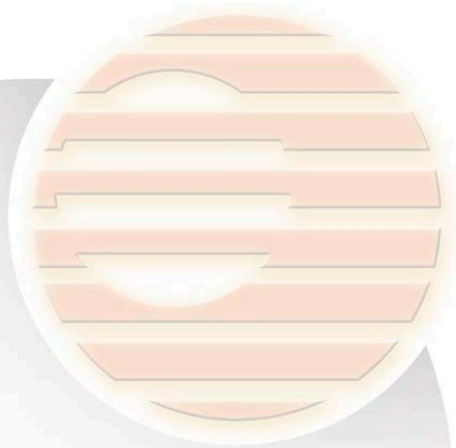
ULTRARAPID COLUMNS

0.46 cm ID

Function	μm	length (cm)						
		3	4	5	10	15	20	25
Sea18	3	KKS-010039	KKS-010040	KKS-010041	KKS-010042	KKS-010043	KKS-010044	KKS-010045
Sea8	3	KKS-010431	KKS-010432	KKS-010433	KKS-010434	KKS-010435	KKS-010436	KKS-010437
Sea4	3	KKS-010438	KKS-010439	KKS-010440	KKS-010441	KKS-010442	KKS-010443	KKS-010444

0.40 cm ID

Function	μm	length (cm)						
		3	4	5	10	15	20	25
Sea18	3	KKS-010046	KKS-010047	KKS-010048	KKS-010049	KKS-010050	KKS-010051	KKS-010052
Sea8	3	KKS-410431	KKS-410432	KKS-410433	KKS-410434	KKS-410435	KKS-410436	KKS-410437
Sea4	3	KKS-410438	KKS-410439	KKS-410440	KKS-410441	KKS-410442	KKS-410443	KKS-410444



HPLC COLUMNS

MICROBORE COLUMNS

0.21 cm ID

Function	μm	length (cm)				
		3	5	10	15	20
Sea18	3	KKS-010053	KKS-010054	KKS-010055	KKS-010056	KKS-010057
Sea8	3	KKS-010445	KKS-010446	KKS-010447	KKS-010448	KKS-010449
Sea4	3	KKS-010450	KKS-010451	KKS-010452	KKS-010453	KKS-010454
Sea18	5	KKS-010014	KKS-010015	KKS-010016	KKS-010017	KKS-010018
Sea8	5	KKS-010381	KKS-010382	KKS-010383	KKS-010384	KKS-010385
Sea4	5	KKS-010386	KKS-010387	KKS-010388	KKS-010389	KKS-010390

0.30 cm ID

Function	μm	length (cm)					
		3	5	10	15	20	25
Sea18	3	KKS-010058	KKS-010059	KKS-010060	KKS-010061	KKS-010062	
Sea8	3	KKS-010455	KKS-010456	KKS-010457	KKS-010458	KKS-010459	
Sea4	3	KKS-010460	KKS-010461	KKS-010462	KKS-010463	KKS-010464	
Sea18	5	KKS-010019	KKS-010020	KKS-010021	KKS-010022	KKS-010023	KKS-010024
Sea8	5	KKS-010391	KKS-010392	KKS-010393	KKS-010394	KKS-010395	KKS-010396
Sea4	5	KKS-010397	KKS-010398	KKS-010399	KKS-010400	KKS-010401	KKS-010402

SEMIPREPARATIVE COLUMNS

0.78 cm ID

Function	μm	length (cm)		
		10	15	25
Sea18	5	KKS-010025	KKS-010026	KKS-010027
Sea8	5	KKS-010403	KKS-010404	KKS-010405
Sea4	5	KKS-010413	KKS-010414	KKS-010415

1.00 cm ID

Function	μm	length (cm)		
		5	10	15
Sea18	5	KKS-010028	KKS-010029	KKS-010030
Sea8	5	KKS-010406	KKS-010407	KKS-010408
Sea4	5	KKS-010416	KKS-010417	KKS-010418

2.12 cm ID

Function	μm	length (cm)			
		5	10	15	25
Sea18	5	KKS-010031	KKS-010032	KKS-010033	KKS-010034
Sea8	5	KKS-010409	KKS-010410	KKS-010411	KKS-010412
Sea4	5	KKS-010419	KKS-010420	KKS-010421	KKS-010422

3• KONIK EUROPA Columns for Peptides and Proteins

Manufactured using novel proprietary technologies, analytical and preparative Europa columns are simply the best reverse phase columns available today. As a result of these, we launch into the market the Line of Europa HPLC columns, one of the best columns in the field of analysis of biomolecules. The Europa HPLC columns for peptides and proteins, provide the best performance and unsurpassed efficiency, reliability and reproducibility. There is still a consensus that the best material to use as chromatographic packing continues to be silica. The particles of silica material are physically resistant, enable multiple functions, present maximum levels of efficiency and are also compatible with practically all solvents.

The silica particle on which the Europa columns is based is the result of an optimisation process, starting with extremely pure materials with unusually low metal content, and obtaining a perfectly spherical, rigid and inert particle.

Furthermore, the proprietary "porification process" (Surface Enhanced Accessibility, SEA) for Europa silica has achieved high surface area without sacrificing important properties like physical resistance and high loading capacity- making it ideal for preparative-scale processing.

In addition, the Surface Enhanced Accessibility manufacturing process creates a porous structure that ensures maximum transfer speeds for solutes between the stationary and mobile phases- resulting in higher separation efficiency.

Our "Ultra-Fast" Europa columns are made in 3-5 cm length in order to get quick analytical results, whereas the "High Efficiency" columns are normally in 15-25 cm lengths to obtain best resolution.

The Europa Columns are uniquely designed with optimized pore size distribution; 120Å for Peptide and 300Å for the Protein Columns.

Europa columns are available for:

Peptides: Europa C18 with 0.21, 0.30, 0.40, 0.46, 0.78, 1.0 and 2.12 cm.

Proteins: Europa C18, C8 and C4 with 0.21, 0.30, 0.40, 0.46, 0.78, and 2.12 cm.



Purity of silica

The responsibility for chromatographic separation of peptides and proteins is found inside the particle-within the pores. To obtain a very homogeneous pore distribution the least possible number of nanopores is essential.

For most reverse-phase silica packings, these nanopores are not properly chemically bonded, endcapped or deactivated. So when nanopores are accessible to the peptides and proteins, surfacepeptide and protein interactions frequently dominate. These interactions often result in a decrease of column efficiency.

Specifications:

- Ultra high purity, totally spherical silica gel
- High density bonding for extreme performance proprietary fully end-capped silica
- Pore Size: 120 Å, narrow particle size distribution
- Surface Area 300 m²/g
- % of Carbon 19 %
- High loading capacity of crude peptides
- Stable under basic and extreme acidic conditions
- Packed with 5µm sized silica particles

EUROPA COLUMNS

ANALYTICAL COLUMNS

0.46 cm ID

Function	μm	length (cm)						
		3	4	5	10	15	20	25
Peptide 120 - C18	5	KKS-010116	KKS-010117	KKS-010118	KKS-010119	KKS-010120	KKS-010121	KKS-010122
Protein 300 - C18	5	KKS-010158	KKS-010159	KKS-010160	KKS-010161	KKS-010162	KKS-010163	KKS-010164
Protein 300 - C8	5	KKS-010151	KKS-010152	KKS-010153	KKS-010154	KKS-010155	KKS-010156	KKS-010157
Protein 300 - C4	5	KKS-010081	KKS-010082	KKS-010083	KKS-010084	KKS-010085	KKS-010086	KKS-010087

0.40 cm ID

Function	μm	length (cm)						
		3	4	5	10	15	20	25
Peptide 120 - C18	5	KKS-010123	KKS-010124	KKS-010125	KKS-010126	KKS-010127	KKS-010128	KKS-010129
Protein 300 - C18	5	KKS-010172	KKS-010173	KKS-010174	KKS-010175	KKS-010176	KKS-010177	KKS-010178
Protein 300 - C8	5	KKS-010165	KKS-010166	KKS-010167	KKS-010168	KKS-010169	KKS-010170	KKS-010171
Protein 300 - C4	5	KKS-010088	KKS-010089	KKS-010090	KKS-010091	KKS-010092	KKS-010093	KKS-010094

MICROBORE COLUMNS

0.21 cm ID

Function	μm	length (cm)				
		3	5	10	15	20
Peptide 120 - C18	5	KKS-010130	KKS-010131	KKS-010132	KKS-010133	KKS-010134
Protein 300 - C18	5	KKS-010184	KKS-010185	KKS-010186	KKS-010187	KKS-010188
Protein 300 - C8	5	KKS-010179	KKS-010180	KKS-010181	KKS-010182	KKS-010183
Protein 300 - C4	5	KKS-010095	KKS-010096	KKS-010097	KKS-010098	KKS-010099

0.30 cm ID

Function	μm	length (cm)					
		3	5	10	15	20	25
Peptide 120 - C18	5	KKS-010135	KKS-010136	KKS-010137	KKS-010138	KKS-010139	KKS-010140
Protein 300 - C18	5	KKS-010195	KKS-010196	KKS-010197	KKS-010198	KKS-010199	KKS-010200
Protein 300 - C8	5	KKS-010189	KKS-010190	KKS-010191	KKS-010192	KKS-010193	KKS-010194
Protein 300 - C4	5	KKS-010100	KKS-010101	KKS-010102	KKS-010103	KKS-010104	KKS-010105

SEMIPREPARATIVE COLUMNS

0.78 cm ID

Function	μm	length (cm)		
		10	15	25
Peptide 120 - C18	5	KKS-010141	KKS-010142	KKS-010143
Protein 300 - C18	5	KKS-010211	KKS-010212	KKS-010213
Protein 300 - C8	5	KKS-010201	KKS-010202	KKS-010203
Protein 300 - C4	5	KKS-010106	KKS-010107	KKS-010108

1.00 cm ID

Function	μm	length (cm)		
		10	15	25
Peptide 120 - C18	5	KKS-010144	KKS-010145	KKS-010146
Protein 300 - C18	5	KKS-010214	KKS-010215	KKS-010216
Protein 300 - C8	5	KKS-010204	KKS-010205	KKS-010206
Protein 300 - C4	5	KKS-010109	KKS-010110	KKS-010111

2.12 cm ID

Function	μm	length (cm)			
		5	10	15	25
Peptide 120 - C18	5	KKS-010147	KKS-010148	KKS-010149	KKS-010150
Protein 300 - C8	5	KKS-010207	KKS-010208	KKS-010209	KKS-010210
Protein 300 - C4	5	KKS-010112	KKS-010113	KKS-010114	KKS-010115

4• KONIK EXCEL Columns

EXCEL™ is a range of totally new packings that employ the most advanced procedures of synthesis and chemical functionalization, resulting in some column packings that completely surpass other silica-based packings on the market.

To manufacture the silica particle, the basis of all EXCEL packings, we begin with materials of extreme purity and follow strictly controlled processes. In this way, we get a totally porous, spherically perfect particle, without surface irregularities and with an extremely low content of metals (Al, Fe, Ti and Zn).

The rigorous control of the process variables also allows us to obtain a material with a perfectly reproducible porosity and surface area, and with a practical absence of micropores. In other competitors' packings, these micropores cause chromatographic problems due to incomplete substitution of the support, while with EXCEL packings micropores are totally eliminated.

We are therefore able to offer you a complete line of HPLC packings with characteristics of reproducibility, purity, deactivation, fluidodynamic behaviour and chemical and physical stability that are difficult to beat.

- Exceptional batch-to-batch reproducibility
- Ultra-pure silica
- Extremely low content of metals
- Perfect sphericity
- Meticulously controlled materials
- Maximum pH range (between 1.5 and 11.0)
- 3, 5 and 10 µm particles
- Easily scaled-up, from microbore to preparative HPLC
- Available with 300Å pore size for biochromatography
- Exceptional long lifetime
- Wide range of packings
- Fully deactivated after functional bonding

EXCEL 120 COLUMNS

ANALYTICAL COLUMNS

0.46 cm ID

Function	µm	length (cm)				
		4	10	15	20	25
ODS-A	5	KKS-016336	KKS-016337	KKS-016338	KKS-016339	KKS-016340
ODS-B	5	KKS-016341	KKS-016342	KKS-016343	KKS-016344	KKS-016345
Si	5	KKS-016356	KKS-016357	KKS-016358	KKS-016359	KKS-016360
C8	5	KKS-016361	KKS-016362	KKS-016363	KKS-016364	KKS-016365
C4	5	KKS-016366	KKS-016367	KKS-016368	KKS-016369	KKS-016370
C1	5	KKS-016371	KKS-016372	KKS-016373	KKS-016374	KKS-016375
NH2	5	KKS-016376	KKS-016377	KKS-016378	KKS-016379	KKS-016380
CN	5	KKS-016381	KKS-016382	KKS-016383	KKS-016384	KKS-016385
Phenyl	5	KKS-016386	KKS-016387	KKS-016388	KKS-016389	KKS-016390

0.40 cm ID

Function	µm	length (cm)				
		4	10	15	20	25
ODS-A	5	KKS-416336	KKS-416337	KKS-416338	KKS-416339	KKS-416340
ODS-B	5	KKS-416341	KKS-416342	KKS-416343	KKS-416344	KKS-416345
Si	5	KKS-416356	KKS-416357	KKS-416358	KKS-416359	KKS-416360
C8	5	KKS-416361	KKS-416362	KKS-416363	KKS-416364	KKS-416365
C4	5	KKS-416366	KKS-416367	KKS-416368	KKS-416369	KKS-416370
C1	5	KKS-416371	KKS-416372	KKS-416373	KKS-416374	KKS-416375
NH2	5	KKS-416376	KKS-416377	KKS-416378	KKS-416379	KKS-416380
CN	5	KKS-416381	KKS-416382	KKS-416383	KKS-416384	KKS-416385
Phenyl	5	KKS-416386	KKS-416387	KKS-416388	KKS-416389	KKS-416390

0.30 cm ID

Function	µm	length (cm)	
		10	20
ODS-A	5	KKS-021355	KKS-021356
ODS-B	5	KKS-021357	KKS-021358
Si	5	KKS-021381	KKS-021382
C8	5	KKS-021383	KKS-021384
C4	5	KKS-021385	KKS-021386
C1	5	KKS-021387	KKS-021388
NH2	5	KKS-021389	KKS-021390
CN	5	KKS-021391	KKS-021392
Phenyl	5	KKS-021393	KKS-021394

ULTRARAPID COLUMNS

0.46 cm ID

Function	μm	length (cm)				
		4	10	15	20	25
ODS-A	3	KKS-013415	KKS-013416	KKS-013417	KKS-013418	KKS-013419
ODS-B	3	KKS-013420	KKS-013421	KKS-013422	KKS-013423	KKS-013424
Si	3	KKS-013425	KKS-013426	KKS-013427	KKS-013428	KKS-013429
C8	3	KKS-013430	KKS-013431	KKS-013432	KKS-013433	KKS-013434
C4	3	KKS-013435	KKS-013436	KKS-013437	KKS-013438	KKS-013439
C1	3	KKS-013440	KKS-013441	KKS-013442	KKS-013443	KKS-013444
NH2	3	KKS-013445	KKS-013446	KKS-013447	KKS-013448	KKS-013449
CN	3	KKS-013450	KKS-013451	KKS-013452	KKS-013453	KKS-013454
Phenyl	3	KKS-013455	KKS-013456	KKS-013457	KKS-013458	KKS-013459

0.40 cm ID

Function	μm	length (cm)				
		4	10	15	20	25
ODS-A	3	KKS-413460	KKS-413461	KKS-413462	KKS-413463	KKS-413464
ODS-B	3	KKS-413465	KKS-413466	KKS-413467	KKS-413468	KKS-413469
Si	3	KKS-413470	KKS-413471	KKS-413472	KKS-413473	KKS-413474
C8	3	KKS-413475	KKS-413476	KKS-413477	KKS-413478	KKS-413479
C4	3	KKS-413480	KKS-413481	KKS-413482	KKS-413483	KKS-413484
C1	3	KKS-413485	KKS-413486	KKS-413487	KKS-413488	KKS-413489
NH2	3	KKS-413490	KKS-413491	KKS-413492	KKS-413493	KKS-413494
CN	3	KKS-413495	KKS-413496	KKS-413497	KKS-413498	KKS-413499
Phenyl	3	KKS-413500	KKS-413501	KKS-413502	KKS-413503	KKS-413504

MICROBORE COLUMNS

0.21cm ID

Function	μm	length (cm)	
		10	20
ODS-A	3	KKS-021407	KKS-021408
ODS-B	3	KKS-021409	KKS-021410
Si	3	KKS-021411	KKS-021412
C8	3	KKS-021413	KKS-021414
C4	3	KKS-021415	KKS-021416
C1	3	KKS-021417	KKS-021418
NH2	3	KKS-021419	KKS-021420
CN	3	KKS-021421	KKS-021422
Phenyl	3	KKS-021423	KKS-021424
ODS-B	5	KKS-021353	KKS-021354
Si	5	KKS-021395	KKS-021364
C8	5	KKS-021365	KKS-021366
C4	5	KKS-021367	KKS-021368
C1	5	KKS-021369	KKS-021370
NH2	5	KKS-021371	KKS-021372
CN	5	KKS-021373	KKS-021374
Phenyl	5	KKS-021375	KKS-021376

0.30cm ID

Function	μm	length (cm)	
		10	20
ODS-A	3	KKS-021425	KKS-021426
ODS-B	3	KKS-021427	KKS-021428
Si	3	KKS-021429	KKS-021430
C8	3	KKS-021431	KKS-021432
C4	3	KKS-021433	KKS-021434
C1	3	KKS-021435	KKS-021436
APS	3	KKS-021437	KKS-021438

SEMIPREPARATIVE COLUMNS

0.78cm ID

Function	µm	length (cm)	
		15	25
ODS-A	5	KKS-016167	KKS-016168
ODS-B	5	KKS-016171	KKS-016172
Si	5	KKS-016175	KKS-016176
C8	5	KKS-016179	KKS-016180
C4	5	KKS-016183	KKS-016184
C1	5	KKS-016187	KKS-016188
NH2	5	KKS-016191	KKS-016192
CN	5	KKS-016195	KKS-016196
Phenyl	5	KKS-016199	KKS-016200

1.00cm ID

Function	µm	length (cm)	
		10	20
ODS-A	5	KKS-016169	KKS-016170
ODS-B	5	KKS-016173	KKS-016174
Si	5	KKS-016177	KKS-016178
C8	5	KKS-016181	KKS-016182
C4	5	KKS-016185	KKS-016186
C1	5	KKS-016189	KKS-016190
NH2	5	KKS-016193	KKS-016194
CN	5	KKS-016197	KKS-016198
Phenyl	5	KKS-016201	KKS-016202

EXCEL 300 COLUMNS

ANALYTICAL COLUMNS

0.46 cm ID

Function	µm	length (cm)				
		4	10	15	20	25
ODS-A	5	KKS-016400	KKS-016401	KKS-016402	KKS-016403	KKS-016404
C8	5		KKS-016406	KKS-016407	KKS-016408	KKS-016409
C4	5		KKS-016411	KKS-016412	KKS-016413	KKS-016414

0.40cm ID

Function	µm	length (cm)				
		4	10	15	20	25
ODS-A	5	KKS-416400	KKS-416401	KKS-416402	KKS-416403	KKS-416404
C8	5	KKS-416405	KKS-416406	KKS-416407	KKS-416408	KKS-416409
C4	5	KKS-416410	KKS-416411	KKS-416412	KKS-416413	KKS-416414

0.30cm ID

Function	µm	length (cm)	
		10	20
ODS-A	5	KKS-021401	KKS-021402
C8	5	KKS-021403	KKS-021404
C4	5	KKS-021405	KKS-021406

5• KONIK EXTRASIL Columns

The new range of Tracer Extrasil packings has been specially developed to replace one of the most popular packings on the market (WS).

All the physical and chromatographic parameters evaluated show a total equivalence between both materials, and what is more important, this has been certified by the excellent results obtained by the many users who upto now have tried this packing.

Economy

Tracer Extrasil represents the most economical choice of HPLC packings.

Reproducibility

An advanced manufacturing process and a strict control of each one of its steps ensures a maximum reproducibility and efficiency in every one of the columns.

Guarantee

The confidence we have in our product enables us to offer a complete guarantee on these columns, so that if for any reason whatever a client thinks that a TRACER EXTRASIL column does not operate in an identical manner to the equivalent WS packing, we will refund his money.

Characteristics of the material

As shown in the following table, the new packing TRACER EXTRASIL is perfectly equivalent to the reference material in all its physicochemical characteristics.

Characteristics

Extrasil 3,5 & 10 µm 80 Å 220 m ² /g	Particle Size Pore Size Surface area Carbon content	WS Packing 3,5 & 10 µm 80 Å 220 m ² /g
4 %	C1	4 %
6 %	C6	6 %
6 %	C8	6 %
7 %	ODS-1	7 %
12 %	ODS-2	12 %
3.5 %	CN	3.5 %
2 %	NH2	2 %
3.0 %	Phenyl	3.0 %
-	SAX	-
-	SCX	-

Distribution of particle size

In the development of this new material there has been special care in optimization of the size of the particle, given that this control is essential to get the best efficiency and stability in the packing.

The comparison made with the WS packing shows once more the total equivalence of these two materials.

Applications

In addition to the complete agreement between the comparative data for both packings, the definitive proof comes from their comparison in a wide range of applications.

EXTRASIL COLUMNS

ANALYTICAL COLUMNS

0.46 cm ID

Function	μm	length (cm)				
		10	12,5	15	20	25
ODS-1	5	KKS-016050	KKS-016051	KKS-016052	KKS-016053	KKS-016054
ODS-2	5	KKS-016055	KKS-016056	KKS-016057	KKS-016058	KKS-016059
Si	5	KKS-016060	KKS-016061	KKS-016062	KKS-016063	KKS-016064
C1	5	KKS-016065	KKS-016066	KKS-016067	KKS-016068	KKS-016069
C6	5	KKS-016070	KKS-016071	KKS-016072	KKS-016073	KKS-016074
C8	5	KKS-016075	KKS-016076	KKS-016077	KKS-016078	KKS-016079
CN	5	KKS-016080	KKS-016081	KKS-016082	KKS-016083	KKS-016084
NH2	5	KKS-016085	KKS-016086	KKS-016087	KKS-016088	KKS-016089
Phenyl	5	KKS-016090	KKS-016091	KKS-016092	KKS-016093	KKS-016094
SAX	5	KKS-016095	KKS-016096	KKS-016097	KKS-016098	KKS-016099
SCX	5	KKS-016100	KKS-016101	KKS-016102	KKS-016103	KKS-016104
ODS-1	10	KKS-016105	KKS-016106	KKS-016107	KKS-016108	KKS-016109
ODS-2	10	KKS-016110	KKS-016111	KKS-016112	KKS-016113	KKS-016114
Si	10	KKS-016115	KKS-016116	KKS-016117	KKS-016118	KKS-016119
C1	10	KKS-016156	KKS-016157	KKS-016158	KKS-016159	KKS-016160
C6	10	KKS-016120	KKS-016121	KKS-016122	KKS-016123	KKS-016124
CN	10	KKS-016130	KKS-016131	KKS-016132	KKS-016133	KKS-016134
NH2	10	KKS-016135	KKS-016136	KKS-016137	KKS-016138	KKS-016139
SAX	10	KKS-016151	KKS-016152	KKS-016153	KKS-016154	KKS-016155
SCX	10	KKS-016146	KKS-016147	KKS-016148	KKS-016149	KKS-016150

0.40 cm ID

Function	μm	length (cm)				
		10	12,5	15	20	25
ODS-1	5	KKS-416050	KKS-416051	KKS-416052	KKS-416053	KKS-416054
ODS-2	5	KKS-416055	KKS-416056	KKS-416057	KKS-416058	KKS-416059
Si	5	KKS-416060	KKS-416061	KKS-416062	KKS-416063	KKS-416064
C1	5	KKS-416065	KKS-416066	KKS-416067	KKS-416068	KKS-416069
C6	5	KKS-416070	KKS-416071	KKS-416072	KKS-416073	KKS-416074
C8	5	KKS-416075	KKS-416076	KKS-416077	KKS-416078	KKS-416079
CN	5	KKS-416080	KKS-416081	KKS-416082	KKS-416083	KKS-416084
NH2	5	KKS-416085	KKS-416086	KKS-416087	KKS-416088	KKS-416089
Phenyl	5	KKS-416090	KKS-416091	KKS-416092	KKS-416093	KKS-416094
SAX	5	KKS-416095	KKS-416096	KKS-416097	KKS-416098	KKS-416099
SCX	5	KKS-416100	KKS-416101	KKS-416102	KKS-416103	KKS-416104
ODS-1	10	KKS-416105	KKS-416106	KKS-416107	KKS-416108	KKS-416109
ODS-2	10	KKS-416110	KKS-416111	KKS-416112	KKS-416113	KKS-416114
Si	10	KKS-416115	KKS-416116	KKS-416117	KKS-416118	KKS-416119
C1	10	KKS-416156	KKS-416157	KKS-416158	KKS-416159	KKS-416160
C6	10	KKS-416120	KKS-416121	KKS-416122	KKS-416123	KKS-416124
CN	10	KKS-416130	KKS-416131	KKS-416132	KKS-416133	KKS-416134
NH2	10	KKS-416135	KKS-416136	KKS-416137	KKS-416138	KKS-416139
SAX	10	KKS-416151	KKS-416152	KKS-416153	KKS-416154	KKS-416155
SCX	10	KKS-416146	KKS-416147	KKS-416148	KKS-416149	KKS-416150

HPLC COLUMNS

ULTRARAPID COLUMNS

0.46 cm ID

Function	μm	length (cm)				
		4	10	15	20	25
ODS-1	3	KKS-013200	KKS-013201	KKS-013202	KKS-013203	KKS-013204
ODS-2	3	KKS-013205	KKS-013206	KKS-013207	KKS-013208	KKS-013209
Si	3	KKS-013210	KKS-013211	KKS-013212	KKS-013213	KKS-013214
C1	3	KKS-013215	KKS-013216	KKS-013217	KKS-013218	KKS-013219
C6	3	KKS-013220	KKS-013221	KKS-013222	KKS-013223	KKS-013224
C8	3	KKS-013226	KKS-013227	KKS-013228	KKS-013229	KKS-013230
CN	3	KKS-013231	KKS-013232	KKS-013233	KKS-013234	KKS-013235
NH2	3	KKS-013236	KKS-013237	KKS-013238	KKS-013239	KKS-013240
Phenyl	3	KKS-013241	KKS-013242	KKS-013243	KKS-013244	KKS-013245

0.40 cm ID

Function	μm	length (cm)				
		4	10	15	20	25
ODS-1	3	KKS-413200	KKS-413201	KKS-413202	KKS-413203	KKS-413204
ODS-2	3	KKS-413205	KKS-413206	KKS-413207	KKS-413208	KKS-413209
Si	3	KKS-413210	KKS-413211	KKS-413212	KKS-413213	KKS-413214
C1	3	KKS-413215	KKS-413216	KKS-413217	KKS-413218	KKS-413219
C6	3	KKS-413220	KKS-413221	KKS-413222	KKS-413223	KKS-413224
C8	3	KKS-413226	KKS-413227	KKS-413228	KKS-413229	KKS-413230
CN	3	KKS-413231	KKS-413232	KKS-413233	KKS-413234	KKS-413235
NH2	3	KKS-413236	KKS-413237	KKS-413238	KKS-413239	KKS-413240
Phenyl	3	KKS-413241	KKS-413242	KKS-413243	KKS-413244	KKS-413245

MICROBORE COLUMNS

0.21 cm ID

Function	μm	length (cm)	
		10	20
ODS-1	5	KKS-021200	KKS-021201
ODS-2	5	KKS-021202	KKS-021203
Si	5	KKS-021204	KKS-021205
C1	5	KKS-021206	KKS-021212
C6	5	KKS-021207	KKS-021208
C8	5	KKS-021209	KKS-021210
CN	5	KKS-021211	KKS-021213
NH2	5	KKS-021214	KKS-021215
Phenyl	5	KKS-021216	KKS-021217
SAX	5	KKS-021218	KKS-021219
SCX	5	KKS-021220	KKS-021221

0.30 cm ID

Function	μm	length (cm)	
		10	20
ODS-1	5	KKS-021236	KKS-021237
ODS-2	5	KKS-021238	KKS-021239
Si	5	KKS-021240	KKS-021241
C1	5	KKS-021242	KKS-021243
C6	5	KKS-021244	KKS-021245
C8	5	KKS-021246	KKS-021247
CN	5	KKS-021248	KKS-021249
NH2	5	KKS-021250	KKS-021251
Phenyl	5	KKS-021252	KKS-021253
SAX	5	KKS-021254	KKS-021255
SCX	5	KKS-021256	KKS-021257

SEMIPREPARATIVE COLUMNS

0.78 cm ID

Function	μm	length (cm)	
		15	25
ODS-1	5	KKS-014501	KKS-014502
ODS-2	5	KKS-014505	KKS-014506
Si	5	KKS-014509	KKS-014510
C1	5	KKS-014513	KKS-014514
C6	5	KKS-014517	KKS-014518
C8	5	KKS-014521	KKS-014522
CN	5	KKS-014525	KKS-014526
NH2	5	KKS-014529	KKS-014530
Phenyl	5	KKS-014533	KKS-014534
SAX	5	KKS-014537	KKS-014538
SCX	5	KKS-014541	KKS-014542
ODS-1	10	KKS-014545	KKS-014546
ODS-2	10	KKS-014549	KKS-014550
Si	10	KKS-014553	KKS-014554
C6	10	KKS-014557	KKS-014558
CN	10	KKS-014565	KKS-014566
NH2	10	KKS-014569	KKS-014570
Phenyl	10	KKS-014573	KKS-014574
SAX	10	KKS-014577	KKS-014578
SCX	10	KKS-014581	KKS-014582

1.00 cm ID

Function	μm	length (cm)	
		10	20
ODS-A	5	KKS-014503	KKS-014504
ODS-B	5	KKS-014507	KKS-014508
Si	5	KKS-014511	KKS-014512
C8	5	KKS-014515	KKS-014516
C4	5	KKS-014519	KKS-014520
C1	5	KKS-014523	KKS-014524
NH2	5	KKS-014527	KKS-014528
CN	5	KKS-014531	KKS-014532
Phenyl	5	KKS-014535	KKS-014536
SAX	10	KKS-014539	KKS-014540
SCX	10	KKS-014543	KKS-014544
ODS-1	10	KKS-014547	KKS-014548
ODS-2	10	KKS-014551	KKS-014552
Si	10	KKS-014555	KKS-014556
C6	10	KKS-014559	KKS-014560
CN	10	KKS-014567	KKS-014568
NH2	10	KKS-014571	KKS-014572
Phenyl	10	KKS-014575	KKS-014576
SAX	10	KKS-014579	KKS-014580
SCX	10	KKS-014583	KKS-014584

6• KONIK ADVANTIX ODS Columns

New packing made of spherical ultra-pure silica particles, with extremely low metals content, functionalized with groups octadecilsilane of polar embedded type. This polar group included in the base of hidrocarbonades chains confers to the packing a high deactivation in front of basic compounds, being able to chromatograph with perfectly symmetric peaks all kind of bases, including the most difficult ones. Working with acid pH's are able to easily cromatograph acid compounds, basic and quelants.

Also, the polar group included in the functionalization of the packing provides an especial selectivity very useful in the resolution of mixtures separated in conventional C18 packings.

ADVANTIX COLUMNS

ANALYTICAL COLUMNS

0.46 cm ID

Function	µm	length (cm)						
		3	4	5	10	15	20	25
ODS	5	KKS-010221	KKS-010222	KKS-010223	KKS-010224	KKS-010225	KKS-010226	KKS-010080

0.40 cm ID

Function	µm	length (cm)						
		3	4	5	10	15	20	25
ODS	5	KKS-410221	KKS-410222	KKS-410223	KKS-410224	KKS-410225	KKS-410226	KKS-410080

ULTRARAPID COLUMNS

0.46 cm ID

Function	µm	length (cm)						
		3	4	5	10	15	20	25
ODS	3	KKS-010253	KKS-010254	KKS-010255	KKS-010256	KKS-010257	KKS-010258	KKS-010259

0.40 cm ID

Function	µm	length (cm)						
		3	4	5	10	15	20	25
ODS	3	KKS-410253	KKS-410254	KKS-410255	KKS-410256	KKS-410257	KKS-410258	KKS-410259

MICROBORE COLUMNS

0.21 cm ID

Function	µm	length (cm)					
		3	5	10	15	20	25
ODS	3	KKS-010260	KKS-010261	KKS-010262	KKS-010263	KKS-010264	KKS-010265
ODS	5	KKS-010227	KKS-010228	KKS-010229	KKS-010230	KKS-010231	KKS-010232

0.3 cm ID

Function	µm	length (cm)					
		3	5	10	15	20	25
ODS	3	KKS-010266	KKS-010267	KKS-010268	KKS-010269	KKS-010270	KKS-010271
ODS	5	KKS-010233	KKS-010234	KKS-010235	KKS-010236	KKS-010237	KKS-010238

SEMIPREPARATIVE COLUMNS

0.78 cm ID

Function	µm	length (cm)		
		10	15	25
		ODS	5	KKS-010239

1.00 cm ID

Function	µm	length (cm)		
		10	15	25
		ODS	5	KKS-010242

2.12 cm ID

Function	µm	length (cm)			
		5	10	15	25
		ODS	5	KKS-010245	KKS-010246

7• KONIK HYPERPACK ODS Columns

Due to its characteristics of pore size, surface area, percentage of covering (%C), and the kind of silica it is build of, it is the suitable alternative to Hypersil ODS packings. Its chromatographic behavior exactly reproduces the one of this popular packing, being able to transfer the chromatographic methods without any kind of adjustment.

HYPERPACK ODS COLUMNS

ANALYTICAL COLUMNS

0.46cm ID

Function	µm	length (cm)						
		3	4	5	10	15	20	25
ODS	5	KKS-011000	KKS-011001	KKS-011002	KKS-011003	KKS-011004	KKS-011005	KKS-011006
C8	5	KKS-011021	KKS-011022	KKS-011023	KKS-011024	KKS-011025	KKS-011026	KKS-011027

0.40cm ID

Function	µm	length (cm)						
		3	4	5	10	15	20	25
ODS	3	KKS-410298	KKS-410299	KKS-410300	KKS-410301	KKS-410302	KKS-410303	KKS-410304
C8	3		KKS-011060	KKS-011061	KKS-011062	KKS-011063	KKS-011064	KKS-011065
ODS	5	KKS-411000	KKS-411001	KKS-411002	KKS-411003	KKS-411004	KKS-411005	KKS-411006
C8	5	KKS-410081	KKS-410082	KKS-410083	KKS-410084	KKS-410085	KKS-410086	KKS-410087

ULTRARAPID COLUMNS

0.46cm ID

Function	µm	length (cm)						
		3	4	5	10	15	20	25
ODS	3	KKS-010298	KKS-010299	KKS-010300	KKS-010301	KKS-010302	KKS-010303	KKS-010304
C8	3	KKS-011053	KKS-011054	KKS-011055	KKS-011056	KKS-011057	KKS-011058	KKS-011059

MICROBORE COLUMNS

0.21cm ID

Function	µm	length (cm)					
		3	5	10	15	20	25
ODS	3	KKS-010305	KKS-010306	KKS-010307	KKS-010308	KKS-010309	KKS-010310
C8	3	KKS-011066	KKS-011067	KKS-011068	KKS-011069	KKS-011070	KKS-011071
ODS	5	KKS-010272	KKS-010273	KKS-010274	KKS-010275	KKS-010276	KKS-010277
C8	5	KKS-011028	KKS-011029	KKS-011030	KKS-011031	KKS-011032	KKS-011033

0.3cm ID

Function	µm	length (cm)					
		3	5	10	15	20	25
ODS	3	KKS-010311	KKS-010312	KKS-010313	KKS-010314	KKS-010315	KKS-010316
C8	3	KKS-011072	KKS-011073	KKS-011074	KKS-011075	KKS-011076	KKS-011077
ODS	5	KKS-010278	KKS-010279	KKS-010280	KKS-010281	KKS-010282	KKS-010283
C8	5	KKS-011160	KKS-011034	KKS-011035	KKS-011036	KKS-011037	KKS-011038

SEMIPREPARATIVE COLUMNS

0.78cm ID

Function	µm	length (cm)		
		10	15	25
ODS	5	KKS-010284	KKS-010285	KKS-010286
C8	5	KKS-011039	KKS-011040	KKS-011041

1.00cm ID

Function	µm	length (cm)		
		10	15	25
ODS	5	KKS-010287	KKS-010288	KKS-010289
C8	5	KKS-011042	KKS-011043	KKS-011044

2.12cm ID

Function	µm	length (cm)			
		5	10	15	25
ODS	5	KKS-010290	KKS-010291	KKS-010292	KKS-010293
C8	5	KKS-011045	KKS-011046	KKS-011047	KKS-011048

8• KONIK NUCLEOSIL Columns

Nucleosil is a totally porous silica packing, which is available with a full range of substituents. For its high quality level it has come to be one of the most popular HPLC packings.

There are a great variety of particle sizes, so that practically all the field of chromatography is covered, from ultrarapid columns with packings of 3µm, to preparative scale, with packings of 25-40µm, the same selectivity being always maintained. The packings of 3, 5, 10µm are characterized by their well adapted distribution of particle sizes, which produces a high efficiency and great stability in the HPLC columns.

The Nucleosil packings are also distinguished by their great stability when subject to extreme values of pH ,being able to work between pH 1 and 9. These values are unreachable by the majority of silica packings.

NUCLEOSIL COLUMNS

ANALYTICAL COLUMNS - NUCLEOSIL 100

0.46 cm ID

Function	µm	length (cm)				
		10	12,5	15	20	25
Si	5	KKS-011331	KKS-011333	KKS-011335	KKS-011337	KKS-011339
C18	5	KKS-011341	KKS-011343	KKS-011345	KKS-011347	KKS-011349
C8	5	KKS-011351	KKS-011353	KKS-011355	KKS-011357	KKS-011359
Phenyl	5	KKS-011361	KKS-011363	KKS-011365	KKS-011367	KKS-011369
C2	7	KKS-016031	KKS-016032	KKS-016033	KKS-016034	KKS-016035
CN	5	KKS-011371	KKS-011373	KKS-011375	KKS-011377	KKS-011379
DIOL	7	KKS-011391	KKS-011393	KKS-011395	KKS-011397	KKS-011399
NH2	5	KKS-011381	KKS-011383	KKS-011385	KKS-011387	KKS-011389
NO2	5	KKS-016036	KKS-016037	KKS-016038	KKS-016039	KKS-016040
N(CH3)2	5	KKS-016041	KKS-016042	KKS-016043	KKS-016044	KKS-016045
SA	5	KKS-011401	KKS-011403	KKS-011405	KKS-011407	KKS-011409
SB	10	KKS-011411	KKS-011413	KKS-011415	KKS-011417	KKS-011419
Si	10	KKS-016600	KKS-016601	KKS-016602	KKS-016603	KKS-016604
C18	10	KKS-016605	KKS-016606	KKS-016607	KKS-016608	KKS-016609
C8	10	KKS-016610	KKS-016611	KKS-016612	KKS-016613	KKS-016614
CN	10	KKS-016615	KKS-016617	KKS-016618	KKS-016619	KKS-016620
NH2	10	KKS-016621	KKS-016622	KKS-016623	KKS-016624	KKS-016625
NO2	10	KKS-016626	KKS-016627	KKS-016628	KKS-016629	KKS-016630
SA	10	KKS-016631	KKS-016632	KKS-016633	KKS-016634	KKS-016635
SB	10	KKS-016636	KKS-016637	KKS-016638	KKS-016639	KKS-016640

0.40 cm ID

Function	µm	length (cm)				
		10	12,5	15	20	25
Si	5	KKS-411331	KKS-411333	KKS-411335	KKS-411337	KKS-411339
C18	5	KKS-411341	KKS-411343	KKS-411345	KKS-411347	KKS-411349
C8	5	KKS-411351	KKS-411353	KKS-411355	KKS-411357	KKS-411359
Phenyl	5	KKS-411361	KKS-411363	KKS-411365	KKS-411367	KKS-411369
C2	5	KKS-416031	KKS-416032	KKS-416033	KKS-416034	KKS-416035
CN	5	KKS-411371	KKS-411373	KKS-411375	KKS-411377	KKS-411379
DIOL	5	KKS-411391	KKS-411393	KKS-411395	KKS-411397	KKS-411399
NH2	5	KKS-411381	KKS-411383	KKS-411385	KKS-411387	KKS-411389
NO2	5	KKS-416036	KKS-416037	KKS-416038	KKS-416039	KKS-416040
N(CH3)2	5	KKS-416041	KKS-416042	KKS-416043	KKS-416044	KKS-416045
SA	5	KKS-411401	KKS-411403	KKS-411405	KKS-411407	KKS-411409
SB	10	KKS-411411	KKS-411413	KKS-411415	KKS-411417	KKS-411419
Si	10	KKS-416600	KKS-416601	KKS-416602	KKS-416603	KKS-416604
C18	10	KKS-416605	KKS-416606	KKS-416607	KKS-416608	KKS-416609
C8	10	KKS-416610	KKS-416611	KKS-416612	KKS-416613	KKS-416614
CN	10	KKS-416615	KKS-416617	KKS-416618	KKS-416619	KKS-416620
NH2	10	KKS-416621	KKS-416622	KKS-416623	KKS-416624	KKS-416625
NO2	10	KKS-416626	KKS-416627	KKS-416628	KKS-416629	KKS-416630
SA	10	KKS-416631	KKS-416632	KKS-416633	KKS-416634	KKS-416635
SB	10	KKS-416636	KKS-416637	KKS-416638	KKS-416639	KKS-416640

ANALYTICAL COLUMNS - NUCLEOSIL 120

0.46 cm ID

Function	μm	length (cm)				
		4	10	15	20	25
Si	5	KKS-016300	KKS-016301	KKS-016302	KKS-016303	KKS-016304
C18	5	KKS-016305	KKS-016306	KKS-016307	KKS-016308	KKS-016309
C8	5	KKS-016310	KKS-016311	KKS-016312	KKS-016313	KKS-016314
C4	5	KKS-016162	KKS-016163	KKS-016164	KKS-016165	KKS-016166
P	7	KKS-016315	KKS-016316	KKS-016317	KKS-016318	KKS-016319
CN	7	KKS-016320	KKS-016321	KKS-016322	KKS-016323	KKS-016324
NH2	7	KKS-016325	KKS-016326	KKS-016327	KKS-016328	KKS-016329
Si	10	KKS-016641	KKS-016642	KKS-016643	KKS-016644	KKS-016645
C18	10	KKS-016646	KKS-016647	KKS-016648	KKS-016649	KKS-016650
C8	10	KKS-016651	KKS-016652	KKS-016653	KKS-016654	KKS-016655

0.40 cm ID

Function	μm	length (cm)				
		4	10	15	20	25
Si	5	KKS-416300	KKS-416301	KKS-416302	KKS-416303	KKS-416304
C18	5	KKS-416305	KKS-416306	KKS-416307	KKS-416308	KKS-416309
C8	5	KKS-416310	KKS-416311	KKS-416312	KKS-416313	KKS-416314
C4	5	KKS-416162	KKS-416163	KKS-416164	KKS-416165	KKS-416166
P	7	KKS-416315	KKS-416316	KKS-416317	KKS-416318	KKS-416319
CN	7	KKS-416320	KKS-416321	KKS-416322	KKS-416323	KKS-416324
NH2	7	KKS-416325	KKS-416326	KKS-416327	KKS-416328	KKS-416329
Si	10	KKS-416641	KKS-416642	KKS-416643	KKS-416644	KKS-416645
C18	10	KKS-416646	KKS-416647	KKS-416648	KKS-416649	KKS-416650
C8	10	KKS-416651	KKS-416652	KKS-416653	KKS-416654	KKS-416655

ULTRARAPID COLUMNS

0.46 cm ID

Function	μm	length (cm)				
		4	10	15	20	25
100 C18	3	KKS-013110	KKS-013111	KKS-013112	KKS-013113	KKS-013119
120 C18	3	KKS-013101	KKS-013103	KKS-013105	KKS-013107	KKS-013109
120 C8	3	KKS-013115	KKS-013116	KKS-013117	KKS-013118	KKS-013124

0.40 cm ID

Function	μm	length (cm)				
		4	10	15	20	25
100 C18	3	KKS-413110	KKS-413111	KKS-413112	KKS-413113	KKS-413119
120 C18	3	KKS-413101	KKS-413103	KKS-413105	KKS-413107	KKS-413109
120 C8	3	KKS-413115	KKS-413116	KKS-413117	KKS-413118	KKS-413124

HPLC COLUMNS

MICROBORE COLUMNS - NUCLEOSIL 120

0.21 cm ID

Function	μm	length (cm)	
		10	20
Si	5	KKS-021125	KKS-021126
C18	5	KKS-021127	KKS-021128
C8	5	KKS-021129	KKS-021130
C6H5	5	KKS-021131	KKS-021132
C2	7	KKS-021133	KKS-021134
CN	5	KKS-021135	KKS-021136
DIOL	7	KKS-021137	KKS-021096
NH2	5	KKS-021097	KKS-021098
NO2	5	KKS-021099	KKS-021100
N(CH3)2	5	KKS-021101	KKS-021102
SA	5	KKS-021103	KKS-021104
SB	5	KKS-021105	KKS-021106

0.30 cm ID

Function	μm	length (cm)	
		10	20
Si	5	KKS-021258	KKS-021259
C18	5	KKS-021260	KKS-021261
C8	5	KKS-021262	KKS-021263
C6H5	5	KKS-021264	KKS-021265
C2	5	KKS-021266	KKS-021267
CN	5	KKS-021268	KKS-021269
DIOL	5	KKS-021270	KKS-021271
NH2	5	KKS-021272	KKS-021273
NO2	5	KKS-021274	KKS-021275
N(CH3)2	5	KKS-021350	KKS-021276
SA	5	KKS-021277	KKS-021278
SB	6	KKS-021279	KKS-021280

MICROBORE COLUMNS - NUCLEOSIL 100

0.21 cm ID

Function	μm	length (cm)	
		10	20
Si	5	KKS-021115	KKS-021116
C18	5	KKS-021065	KKS-021067
C8	5	KKS-021117	KKS-021118
C6H5	5	KKS-021119	KKS-021120
CN	7	KKS-021121	KKS-021122
NH2	5	KKS-021123	KKS-021124

0.30 cm ID

Function	μm	length (cm)	
		10	20
Si	5	KKS-021283	KKS-021284
C18	5	KKS-021281	KKS-021282
C8	5	KKS-021285	KKS-021286
C6H5	5	KKS-021287	KKS-021288
CN	5	KKS-021289	KKS-021290
NH2	5	KKS-021291	KKS-021292

SEMIPREPARATIVE COLUMNS NUCLEOSIL 120

0.78 cm ID

Function	µm	length (cm)	
		15	25
Si	5	KKS-014294	KKS-014296
C18	5	KKS-014286	KKS-014288
C8	5	KKS-014302	KKS-014304
C4	5	KKS-014600	KKS-014601
C6H5	7	KKS-014310	KKS-014312
CN	7	KKS-014318	KKS-014320
NH2	7	KKS-014326	KKS-014328
Si	10	KKS-014366	KKS-014368
C18	10	KKS-014358	KKS-014360
C8	10	KKS-014374	KKS-014376

1.00 cm ID

Function	µm	length (cm)	
		10	20
Si	5	KKS-014298	KKS-014300
C18	5	KKS-014290	KKS-014292
C8	5	KKS-014306	KKS-014308
C4	5	KKS-014602	KKS-014603
C6H5	5	KKS-014314	KKS-014316
CN	5	KKS-014322	KKS-014324
NH2	5	KKS-014330	KKS-014332
Si	5	KKS-014370	KKS-014372
C18	5	KKS-014362	KKS-014364
C8	5	KKS-014378	KKS-014380

SEMIPREPARATIVE COLUMNS NUCLEOSIL 100

0.78 cm ID

Function	µm	length (cm)	
		15	25
Si	5	KKS-014476	KKS-014477
C2	7	KKS-014488	KKS-014489
C8	5	KKS-014484	KKS-014485
C18	5	KKS-014480	KKS-014481
PHENYL	7	KKS-014492	KKS-014493
CN	5	KKS-014496	KKS-014497
DIOL	7	KKS-014585	KKS-014586
NH2	5	KKS-014589	KKS-014590
N(CH3)2	5	KKS-014597	KKS-014598
SA	5	KKS-014770	KKS-014771
SB	5	KKS-014774	KKS-014775

1.00 cm ID

Function	µm	length (cm)	
		10	25
Si	5	KKS-014478	KKS-014479
C2	7	KKS-014490	KKS-014491
C8	5	KKS-014486	KKS-014487
C18	5	KKS-014482	KKS-014483
PHENYL	7	KKS-014494	KKS-014495
CN	5	KKS-014498	KKS-014499
DIOL	7	KKS-014587	KKS-014588
NH2	5	KKS-014591	KKS-014592
N(CH3)2	5	KKS-014599	KKS-014769
SA	5	KKS-014772	KKS-014773
SB	5	KKS-014776	KKS-014777

9• KONIK LICHROSORB Columns

This traditional irregular packing is packed following completely optimized methods, ensuring maximum efficiency, stability and reproducibility in all the columns.

With this irregular packing, the efficiencies normally obtained are of 30-40000 N/m for the 5 µm packings, and 50-70,000 N/m for the 5 µm.

LICHROSORB COLUMNS

ANALYTICAL COLUMNS

0.46 cm ID

Function	µm	length (cm)				
		10	12,5	15	20	25
RP-8	5	KKS-011441	KKS-011443	KKS-011445	KKS-011447	KKS-011449
RP-18	5	KKS-011431	KKS-011433	KKS-011435	KKS-011437	KKS-011439
DIOL	5	KKS-011451	KKS-011453	KKS-011455	KKS-011457	KKS-011459
CN	5	KKS-011471	KKS-011473	KKS-011475	KKS-011477	KKS-011479
RP-8	10	KKS-011501	KKS-011503	KKS-011505	KKS-011507	KKS-011509
RP-18	10	KKS-011491	KKS-011493	KKS-011495	KKS-011497	KKS-011499
DIOL	10	KKS-011511	KKS-011513	KKS-011515	KKS-011517	KKS-011519
CN	10	KKS-011531	KKS-011533	KKS-011535	KKS-011537	KKS-011539

0.40 cm ID

Function	µm	length (cm)				
		3	4	5	10	15
RP-8	5	KKS-411441	KKS-411443	KKS-411445	KKS-411447	KKS-411449
RP-18	5	KKS-411431	KKS-411433	KKS-411435	KKS-411437	KKS-411439
DIOL	5	KKS-411451	KKS-411453	KKS-411455	KKS-411457	KKS-411459
CN	5	KKS-411471	KKS-411473	KKS-411475	KKS-411477	KKS-411479
RP-8	10	KKS-411501	KKS-411503	KKS-411505	KKS-411507	KKS-411509
RP-18	10	KKS-411491	KKS-411493	KKS-411495	KKS-411497	KKS-411499
DIOL	10	KKS-411511	KKS-411513	KKS-411515	KKS-411517	KKS-411519
CN	10	KKS-411531	KKS-411533	KKS-411535	KKS-411537	KKS-411539

SEMIPREPARATIVE COLUMNS

0.78 cm ID

Function	µm	length (cm)	
		15	25
RP-18	7	KKS-014429	KKS-014431

1.00 cm ID

Function	µm	length (cm)	
		15	25
RP-18	7	KKS-014433	KKS-014436

10• KONIK LICHROSPHER Columns

Lichrospher's spherical packing of 5 and 10 µm particle size, giving all the advantages that are common to all the spherical packings: high permeability, high efficiency and excellent column stability.

LICHROSPHER COLUMNS

ANALYTICAL COLUMNS

0.46 cm ID

Function	µm	length (cm)				
		10	12,5	15	20	25
100 RP-18	5	KKS-011551	KKS-011553	KKS-011555	KKS-011557	KKS-011559
100 RP-18ec	5	KKS-011561	KKS-011563	KKS-011565	KKS-011567	KKS-011569
100 RP-8	5	KKS-011571	KKS-011573	KKS-011575	KKS-011577	KKS-011579
100 RP-8ec	5	KKS-011581	KKS-011583	KKS-011585	KKS-011587	KKS-011589
100 NH2	5	KKS-011591	KKS-011593	KKS-011595	KKS-011597	KKS-011599
100 CN	5	KKS-011601	KKS-011603	KKS-011605	KKS-011607	KKS-011609
100 DIOL	5	KKS-011611	KKS-011613	KKS-011615	KKS-011617	KKS-011619
60 RP-Select B	5	KKS-016813	KKS-016814	KKS-016815	KKS-016816	KKS-016817
Si 100	10	KKS-011621	KKS-011623	KKS-011625	KKS-011627	KKS-011629
100 RP-18	10	KKS-011631	KKS-011633	KKS-011635	KKS-011637	KKS-011639
100 RP-18ec	10	KKS-011641	KKS-011643	KKS-011645	KKS-011647	KKS-011649
100 RP-8	10	KKS-011651	KKS-011653	KKS-011655	KKS-011657	KKS-011659
100 RP-8ec	10	KKS-011661	KKS-011663	KKS-011665	KKS-011667	KKS-011669
100 CN	10	KKS-011681	KKS-011683	KKS-011685	KKS-011687	KKS-011689
60 RP-Select B	10	KKS-016808	KKS-016809	KKS-016810	KKS-016811	KKS-016812

0.40 cm ID

Function	µm	length (cm)				
		3	4	5	10	15
100 RP-18ec	5	KKS-411561	KKS-411563	KKS-411565	KKS-411567	KKS-411569
100 RP-8	5	KKS-411571	KKS-411573	KKS-411575	KKS-411577	KKS-411579
100 RP-8ec	5	KKS-411581	KKS-411583	KKS-411585	KKS-411587	KKS-411589
100 NH2	5	KKS-411591	KKS-411593	KKS-411595	KKS-411597	KKS-411599
100 CN	5	KKS-411601	KKS-411603	KKS-411605	KKS-411607	KKS-411609
100 DIOL	5	KKS-411611	KKS-411613	KKS-411615	KKS-411617	KKS-411619
60 RP-Select B	5	KKS-416813	KKS-416814	KKS-416815	KKS-416816	KKS-416817
Si 100	10	KKS-411621	KKS-411623	KKS-411625	KKS-411627	KKS-411629
100 RP-18	10	KKS-411631	KKS-411633	KKS-411635	KKS-411637	KKS-411639
100 RP-18ec	10	KKS-411641	KKS-411643	KKS-411645	KKS-411647	KKS-411649
100 RP-8	10	KKS-411651	KKS-411653	KKS-411655	KKS-411657	KKS-411659
100 RP-8ec	10	KKS-411661	KKS-411663	KKS-411665	KKS-411667	KKS-411669
100 CN	10	KKS-411681	KKS-411683	KKS-411685	KKS-411687	KKS-411689
60 RP-Select B	10	KKS-416808	KKS-416809	KKS-416810	KKS-416811	KKS-416812

SEMIPREPARATIVE COLUMNS

0.78 cm ID

Function	µm	length (cm)	
		15	25
RP-18	10	KKS-014437	KKS-014439
RP-18 ec	10	KKS-014445	KKS-014447

1.00 cm ID

Function	µm	length (cm)	
		15	25
RP-18	10	KKS-014441	KKS-014443
RP-18 ec	10	KKS-014449	KKS-014451

11• KONIK SUPERSPHER Columns

A totally porous spherical packing, with a particle size of 4µm, giving a compromise alternative between the packings of 3 and 5µm.

SUPERSPHER COLUMNS

ANALYTICAL COLUMNS

0.46 cm ID

Function	µm	length (cm)				
		10	12,5	15	20	25
60 Si	4	KKS-011701	KKS-011703	KKS-011705	KKS-011707	KKS-011709
60 RP-8	4	KKS-011711	KKS-011713	KKS-011715	KKS-011717	KKS-011719
100 RP-18	4	KKS-011721	KKS-011723	KKS-011725	KKS-011727	KKS-011729
60 RP-8ec	4	KKS-011731	KKS-011733	KKS-011735	KKS-011737	KKS-011739
100 RP-18ec	4	KKS-011741	KKS-011743	KKS-011745	KKS-011747	KKS-011749

0.40 cm ID

Function	µm	length (cm)				
		10	12,5	15	20	25
60 Si	4	KKS-411701	KKS-411703	KKS-411705	KKS-411707	KKS-411709
60 RP-8	4	KKS-411711	KKS-411713	KKS-411715	KKS-411717	KKS-411719
100 RP-18	4	KKS-411721	KKS-411723	KKS-411725	KKS-411727	KKS-411729
60 RP-8ec	4	KKS-411731	KKS-411733	KKS-411735	KKS-411737	KKS-411739
100 RP-18ec	4	KKS-411741	KKS-411743	KKS-411745	KKS-411747	KKS-411749

12• KONIK PARTISIL Columns

Partisil's high quality irregular packing with a very high surface area. Different degrees of coating for the ODS packings permit optimum selectivity. Partisil ODS is 5% coated, while Partisil ODS2 has 15% and the Partisil ODS3 is covered by a 10% of carbon.

PARTISIL COLUMNS

ANALYTICAL COLUMNS

0.46 cm ID

Function	µm	length (cm)				
		10	12,5	15	20	25
Si	5	KKS-016205	KKS-016206	KKS-016207	KKS-016208	KKS-016209
ODS3	5	KKS-016211	KKS-016212	KKS-016213	KKS-016214	KKS-016215
C8	5	KKS-016217	KKS-016218	KKS-016219	KKS-016220	KKS-016221
PAC	5	KKS-016222	KKS-016223	KKS-016224	KKS-016225	KKS-016226
Si	10	KKS-016227	KKS-016228	KKS-016229	KKS-016230	KKS-016231
ODS	10	KKS-016330	KKS-016331	KKS-016332	KKS-016333	KKS-016334
ODS2	10	KKS-011817	KKS-011819	KKS-011821	KKS-011823	KKS-011825
ODS3	10	KKS-011827	KKS-011829	KKS-011831	KKS-011833	KKS-011835
PAC	10	KKS-016232	KKS-016233	KKS-016234	KKS-016235	KKS-016236
SAX	10	KKS-011837	KKS-011839	KKS-011841	KKS-011843	KKS-011845
SCX	10	KKS-016237	KKS-016238	KKS-016239	KKS-016240	KKS-016241

0.40 cm ID

Function	µm	length (cm)				
		10	12,5	15	20	25
Si	5	KKS-416205	KKS-416206	KKS-416207	KKS-416208	KKS-416209
ODS3	5	KKS-416211	KKS-416212	KKS-416213	KKS-416214	KKS-416215
C8	5	KKS-416217	KKS-416218	KKS-416219		
PAC	5		KKS-416223	KKS-416224	KKS-416225	KKS-416226
Si	10	KKS-416227	KKS-416228	KKS-416229	KKS-416230	KKS-416231
ODS	10	KKS-416330	KKS-416331	KKS-416332	KKS-416333	KKS-416334
ODS2	10	KKS-411817	KKS-411819	KKS-411821	KKS-411823	KKS-411825
ODS3	10	KKS-411827	KKS-411829	KKS-411831	KKS-411833	KKS-411835
PAC	10	KKS-416232	KKS-416233	KKS-416234	KKS-416235	KKS-416236
SAX	10				KKS-411843	KKS-416245
SCX	10	KKS-416237	KKS-416238	KKS-416239	KKS-416240	KKS-416241

13• KONIK TSK GEL SUPER ODS

TSKgel Super-ODS is a reverse phase column that contains 2 µm particles of silica with 150 Å pore size. This column is the best choice when it is required to shorten the analysis time for all types of compounds up to 20,000 Daltons, including the most basic.

- Efficiencies of 200,000N/m
- 2 µm particles
- Extremely short analysis times
- Reduced working pressures
- Lower costs of analysis

TSK GEL REVERSED PHASE - TSK GEL SUPER-ODS COLUMNS

ANALYTICAL COLUMNS

0.46 cm ID

Function	µm	length (cm)		
		7,5	15	25
ODS-80TS 80A	5	KKS-TH-17200	KKS-TH-17201	KKS-TH-17202
ODS-80TM 80A	5	KKS-TH-16651	KKS-TH-08148	KKS-TH-08149
Octyl-80TS 80A	5		KKS-TH-17344	KKS-TH-17345
CN-80TS 80A	5		KKS-TH-17348	KKS-TH-17349
ODS-120A 120A	5		KKS-TH-07636	KKS-TH-07124
ODS-120T 120A	5		KKS-TH-07637	KKS-TH-07125
TMS-250 250A	10	KKS-TH-07190		

0.20 cm ID

Function	µm	length (cm)	
		15	25
ODS-80TS 80A	5	KKS-TH-18150	KKS-TH-18151
ODS-120T 120A	5	KKS-TH-18152	KKS-TH-18153

ULTRARAPID COLUMNS

0.46 cm ID

Function	µm	length (cm)	
		5	10
Super-ODS, 110A	2	KKS-TH-18154	KKS-TH-18197
Super-Octyl, 110A	2	KKS-TH-18275	KKS-TH-18276
Super-Phenyl, 110A	2	KKS-TH-18277	KKS-TH-18278

GUARD COLUMN TSK GEL

0.4 cm ID

Function	µm	length (cm)
		2,6
Super-ODS Guard filtes	2	KKS-TH-18207
Cartridge Holder		KKS-TH-18206

GUARD COLUMNS AND FILTERS

MEDITERRANEA SEA/EUROPA

AND EXCEL GUARD COLUMNS AND FILTERS



KKS-010069



KKS-010067



KKS-010068



Guard column

Description

item n°

Filters

Prefilter Adaptor (Frit not included)	KKS-010067
Frits 0,5 um pore pk/10 units	KKS-010069
Frits 2,0 um pore pk/10 units	KKS-010070

Guard Columns

Guard column Adaptor	KKS-010068
Mediterranea Sea Guard Columns	
Guard column Sea 18 10 x 3,2 mm 5 units	KKS-010071
Guard column Sea 8 10 x 3,2 mm 5 units	KKS-010073
Guard column Sea 4 10 x 3,2 mm 5 units	KKS-010074

Europa Guard Columns

Guard Columns Peptide C 18 10x32 mm pk/5	KKS-C-160-19
Guard Columns Protein C 18 10 x 32 mm pk/5	KKS-C-160-16
Guard Columns Protein C 4 10x 32 mm pk/5	KKS-C-160-13
Guard Columns Protein C 8 10 x 32 mm pk/5	KKS-C-160-14

Excel Guard Columns

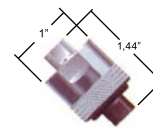
ODS guard column, 5 units	KKS-C-160-1
Si guard column, 5 units.	KKS-C-160-2
C8 guard column, 5 units.	KKS-C-160-3
NH2 guard column, 5 units.	KKS-C-160-4
CN guard column, 5 units.	KKS-C-160-6
C6H5 guard column , 5 units.	KKS-C-160-8
C4 guard column, 5 units	KKS-C-160-17
C1 guard column, 5 units.	KKS-C-160-20

ANALYTICAL COLUMNS GUARD COLUMNS

Description	item n°
Holder for analytical columns	KKS-C-160
ODS guard column, 5 units	KKS-C-160-1
Si guard column, 5 units.	KKS-C-160-2
C8 guard column, 5 units.	KKS-C-160-3
NH ₂ guard column, 5 units.	KKS-C-160-4
SAX guard column, 5 units.	KKS-C-160-5
CN guard column, 5 units.	KKS-C-160-6
PAH guard column, 5 units.	KKS-C-160-7
C ₆ H ₅ guard column , 5 units.	KKS-C-160-8
CARBOHYDRATES guard column , 5 units.	KKS-C-160-9
Anion guard column, 5 units.	KKS-C-160-10
SCX guard column , 5 units.	KKS-C-160-11
C2 guard column , 5 units.	KKS-C-160-12
WP300 C4 guard column , 5 units	KKS-C-160-13
WP300 C8 guard column , 5 units	KKS-C-160-14
DIOL cartridges, 5 units	KKS-C-160-15
WP300 C18 guard column, 5 units	KKS-C-160-16
C4 guard column, 5 units	KKS-C-160-17
PRP-1 guard column, 5 units.	KKS-C-160-18
Peptide C18 guard column 5 units	KKS-C-160-19
C1 guard column, 5 units.	KKS-C-160-20
C6 guard column, 5 units.	KKS-C-160-21

PREPARATIVE COLUMNS GUARD COLUMNS

Description	item n°
Semi prep Holder	KKS-UP-C-1000
Semi-Preparative Cartridge ODS, 1 cm x 2.12 cm ID (2 units)	KKS-C-360-1
Semi-Preparative Cartridge Si 1 cm x 2.12 cm ID (2 units)	KKS-C-360-2
Semi-Preparative Cartridge C 8 1 cm x 2.12 cm ID (2 units)	KKS-C-360-3
Semi-Preparative Cartridge NH ₂ , 1 cm x 2.12 cm ID (2 units)	KKS-C-360-4
Semi-Preparative Cartridge CN 1 cm x 2.12 cm ID (2 units)	KKS-C-360-6
Semi-Preparative Cartridge Protein C 4 1 cm x 2.12 cm ID (2 units)	KKS-C-360-13
Semi-Preparative Cartridge Protein C 8, 1 cm x 2.12 cm ID (2 units)	KKS-C-360-14
Semi-Preparative Cartridge Protein C 18 1 cm x 2.12 cm ID (2 units)	KKS-C-360-16
Semi-Preparative Cartridge Peptide C18 1 cm x 2.12 cm ID (2 units)	KKS-C-360-17
Semi-Preparative Cartridge Mediterranean Sea 18 1 cm x 2.12 cm ID (2 units)	KKS-C-360-18



KKS-UP-C-1000



HPLC MOBILE PHASE FILTERS/ HANDLING SYSTEMS

The Mobile Phase Delivery Systems consists of:

- Solvent Pickup Adapter - for inline filtration. A stopcock allows vacuum degassing after filtration.
- HPLC Reservoir - The unique conical reservoir bottom assures nearly complete delivery of mobile phase. It is made from borosilicate glass for purity.



AUC625902

Ultra-ware® 5 Valve Cap Mobile Phase System

Designed for use with mobile phase recyclers. Mobile phase recirculates directly into the reservoir, while maintaining a helium sparged environment. The system is designed to filter, de-gas and deliver mobile phase in one closed system. Up to five valves can be used at once, for mobile phase recirculation, pump, filtration, vacuum/vent and sparge. A removable 47 mm glass frit allows easy cleaning and replacement of membrane filters.

Description	Item No.
Complete Systems	
Mobile Phase System, 2 L	AUC625902
Mobile Phase System, 5 L	AUC625905

Replacement Parts and Filters

Description	Item No.
Replacement Parts (for parts not listed, please call)	
HPLC Mobile Phase Reservoir, 1 L	AUC620911
HPLC Mobile Phase Reservoir, 2 L	AUC620912
HPLC Mobile Phase Reservoir, 5 L	AUC620915
Glass Frit Filter Support, 47 mm	AUC620920
HPLC Solvent Pickup Adapter	AUC620921

HPLC Mobile Phase Filter Assembly, Ultra-ware®

This is a low cost, easy-to-use microfiltration system which consists of a straight-wall funnel, fritted support base, inner joint flask and an aluminum clamp. The support base has a coarse porosity glass frit and integral vacuum connection. The assembly uses 47 mm filters. The vacuum connection is positioned above the filtrate drip tip to prevent contamination of the vacuum line from solvent splattering. TS 40/35 joints.



AUC620931

Description	Item No.
Complete Systems	
Funnel Cap, 300 mL/ Flask Cap 1000 mL	AUC620931
Funnel Cap, 500 mL/ Flask Cap 2000 mL	AUC620932
Replacement Parts	
Funnel, Graduated, 300 mL	AUC620933
Funnel, Graduated, 500 mL	AUC620935
Fritted Glass Support Base, TS 40/35	AUC620936
Flask, 1000 mL, TS 40/35	AUC620937
Flask, 2000 mL, TS 40/35	AUC620938

Membrane filters for mobile phase filtration 47 mm D.

Protect your instruments and columns eliminating particulates and gases from mobile phase

- Nylon and PVDF membrane filters are resistant to a wide range of organic and aqueous solvents.
- M.E. Cellulose membranes are used for filtration of aqueous mobile phase
- PTFE membrane filters are ideal for organic solvent

Description Membrane	Pore Size μm	Diameter mm	Pk	Item n°
Nylon	0.45 μm	47 mm D	pk/50	KNK-200140
Nylon	0.20 μm	47 mm D	pk/50	KNK-200150
Nylon L.E.	0.45 μm	47 mm D	pk/50	KNK-200450
Nylon L.E.	0.20 μm	47 mm D	pk/50	KNK-200455
PTFE	0.45 μm	47 mm D	pk/50	KNK-200200
PTFE	0.20 μm	47 mm D	pk/50	KNK-200210
M.E. Cellulose	0.45 μm	47 mm D	pk/50	KNK-200260
M.E. Cellulose	0.2 μm	47 mm D	pk/50	KNK-200270
PVDF	0.45 μm	47 mm D	pk/50	KNK-200320
PVDF	0.20 μm	47 mm D	pk/50	KNK-200330
PP	0.45 μm	47 mm D	pk/50	KNK-200380
PP	0.20 μm	47 mm D	pk/50	KNK-200390
Regenerated cellulose	0.45 μm	47 mm D	pk/50	KNK-200420
Regenerated cellulose	0.20 μm	47 mm D	pk/50	KNK-200425
Cellulose acetate	0.45 μm	47 mm D	pk/50	KNK-200458



KNK-200140

HPLC Mobile Phase reservoir

Description	Item No.
Bottle for HPLC 1000 mL. w/cap & filter	KNK-069-906
Bottle for HPLC 1000 mL.	ACE5694000
SS Mobile phase filter, 2 μm , 1/8	ACEJR-367008-2



Mobile phase reservoir

VICI SAFETY EXHAUST FILTER

- Prevents pollution of ambient air with volatile compounds
- Large Capacity
- Long Lifetime
- Version with Breakthrough Detector available
- Universal 1/4"-28 connection
- Fits all Caps of VICI
- Adapter to competitor products available

VICI has developed a new VICI Exhaust Filter with an increased capacity and lifetime and for more safety, this filter is equipped with a Breakthrough Detector. This detector recognizes trace amounts of acetone, acetonitrile, ethanol, ethyl acetate, methanol, methylene chloride and THF. When the absorbent is saturated breakthrough occurs and causes a color change in the detector from orange/pink to dark purple. After the detector itself a small charcoal filter absorbs the vapors.

Description	Item No.
Safety Exhaust Filter with Detector	AWVJR-S-20005
Safety Exhaust Filter (without Detector)	AWVJR-S-20002
Adapter connecting AWVJR-S-20005 and AWVJR-S-20002 in SCAT® Waste Caps and A.I.T Smart Waste Caps	AWVJR-S-40004



AWVJR-S-20005 AWVJR-S-20002 AWVJR-S-40004

HPLC FITTINGS & ACCESSORIES

VICI Safety Air Inlet Valve

- No evaporation of the volatile compounds into the lab-air
- Better composition stability of the mobile phases
- Less shift of retention times
- No bacterial contamination



AWVJR-S-20003 AWWJR-S-20009 AWWJR-S-20006

Vapors of the solution in the bottle cannot go through the Air Inlet Valve, they are blocked by the check valve: The composition of the mobile phase will remain stable, resulting in constant retention times. The check valve regulates the pressure when the negative pressure reaches 1.5 psi or 0.1 bar. This small negative pressure prevents evaporation of the liquid (lower vapour pressure) and still guarantees the stability of the flow rate. A negative pressure which is too high can influence the aspiration of a constant flow.

The Air Inlet Valve consists of a 0.20 µm Cellulose filter that keeps your liquid free of bacteria and dust particles. The lifetime of the check valve and the filter depend on the intensity of use and the quality of the ambient air. To guarantee proper function of the check valve it is recommended that the Air Inlet Valve and filter are replaced after 6-7 months of use.

Description	Item No.
Safety Air Inlet Valve, incl. 4 mm filter	AWVJR-S-20003
Safety Air Inlet Valve, incl. 15 mm filter	AWVJR-S-20009
Safety Air Inlet Valve without filter	AWVJR-S-20006

Spare Parts

Description	Item No.
Cellulose filter, 0.2 µm, 4 mm, for Air Inlet Valve	AWVJR-S-20007
Cellulose filter, 0.2 µm, 15 mm, for Air Inlet Valve	AWVJR-S-20008

GL45 VICI Caps

- Prevent evaporation of volatile compounds
- Fit to all bottles with GL45 thread
- 2, 3, 4, 6 and 7 ports available



AWVJR-S-11001



AWVJR-S-11002



AWVJR-S-11003

Sealing

The GL45 Caps seal to the bottle with an O-ring (EPDM) which is resistant to the commonly used HPLC solvents. In case improved chemical resistance is required (e.g. for halogenated hydrocarbons) we offer additional a FEP-coated O-ring.

Tube connection:

1 port is suitable for 1/16" tubing. All other ports can fit 1/8" and 1/16" OD tubing. Bottom sealing barbed adapter to connect a 1/8" (3.2 mm) ID tubing is available.

Closing unused ports:

Close the ports with Plug AWWJR-409 (PEEK) or Plug AWWJR-201999 (PP).

Description	Item No.
VICI Cap GL45, 2 ports, incl. nuts and ferrules	AWVJR-S-11001
VICI Cap GL45, 3 ports, incl. nuts and ferrules	AWVJR-S-11002
VICI Cap GL45, 4 ports, incl. nuts and ferrules	AWVJR-S-11003
VICI Cap GL45, 6 ports, incl. nuts and ferrules	AWVJR-S-11005
VICI Cap GL45, 7 ports, incl. nuts and ferrules	AWVJR-S-11006
O-ring, FEP coated, GL45	AWVJR-S-40008

Spare Parts

Description	Item No.
Nut, PPS, flangeless, 1/16", 1/4"-28, 10 pcs	AWVJR-55070-10
Nut, PPS, flangeless, 1/8", 1/4"-28, 10 pcs	AWVJR-55071-10
Ferrule, ETFE, 1/16", 10 pcs	AWVJR-041-10
Ferrule, ETFE, 1/8", 10 pcs	AWVJR-051-10
Barbed hose adapter, 1/8" ID tubing	AWVJR-075013
Plug, PEEK, 1/4"-28	AWVJR-409
Plug, PP, 1/4"-28	AWVJR-201999



AWVJR-075013



AWVJR-201999

HPLC FITTINGS / ACCESSORIES

Valco Nuts

These can be used with Valco fittings as well as most other manufacturers. Nuts are made from stainless steel.

Description	Size	Item No.
Standard Nut	1/16"	AWVZN1
Long Nut	1/16"	AWVLZN1

Valco Ferrules

Ferrules are made of stainless steel and can be used with metal or PTFE tubing. The polyimide ferrules can be used up to 350°C. Order as many ferrules as you want; they are packaged together in a bag.

Description	Size	Material	Item No.
Ferrule	1/16"	300 Series Stainless	AWVZF1
Ferrule	1/16"	Polyimide	AWVZF1V

Rheodyne Nuts & Ferrules

These can be used with Rheodyne valves. Nuts are made from stainless steel.

Description	Size	Item No.
Rheodyne Ferrule	1/16" in	30RHE16/F000
Rheodyne Nut Short	1/16" in	30RHE16M/000
Rheodyne Nut Long	1/16" in	30RHE16M/001
Rheodyne Nut Extralong	1/16" in	30RHE16M/002

Rheodyne Loops

Description	Size	Item No.
SS Sample loop, 30°	5 µL	AVR7755-020
SS Sample loop, 30°	10 µL	AVR7755-021
SS Sample loop, 30°	20 µL	AVR7755-022
SS Sample loop, 30°	50 µL	AVR7755-023
SS Sample loop, 30°	100 µL	AVR7755-024
SS Sample loop, 30°	200 µL	AVR7755-025
SS Sample loop, 30°	500 µL	AVR7755-026
SS Sample loop, 30°	1 mL	AVR7755-027
SS Sample loop, 30°	2 mL	AVR7755-028
SS Sample loop, 30°	5 mL	AVR7755-029



Rheodyne, Loops, Nuts & Ferrules

HPLC FITTINGS & ACCESSORIES

Inline Filters / Precolumn Filters

- Stainless Steel or PEEK
- Economical Protection for your Injector and HPLC Column
- Compatible with all HPLC Systems

Protect your sample injector valve from particles shed through normal pump piston seal wear, and your column from premature plugging.

Inline Filters

The filter holder is available in 316 stainless steel or PEEK. The 2 µm replaceable filter element provides effective protection without increasing system back pressure. Inlet and outlet connectors are industry standard 1/16" connections. The PEEK filter has a hand tight design that requires no wrenches.



Inline Filters

Precolumn Filter

The precision manufactured 316 stainless steel holder incorporates a through-hole and dispersion cone geometry for minimal band spreading. Inlet and outlet connections are industry standard 1/16".

Description

Description	Item No.
Inline Filter	
SS with 2 µm SS Frit	AUC624200
Replacement Inline Frit, SS, 2 µm, 10/pk	AUC624230

Inline Filter

PEEK with 2 µm PEEK Frit	AUC624201
Replacement Inline Frit, PEEK, 2 µm, 2/pk	AUC624431

Precolumn Filter

SS, 0.5 µm Frit	AUC624210
Replacement Precolumn Frit, SS, 0.5 µm, 10/pk	AUC624250

Replacement Column Frits - For 4.6 mm ID (1/4" OD) Columns

- Made from stainless steel or PEEK
- With PEEK sealing rings or without
- All 1.6 mm thick



SS Frits, With or Without Sealing Rings

Description

Description	Qty.	Item No.
Frit, SS without Sealing Ring, 0.5 µm	10	AUC624400
Frit, SS without Sealing Ring, 2 µm	10	AUC624410
Frit, SS with Sealing Ring, 0.5 µm	10	AUC624420
Frit, SS with Sealing Ring, 2 µm	10	AUC624430
Frit, PEEK with Sealing Ring, 0.5 µm	2	AUC624421
Frit, PEEK with Sealing Ring, 2 µm	2	AUC624431



EZ-Tite Fittings

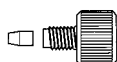
EZ-Tite™ Fittings

- Wrench Free
- Resist Cracking, Stripping and Leakage
- Biocompatible Materials

These wrench free fittings are precision manufactured from polymeric materials for maximum reliability and ease of use. Unlike molded fittings, these machined parts resist cracking, breaking, thread stripping and leakage in both low and high pressure applications. They are made from biocompatible materials for a broader range of applications. 10-32 threads. 10/pack



One-Piece



Two-Piece Fitting

Description

Description	Material	Item No.
One-Piece Fitting	PEEK	AUC624100
Replacement Ferrules	PEEK	AUC624130

TUBING

PTFE Tubing

Pure PTFE tubing has many low-pressure fluid transfer uses. It is ideal for HPLC solvent lines.

Description	50' Coil
1/16" x 1/32"	AUC430026
1/8" x 1/16"	AUC430036
1/4" x 3/16"	AUC430046



PTFE Tubing

Terry Tool Tubing Cutter

This is a uniquely-designed precision tubing cutter that cuts any 1/16" OD metal tubing. Its compact design allows use in awkward, hard-to-reach places without removing tubing from the HPLC.

Description	Item No.
Terry Tool Tubing Cutter	AUC460008
Spare Cutting Wheel	AUC460009



AUC460008

PEEK Tubing - 1/16" OD, 5- Foot Lengths

- Manufactured to precise tolerances
- Color-coded for easy identification
- Biocompatible

Description	Color	Maximum Pressure	Item No.
0.005" ID	Red	340 bar / 5000 psi	AUC624305
0.007" ID	Yellow	340 bar / 5000 psi	AUC624307
0.010" ID	Blue	340 bar / 5000 psi	AUC624310
0.020" ID	Orange	340 bar / 5000 psi	AUC624320
0.030" ID	Green	204 bar / 3000 psi	AUC624330
0.040" ID	Natural	34 bar / 500 psi	AUC624340

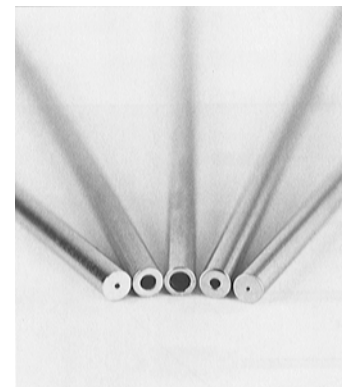


PEEK Tubing

Pre-cut Stainless Steel Tubing, 1/16" OD

Our pre-cut tubing is ready for immediate installation; it is much easier to work with than bulk tubing. The tubing is cut electrochemically and then electropolished, ensuring square, burr free ends without flaring. Tubing is then cleaned with solvent wash and further steam-cleaned using deionized water, for removal of both organic and ionic contaminants. Pre-cut tubing is made from 316 grade stainless steel. 2 pieces each.

ID	5 cm	10 cm	20 cm	30 cm
0.005"	AUCT5C5D	AUCT10C5D	AUCT20C5D	AUCT30C5D
0.010"	AUCT5C10D	AUCT10C10D	AUCT20C10D	AUCT30C10D
0.020"	AUCT5C20D	AUCT10C20D	AUCT20C20D	AUCT30C20D
0.030"	AUCT5C30D	AUCT10C30D	AUCT20C30D	AUCT30C30D
0.040"	AUCT5C40D	AUCT10C40D	AUCT20C40D	AUCT30C40D



Pre-cut Stainless Steel Tubing

Bulk Stainless Steel Tubing - Minimum tubing order is 5 feet

Premium 316 stainless steel tubing for all HPLC applications. Pre-cleaned.

OD x ID	50' Coil	200' Coil
1/16" x 0.010"	AUC430002	AUC430003
1/16" x 0.020"	AUC430005	AUC430006
1/16" x 0.030"	AUC430010	AUC430011
1/16" x 0.040"	AUC430013	



Bulk Stainless Steel Tubing

HPLC ACCESSORIES

POST COLUMN REACTOR

The Model 310 Post Column Reactor (PCR) Module can be used to increase detection sensitivity for variety of compounds including amino acids, proteins, carbohydrates, inorganic ions, and pesticides. The PCR consists of a temperature controller and a reactor cartridge which is designed to combine efficient mixing with low reaction volumes. This combination provides improved reaction kinetics with less peak dispersion resulting in maximum detection sensitivity.

Specifications:

- Cartridge Volumes: 150 μ L, 500 μ L and 1.0 mL
- Maximum Pressure: 3,000 PSI @ 150 °C
- Temperature Control: Solid state controller with LED Display
- Oven Temperature Range: 10 °C above ambient to 150 °C
- Module Dimensions: 12" W x 9" D x 6" H
- Wetted Materials: Teflon[®], 316 SS and PEEK
- Power Requirements: 120 VAC/220 VAC, 50-60 HZ Also available 100 VAC



AIA3100220

Description	item n°
PCR Heater Module, 220 VAC	AIA3100220
Reactor Cartridge, 0.15 mL	AIA3100150
Reactor Cartridge, 0.15 mL Biocompatible	AIA310-0150B
Reactor Cartridge, 0.5 mL	AIA3100500
Reactor Cartridge, 0.5 mL Biocompatible	AIA310500B
Reactor Cartridge, 1.0 mL	AIA3101000
Reactor Cartridge, 1.0 mL Biocompatible	AIA310-1000B

FLOW SPLITTERS (BINARY/ MULTIPOINT, ADJUSTABLE/FIXED)

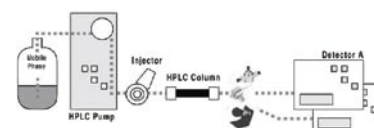
The technology can be applied to all applications where a controlled, reproducible split ratio is required including LC/MS, flow fractionation, pre/post-column flow splitting, mass directed fraction collection, and capillary chromatography. Flow Splitters come in flow rate ranges which make them compatible with micro, analytical, semi-preparative, and preparative HPLC flows rates.

Splitter in usual post column application

Analytical Adjustable Splitters (postcolumn)

Analytical range, 0.1 mL/min. to 5 mL/min. input flow, calibration flow rate 1.0 mL/min. To assure optimum pressure drop across the splitter, please specify the actual inlet flow rate when the splitter is ordered if it is significantly different from the calibration flow rate.

Description	item n°
Analytical Adjustable Flow Splitter, Post-Column 50:1 to 1,000:1	AIA600PO1001
Analytical Adjustable Flow Splitter, Post-Column 15:1 to 250:1	AIA600PO1003
Analytical Adjustable Flow Splitter, Post-Column 5:1 to 100:1	AIA600PO1004
Analytical Adjustable Flow Splitter, Post-Column 1:1 to 20:1	AIA600PO1006



AIA600PO1001

HPLC FITTINGS & ACCESSORIES

Binary Fixed Flow Splitters (postcolumn)

Analytical Splitters - Binary

Analytical range, 0.1 mL/min. to 5 mL/min. input flow, calibration flow 1.0 mL/min.

These splitters will produce under 500 PSI backpressure with water at 1.0 mL/min. The backpressure will decrease or increase in proportion to flow rate changes. In order to assure <500 PSI pressure drop across the splitter, please specify the inlet flow when you order

Description	item n°
Analytical Fixed Flow Splitter Resistor Set, Post-Column Split Ratio = 2,000:1	AIA620111003
Analytical Fixed Flow Splitter Resistor Set, Post-Column Split Ratio = 1,000:1	AIA620111004
Analytical Fixed Flow Splitter Resistor Set, Post-Column Split Ratio = 500:1	AIA620111005
Analytical Fixed Flow Splitter Resistor Set, Post-Column Split Ratio = 200:1	AIA620111006
Analytical Fixed Flow Splitter Resistor Set, Post-Column Split Ratio = 100:1	AIA620111007
Analytical Fixed Flow Splitter Resistor Set, Post-Column Split Ratio = 50:1	AIA620111008
Analytical Fixed Flow Splitter Resistor Set, Post-Column Split Ratio = 20:1	AIA620111009
Analytical Fixed Flow Splitter Resistor Set, Post-Column Split Ratio = 10:1	AIA 620111010
Analytical Fixed Flow Splitter Resistor Set, Post-Column Split Ratio = 5:1	AIA 620111011
Analytical Fixed Flow Splitter Resistor Set, Post-Column Split Ratio = 3:1	AIA620111012
Analytical Fixed Flow Splitter Resistor Set, Post-Column Split Ratio = 1:1	AIA 620111013

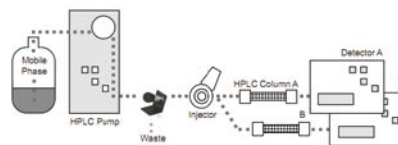
Note: Preparative, semi preparative and micro scale postcolumn splitters also available on request.

Splitter in usual pre column application

Adjustable Flow Splitters

When ordering a pre-column flow splitter, please provide ASI with the column flow rate and back pressure. If the inlet flow rate or column pressure specification is not provided, ASI will configure pre-column flow splitters assuming a 0.5 mL/min. inlet flow rate and a pressure drop across the column of 1,500 PSI.

Description	item n°
Analytical Adjustable Flow Splitter, Pre-Column 50:1 to 1,000:1	AIA600PR1001
Analytical Adjustable Flow Splitter, Pre-Column 15:1 to 250:1	AIA600PR1003
Analytical Adjustable Flow Splitter, Pre-Column 5:1 to 100:1	AIA600PR1004
Analytical Adjustable Flow Splitter, Pre-Column 1:1 to 20:1	AIA600PR1006
Analytical Adjustable Flow Splitter, Pre-Column Custom	AIA600PR10CS



HPLC AND UPLC MIXERS (STATIC AND DYNAMIC MIXING)

Micro Flow, Low Flow, Analytical Flow, High Flow and Combo Series Reduce baseline noise, increase sensitivity, and improve gradient accuracy. UHPLC mixers are available in volumes ranging from 0.5 µL to 1.5 mL and pressure to 15,000 PSI. Available for In-line, Binary and Ternary formats in Stainless Steel (SS) or PEEK

Ideal for microbore HPLC, UHPLC and LC/MS. Compact design is easily integrated into any HPLC and UHPLC system. Increased reaction efficiency for post column derivatization. Decreased mixing and delay volume without sacrificing mixing efficiency. Mixing volume optimization is easy with interchangeable mixer cartridges

	Standard HPLC	UHPLC	Biocompatible PEEK
Pressure Rating	6,000 PSI	15,000 PSI	3,000 PSI
Female Port Geometry	10/32 Parker (1/16 CPI)	10/32 Parker (1/16 CPI)	10/32 Parker (1/16 CPI)
Wetted Materials	Stainless Steel and PEEK	Stainless Steel and PEEK	PEEK



HPLC & UPLC Mixers

HPLC FITTINGS & ACCESSORIES

	Standard HPLC	UHPLC	Biocompatible PEEK
Micro Flow Series			
0.5, 1, 2, 5, 10 and 25 µL	available	available	available
Micro Flow Series			
0.5, 1, 2, 5, 10 and 25 µL	available	available	available
Low Flow Series			
50, 150, and 250 µL	available	available	available
Analytical Flow Series			
350 and 500 µL	available	available	available (In-Line)
High Flow Series			
800 µL, 1.0, and 1.5 mL	available	available	available (In-Line)
Combo Series			
1 to 1000 µL	available (In-Line)	available (In-Line)	available (In-Line)

PULSE DAMPER

The ASI FlatLine™ Pulse Damper combines performance and reliability in a simple, easy to use housing. Standard 10-32 inlet and outlet ports allow quick connection into virtually any HPLC system. Solid core technology provides reliable long term operation without the down time associated with ruptured or leaking membrane dampers. Custom sizes and additional features like integral prime/purge valve available for the OEM market.

Although similar to the standard ASI FlatLine™ Damper, the HC (High Capacity) features a bimodal damping mechanism which includes solid core and dynamic spring deflection. This combination increases damping efficiency over a wider pressure range. The HC is particularly well suited for damping at low pressures, below 500 PSI.



Pulse dampers

Description	item n°
ASI FlatLine™ Pulse Damper	AIA5900001
ASI FlatLine™ HC Pulse Damper	AIA5900010

IN-LINE CHECK VALVE

It is a rapid closure cartridge valve that features very low resistance to flow, low internal volume, and operates independently of gravity. It is protected from solvent contamination by a 1/4" diameter 2 micron frit, and features crush-proof construction. The valve may be used whenever fluid flow needs to be restricted to one direction. Applications include prevention of post column derivatization fluids from back-flowing into the column in the event of mobile phase pump failure. This valve is also available in a high temperature version that will operate at up to 125° C and 5000 PSI.



250-2000

Description	Internal Volume	Cracking Pressure	Maximum Operating Pressure	Cv*	item n°
In-Line Check Valve with 1/8" Ball Cartridge	48 µL	1.0 psi	15,000 psi	0.005	AIA250-2000
Replacement 1/8" Ball Cartridge	48 µL	1.0 psi	15,000 psi	0.005	AIA250-2006
In-Line Check Valve with 1/8" Ball Cartridge Ultra High Pressure	48 µL	1.0 psi	30,000 psi	0.005	AIA250-2000UHP
Replacement 1/8" Ball Cartridge Ultra High Pressure	48 µL	1.0 psi	30,000 psi	0.005	AIA250-2006UHP
In-Line Check Valve with 3/16" Ball Cartridge	60 µL	1.0 psi	15,000 psi	0.02	AIA250-2001
Replacement 3/16" Ball Cartridge	60 µL	1.0 psi	15,000 psi	0.02	AIA250-2007

*Cv of 1.0 is defined as one gallon per minute of 60 °F water resulting from a 1 PSI pressure drop. 1 gallon = 3,785 mL.



HPLC Solvent

HPLC SOLVENTS

Solvents for HPLC and Spectroscopy (UV-IR, HPLC (Gradient, Preparative, Isocratic), IR, GPC)

The PAI (UV-IR-HPLC) range of solvents is specifically designed to be used in the modern methods of Instrumental Analysis, as multipurpose solvents.

The PAI (UV-IR-HPLC) products are strictly controlled in our analytical laboratory. Our quality control includes the IR spectrum to confirm the aptitude for IR spectroscopy. We check the ultraviolet spectrum to confirm the quality level (high Transmittance) required in HPLC and UV spectroscopy applications.

We also guarantee a high assay level (most solvents are 99,9 %) and a very low level of evaporation residue and water contents. These parameters are very important in HPLC.

All these solvents are microfiltered (0.2 microns) to guarantee the minimum particles level. In order to maintain an optimum quality level during storage and for a better conservation, all these solvents are bottled under nitrogen atmosphere.

Our standard packings are 1 L, 2.5 L and 4 L (glass).

The PAI (UV-IR-HPLC) range of products also includes the most usual ion pair reagents in HPLC.

Description	Qty.	Units/box	CAS	Chemical Formula	Item n°.
Acetonitrile (HPLC-hipergradient) HIPERPUR	1000 mL	6	75-05-8	C ₂ H ₃ N	721881.1611T
Acetonitrile (HPLC-hipergradient) HIPERPUR	2.5 L	4	75-05-8	C ₂ H ₃ N	721881.1612T
Acetonitrile (HPLC-gradient) PAI-ACS	1000 mL	6	75-05-8	C ₂ H ₃ N	221881.1611T
Acetonitrile (HPLC-gradient) PAI-ACS	2.5 L	4	75-05-8	C ₂ H ₃ N	221881.1612T
Acetonitrile (HPLC-gradient) PAI-ACS	4 L	4	75-05-8	C ₂ H ₃ N	221881.1646T
Water (HPLC-gradient) PAI	1000 mL	6	7732-18-5	H ₂ O	221074.1611T
Water (HPLC-gradient) PAI	2.5 L	4	7732-18-5	H ₂ O	221074.1612T
Ethanol absolute (HPLC-gradient) PAI	1000 mL	6	64-17-5	C ₂ H ₆ O	221086.1611T
Ethanol absolute (HPLC-gradient) PAI	2.5 L	4	64-17-5	C ₂ H ₆ O	221086.1612T
Methanol (HPLC-hipergradient) HIPERPUR	1000 mL	6	67-56-1	CH ₄ O	721091.1611T
Methanol (HPLC-hipergradient) HIPERPUR	2.5 L	4	67-56-1	CH ₄ O	721091.1612T
Methanol (HPLC-gradient) PAI-ACS	1000 mL	6	67-56-1	CH ₄ O	221091.1611T
Methanol (HPLC-gradient) PAI-ACS	2.5 L	4	67-56-1	CH ₄ O	221091.1612T
Methanol (HPLC-gradient) PAI-ACS	4 L	4	67-56-1	CH ₄ O	221091.1646T
2-Propanol (HPLC-gradient-UV-IR) PAI	1000 mL	6	67-63-0	C ₃ H ₈ O	221090.1611T
2-Propanol (HPLC-gradient-UV-IR) PAI	2.5 L	4	67-63-0	C ₃ H ₈ O	221090.1612T
Acetone (UV-IR-HPLC-GPC) PAI-ACS	1000 mL	6	67-64-1	C ₃ H ₆ O	361007.1611T
Acetone (UV-IR-HPLC-GPC) PAI-ACS	2.5 L	4	67-64-1	C ₃ H ₆ O	361007.1612T
Acetonitrile (UV-IR-HPLC-isocratic) PAI-ACS	1000 mL	6	75-05-8	C ₂ H ₃ N	361881.1611T
Acetonitrile (UV-IR-HPLC-isocratic) PAI-ACS	2.5 L	4	75-05-8	C ₂ H ₃ N	361881.1612T
Acetonitrile (HPLC-preparative) PAI	4 L	4	75-05-8	C ₂ H ₃ N	261881.1646T
Acetic Acid glacial (HPLC) PAI	1000 mL	6	64-19-7	C ₂ H ₄ O ₂	361008.1611T
Acetic Acid glacial (HPLC) PAI	2.5 L	4	64-19-7	C ₂ H ₄ O ₂	361008.1612T
Water (UV-HPLC) PAI-ACS	1000 mL	6	7732-18-5	H ₂ O	361074.1611T
Water (UV-HPLC) PAI-ACS	2.5 L	4	7732-18-5	H ₂ O	361074.1612T
Benzene (UV-IR-HPLC-GPC) PAI-ACS	1000 mL	6	71-43-2	C ₆ H ₆	361192.1611T
Benzene (UV-IR-HPLC-GPC) PAI-ACS	2.5 L	4	71-43-2	C ₆ H ₆	361192.1612T
1-Butanol (UV-IR-HPLC) PAI	1000 mL	6	71-36-3	C ₄ H ₁₀ O	361082.1611T
Butanone (ethyl methyl ketone) (UV-IR-HPLC) PAI	1000 mL	6	78-93-3	C ₄ H ₈ O	361429.1611T
Butanone (ethyl methyl ketone) (UV-IR-HPLC) PAI	2.5 L	4	78-93-3	C ₄ H ₈ O	361429.1612T
Carbon Disulfur (UV-IR-HPLC) PAI	1000 mL	6	75-15-0	CS ₂	361244.1611T
Carbon tetrachloride (UV-HPLC-GPC) (E.U.) PAI	1000 mL	6	56-23-5	CCl ₄	361245.1611T
Cyclohexane (UV-IR-HPLC) PAI-ACS	1000 mL	6	110-82-7	C ₆ H ₁₂	361250.1611T
Cyclohexane (UV-IR-HPLC) PAI-ACS	2.5 L	4	110-82-7	C ₆ H ₁₂	361250.1612T
1-Chlorobutane (UV-IR-HPLC) PAI	1000 mL	6	109-69-3	C ₄ H ₉ Cl	364343.1611T
1-Chlorobutane (UV-IR-HPLC) PAI	2.5 L	4	109-69-3	C ₄ H ₉ Cl	364343.1612T

HPLC FITTINGS & ACCESSORIES

Description	Qty.	Units/box	CAS	Chemical Formula	Item n°.
1,2-Dichlorobenzene (UV-HPLC-GPC) PAI	1000 mL	6	95-50-1	C6H4Cl2	361892.1611T
1,2-Dichloroethane (UV-IR-HPLC-GPC) PAI	1000 mL	6	107-06-2	C2H4Cl2	361286.1611T
1,2-Dichloroethane (UV-IR-HPLC-GPC) PAI	2.5 L	4	107-06-2	C2H4Cl2	361286.1612T
Dichloromethane stabilized with ~20 ppm amilene (UV-IR-HPLC-HPLC preparative-GPC) PAI-ACS	1000 mL	6	75-09-2	CH2Cl2	361254.1611T
Dichloromethane stabilized with ~20 ppm amilene (UV-IR-HPLC-HPLC preparative-GPC) PAI-ACS	2.5 L	4	75-09-2	CH2Cl2	361254.1612T
N,N-Dimethylacetamide (UV-IR-HPLC) PAI	1000 mL	6	127-19-5	C4H9NO	363145.1611T
N,N-Dimethylacetamide (UV-IR-HPLC) PAI	2.5 L	4	127-19-5	C4H9NO	363145.1612T
N,N-Dimethylformamide (UV-IR-HPLC-GPC) PAI-ACS	1000 mL	6	68-12-2	C3H7NO	361785.1611T
Dimethyl sulfoxide (UV-IR-HPLC-GPC) PAI	1000 mL	6	67-68-5	C2H6OS	361954.1611T
Dimethyl sulfoxide (UV-IR-HPLC-GPC) PAI	2.5 L	4	67-68-5	C2H6OS	361954.1612T
1,4-Dioxane stabilized with ~2 ppm BHT (UV-IR-HPLC) PAI	1000 mL	6	123-91-1	C4H8O2	361296.1611T
Ethanol absolute (UV-IR-HPLC) PAI	1000 mL	6	64-17-5	C2H6O	361086.1611T
Ethanol absolute (UV-IR-HPLC) PAI	2.5 L	4	64-17-5	C2H6O	361086.1612T
Ethanol absolute (UV-IR-HPLC) PAI	4 L	4	64-17-5	C2H6O	361086.1646T
Ethanol 96% v/v (UV-IR-HPLC) PAI	1000 mL	6	64-17-5	C2H6O	361085.1611T
Tert-Butyl methyl ether (UV-IR-HPLC-HPLC preparative) PAI	1000 mL	6	1634-04-4	C5H12O	363312.1611T
Tert-Butyl methyl ether (UV-IR-HPLC-HPLC preparative) PAI	2.5 L	4	1634-04-4	C5H12O	363312.1612T
Diethyl ether stabilized with ethanol (UV-IR-HPLC) PAI	1000 mL	6	60-29-7	C4H10O	362551.1611T
Petrol ether 40-60°C (UV) PAI	1000 mL	6	64742-49-0		361315.1611T
Petrol ether 40-60°C (UV) PAI	2.5 L	4	64742-49-0		361315.1612T
Ethyl acetate (UV-IR-HPLC-HPLC preparative) PAI-ACS	1000 mL	6	141-78-6	C4H8O2	361318.1611T
Ethyl acetate (UV-IR-HPLC-HPLC preparative) PAI-ACS	2.5 L	4	141-78-6	C4H8O2	361318.1612T
n-Heptane (UV-IR-HPLC-HPLC preparative) PAI	1000 mL	6	142-82-5	C7H16	362062.1611T
n-Heptane (UV-IR-HPLC-HPLC preparative) PAI	2.5 L	4	142-82-5	C7H16	362062.1612T
n-Hexane (UV-IR-HPLC) PAI	1000 mL	6	110-54-3	C6H14	362063.1611T
n-Hexane (UV-IR-HPLC) PAI	2.5 L	4	110-54-3	C6H14	362063.1612T
n-Hexane (UV-IR-HPLC) PAI	4 L	4	110-54-3	C6H14	362063.1646T
n-Hexane 95% (UV-IR-HPLC) PAI-ACS	1000 mL	6	110-54-3	C6H14	363242.1611T
n-Hexane 95% (UV-IR-HPLC) PAI-ACS	2.5 L	4	110-54-3	C6H14	363242.1612T
Hexane, alkanes mixture (HPLC) PAI	1000 mL	6	92112-69-1	C6H14	361347.1611T
Hexane, alkanes mixture (HPLC) PAI	2.5 L	4	92112-69-1	C6H14	361347.1612T
Isobutanol (UV-IR-HPLC) PAI	1000 mL	6	78-83-1	C4H10O	361089.1611T
Isohexane (UV-IR-HPLC) PAI	1000 mL	6	64742-49-0	C6H14	365261.1611T
Isooctane (UV-IR-HPLC) PAI-ACS	1000 mL	6	540-84-1	C8H18	362064.1611T
Isooctane (UV-IR-HPLC) PAI-ACS	2.5 L	4	540-84-1	C8H18	362064.1612T
Isopentane (UV-IR-HPLC) PAI	1000 mL	6	78-78-4	C5H12	363501.1611T
Methanol (UV-IR-HPLC-HPLC isocratic) PAI-ACS	1000 mL	6	67-56-1	CH4O	361091.1611T
Methanol (UV-IR-HPLC-HPLC isocratic) PAI-ACS	2.5 L	4	67-56-1	CH4O	361091.1612T
Methanol (UV-IR-HPLC-HPLC isocratic) PAI-ACS	4 L	4	67-56-1	CH4O	361091.1646T
1-Methylpyrrolidone (UV-IR-HPLC-GPC) PAI	1000 mL	6	872-50-4	C5H9NO	363080.1611T
n-Pentane (UV-IR-HPLC) PAI	1000 mL	6	109-66-0	C5H12	362006.1611T
n-Pentane (UV-IR-HPLC) PAI	2.5 L	4	109-66-0	C5H12	362006.1612T
n-Pentane 95% (UV-IR-HPLC) PAI	1000 mL	6	109-66-0	C5H12	364462.1611T
1-Propanol (UV-IR-HPLC-HPLC preparative) PAI	1000 mL	6	71-23-8	C3H8O	361885.1611T
1-Propanol (UV-IR-HPLC-HPLC preparative) PAI	2.5 L	4	71-23-8	C3H8O	361885.1612T
2-Propanol (HPLC) PAI	1000 mL	6	67-63-0	C3H8O	361090.1611T
2-Propanol (HPLC) PAI	2.5 L	4	67-63-0	C3H8O	361090.1612T
Propionitrile (UV-HPLC) PAI	1000 mL	6	107-12-0	C3H5N	365732.1611T
Propionitrile (UV-HPLC) PAI	2.5 L	4	107-12-0	C3H5N	365732.1612T
Tetrachloroethylene (UV-IR-HPLC-GPC) PAI	1000 mL	6	127-18-4	C2Cl4	361455.1611T
Tetrahydrofuran (UV-IR-HPLC-GPC) PAI	1000 mL	6	109-99-9	C4H8O	361736.1611T
Tetrahydrofuran (UV-IR-HPLC-GPC) PAI	2.5 L	4	109-99-9	C4H8O	361736.1612T
Toluene (UV-IR-HPLC-HPLC preparative-GPC) PAI-ACS	1000 mL	6	108-88-3	C7H8	361745.1611T

HPLC FITTINGS & ACCESSORIES

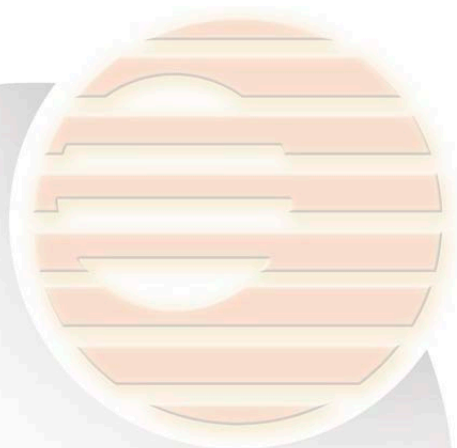
Description	Qty.	Units/box	CAS	Chemical Formula	Item n°.
Toluene (UV-IR-HPLC-HPLC preparative-GPC) PAI-ACS	2.5 L	4	108-88-3	C7H8	361745.1612T
Toluene (UV-IR-HPLC-HPLC preparative-GPC) PAI-ACS	4 L	4	108-88-3	C7H8	361745.1646T
1,2,4-Trichlorobenzene (UV-IR-HPLC-GPC) PAI	1000 mL	6	120-82-1	C6H3Cl3	363541.1611T
Trichloromethane stabilized with ~150 ppm amilene (HPLC-GPC) PAI	1000 mL	6	67-66-3	CHCl3	363101.1611T
Trichloromethane stabilized with ~150 ppm amilene (HPLC-GPC) PAI	2.5 L	4	67-66-3	CHCl3	363101.1612T
Trichloromethane stabilized with etanol (UV-IR-HPLC-HPLC preparative) PAI	1000 mL	6	67-66-3	CHCl3	361252.1611T
Trichloromethane stabilized with etanol (UV-IR-HPLC-HPLC preparative) PAI	2.5 L	4	67-66-3	CHCl3	361252.1612T
1,1,2-Trichlorotrifluoroethane (UV-IR-HPLC) (E.U.) PAI	1000 mL	6	76-13-1	C2Cl3F3	363266.1611T
1,1,2-Trichlorotrifluoroethane (UV-IR-HPLC) (E.U.) PAI	2.5 L	4	76-13-1	C2Cl3F3	363266.1612T

SOLVENTS FOR K2/LCMS

Konik has included the new K2 / LCMS solvents in its range of HPLC reagents that satisfy the requirements of these techniques:

- Very low concentration (<100 ppb) of metals (such as sodium and potassium) that could form clusters and, therefore, difficult the correct determination of the molecular ion.
- Microfiltered through 0.2 µm pore size filter, assuring a low content of particles.
- Suitability for LC-MS: No signals higher than the molecular peak of the reserpine (609 amu) at a concentration of 100 ppb, in a range from 200 to 2.000 amu.
- High UV transmittance and an excellent baseline in gradient elution for HPLC.

Description	Item n°
Acetonitrile (K2/LC-MS), pack 2,5 l	MAP701881.1612
Methanol (K2 / LC-MS), pack 2,5 l	MAP701091.1612
Water (K2 / LC-MS), pack 2,5 l	MAP701074.1612







KONIK INSTRUMENTS SPARES KITS

Regular preventive maintenance is essential for a proper operation. Regular preventive maintenance will increase the life of the instrument, result in maximum uptime, and provide you with optimum performance. Maintenance procedures are extensively covered in the User's Manuals.

The Spares Parts KITS (optional) contain the consumables and spares parts needed in the basic maintenance of the KONIK systems for one year. Keeping these parts on hand can reduce system downtime related to instrument maintenance and repair. Please, contact your local KONIK Distributor for any assistance or requirements of further supplies.

- KONIK HRGC Spares Kit
- KONIK MS Spares Kit
- KONIK HPLC Spares Kit



HRGC 5000B

KONIK HRGC SPARES KITS

General Spares KIT KNK-SPA-5000

Contains:

Description	Item n°	Qty (recommended p year)
Fuses 5x20 1A	24FUS520010R	3
Fuses 5x20 4A	24FUS520040R	5
Fuses 5x20 10A	24FUS520100R	3
Fuses 6,3x32 10A	24FUS630100R	2
Temperature sensor pt-100	GC4302PT-100L-0	1

Conventional Injector KNK-SPA-5001

Contains:

Description	Item n°	Qty (recommended p year)
Vespel ferrule 1/8"	30SGV08/F000	2
Liner 1/8"	433AINS005/0	2
10µl Hamilton syringe	ACH80300	1
Septa (Pk100)	AUC234905	1
Heater 125W 220V3/8*1.5	GC4302CALDET--0	1
Temperature sensor	GC4302PT-100L-0	1

Capillary Injector KNK-SPA-5002

Contains:

Description	Item n°	Qty (recommended p year)
Vespel ferrule 1/8"	30SGV08/F000	2
Liner 1/8"	433AINS005/0	2
10µl Hamilton syringe	ACH80300	1
Septa (Pk100)	AUC234905	1
Split hydrocarbon trap	GC4202PULMSP--0	1
SS Capillary reducer 1/8"-1/16"	GC4102ACOLD/I-0	2
Graphite Ferrule 0.5 (pk10)	AUC211105	1
Graphite Ferrule 0.8 (pk10)	AUC211108	1
Heater 125W 220V3/8*1.5	GC4302CALDET--0	1
Temperature sensor	GC4302PT-100L-0	1



KNK-SPA-5002

KONIK HRGC Spares Kits

PTV Injector *KNK-SPA-5003*

Contains:

Description	Item n°	Qty (recommended p year)
Vespel ferrule 1/8"	305GV08/F000	2
PTV Liner 1/8"	433AINS005/2	2
10µl Hamilton syringe	ACH80300	1
Septa (Pk100)	AUC234905	1
Split hydrocarbon trap	GC4202PULMSP--0	1
SS Capillary reducer 1/8"-1/16"	GC4102ACOLD/I-0	2
Graphite Ferrule 0.5 (pk10)	AUC211105	1
Graphite Ferrule 0.8 (pk10)	AUC211108	1
Heater 125W 220V3/8*1.5	GC4302CALDET--0	1
Temperature sensor	GC4302PT-100C-0	1

FID Detector *KNK-SPA-5010*

Contains:

Description	Item n°	Qty (recommended p year)
FID/NPD Jet	433AFID011/0	1
FID Ignitor	4330AFID005/0	1
Graphite Ferrule 1/4" FID/NPD	305GG04/F000	1
Viton O'ring 12*1.5	37TOR12015/V	1
Heater 125W 220V3/8*1.5	GC4302CALDET--0	1
Temperature sensor	GC4302PT-100C-0	1



KNK-SPA-5010

TCD Detector *KNK-SPA-5015*

Contains:

Description	Item n°	Qty (recommended p year)
WX Pair matched filaments	433TCDF13002/	2
Heater 125W 220V3/8*1.5	GC4302CALDET--0	1
Temperature sensor	GC4302PT-100C-0	1

ECD Detector *KNK-SPA-5020*

Contains:

Description	Item n°	Qty (recommended p year)
ECD Jet	433AECD011/0	1
Graphite Ferrule for ECD base	433AECD022/0	1
Graphite Ferrule 1/4" ECD	305GG04/F100	1
Viton O'ring 15*2.0	37TOR15020/V	1
Heater 125W 220V3/8*1.5	GC4302CALDET--0	1
Temperature sensor	GC4302PT-100C-0	1

NPD Detector *KNK-SPA-5025*

Contains:

Description	Item n°	Qty (recommended p year)
FID/NPD Jet	433AFID011/0	1
Alkaline bead	433ANPD00010	1
Graphite Ferrule 1/4" FID/NPD	305GG04/F000	1
Viton O'ring 12*1.5	37TOR12015/V	1
Heater 125W 220V3/8*1.5	GC4302CALDET--0	1
Temperature sensor	GC4302PT-100C-0	1

GC/HPLC/MS MAINTENANCE

FPD Detector **KNK-SPA-5030**

Contains:

Description	Item n°	Qty (recommended p year)
FID/NPD Jet	433AFID011/0	1
FID Ignitor	4330AFID005/0	1
Graphite Ferrule 1/4" FID/NPD	30SGG04/F000	1
Heater 125W 220V3/8*1.5	GC4302CALDET--0	1
Temperature sensor	GC4302PT-100C-0	1

FID/FPD Detector **KNK-SPA-5032**

Contains:

Description	Item n°	Qty (recommended p year)
FID/NPD Jet	433AFID011/0	1
FID Ignitor	4330AFID005/0	1
Graphite Ferrule 1/4" FID/NPD	30SGG04/F000	1
Heater 125W 220V3/8*1.5	GC4302CALDET--0	1
Temperature sensor	GC4302PT-100C-0	1

TOOL KIT **KNK-SPA-TOOLK**

Contains:

Description	Item n°	Qty (recommended p year)
Fixed key 1/4"-5/16"	29FIJ104516/	2
Combined key 7/16"	29COM716000/	2
Combined key 10mm	29COM010000/	1
Allen key 4mm	29ALL0040/00	1
Allen key 3mm	29ALL0030/00	1
Allen key 1.5mm	29ALL0015/00	1
Jet Screwdriver	29KNK00JET/0	1
SS Multiuse extractor	29KNK00EXT/0	1

SET OF ST-PIECES **KNK-SPA-TKIT**

Contains:

Description	Item n°	Qty (recommended p year)
T brass 1/8"	30SWL08MTE/0	5

METHANIZER SPARE KIT **KNK-319-735**

Contains:

Description	Item n°	Qty (recommended p year)
Methanizer Replacement tube	knk-319-735	1

KONIK MSQ12 Spares Kits

GC EI KIT OF SPARES AND CONSUMABLES

KNK-Q12-500

Contains:

Description	Item n°	Qty (recommended p year)
MS1520FILAMEN40	Filament	3
MS1520CONFONTO	Kit of screws and connectors for source	1
MS1510SETORIN-1	Set off o-rings for MSQ12	1
MS1320PT-100--1	Source temperature sensor	1
MS1120AISIMAN-0	Trap insulator	1
MS1550PANFOSFO0	Phosphorous screen	1
VRA010996	Oil charge for RVP (2L)	1
MS1120CERGUIA-0	Ceramic lens holder	4
MS1120LINER--0	Source liner	2
MS1320CALEF40-0	Source heater	1
MS1520WIRESOUR0	Source wires set with terminals	1
MS1560PFTBA---1	PFTBA calibration compound	1
MS1560VIALRO--0	Calibration vial	1
MS1360CALEF200-0	Transfer Line heater	1
MS1360PT-100--1	Transfer Line temperature sensor	1
MS1120LENTEI--0	El focusing lens	4
MS1120VOLUMIO-0	El ionisation chamber	1



KONIK MSQ12 GC

GC EI/CI KIT OF SPARES AND CONSUMABLES

KNK-Q12-520

Contains:

Description	Item n°	Qty (recommended p year)
MS1520FILAMEN40	Filament	3
MS1520CONFONTO	Kit of screws and connectors for source	1
MS1320PT-100--1	Source temperature sensor	1
MS1120AISIMAN-0	Trap insulator	1
MS1550PANFOSFO0	Phosphorous screen	1
VRA010996	Oil charge for RVP (2L)	1
MS1120CERGUIA-0	Ceramic lens holder	4
MS1120LINER--0	Source liner	2
MS1320CALEF40-0	Source heater	1
MS1520WIRESOUR0	Source wires set with terminals	1
MS1560PFTBA---1	PFTBA calibration compound	1
MS1560VIALRO--0	Calibration vial	1
MS1360CALEF200-0	Transfer Line heater	1
MS1360PT-100--1	Transfer Line temperature sensor	1
MS1120LENTEI--0	El focusing lens	4
MS1120LENTCI2-0	CI focusing lens 2mm	2
MS1120LENTCI3-0	CI focusing lens 3mm	2
MS1120VOLUMIO-0	El ionisation chamber	1
MS1120VOLUMGC-0	CI ionisation chamber	1

GC/HPLC/MS MAINTENANCE



KNK-Q12-530

SOURCES CLEANING KIT

KNK-Q12-530

Contains:

Description	Item n°	Qty (recommended p year)
MS1520NYGLOVE-0	Nylon gloves, large (PK24)	1
MS1520TEXCLOTH0	Clean Tex cloths (PK50)	1
MS1520MIMESH5-0	Micro mesh abrasive sheet kit	2
MS1520MIMESH0-0	Micro mesh polishing file board	2
MS1520COTTIP--0	Cotton tipped applicators (PK100)	1
MS1520ALPOWDER0	Alumina powder	1
MS1520DUSTOFF-0	Disposable dust-off bottle	1
29PIN000000/	Tweezer set	1
29DE5000000/	Jewelers screwdrivers set	1
MS1520BIMAGN--0	Binocular magnifier	1

DIP KIT OF SPARES AND CONSUMABLES

KNK-Q12-550

Contains:

Description	Item n°	Qty (recommended p year)
MS1540C RUCI29-0	Crucibles for MS Q12 DIP (PK50)	1
MS1540COVER29-0	Cover for DIP crucibles (PK50)	1
MS1540PINZAVIA0	MS Q12 DIP vials tweezer	1
MS1140SUPVIAL-0	MS Q12 DIP vials support block	1
MGJ1278140	Semi-micro spatula	1
MGJ1000013	Kolle handler	2
MS1140DIPDUMM-0	DIP Dummy probe	1
MS1140TUBREFRI1	DIP Cooling tube with clamps	1

LC ESI/APCI KIT OF SPARES AND CONSUMABLES

KNK-Q12-510 (ESI) KNK-Q12-540 (ESI/APCI)

Contains:

Description	Item n°	Qty (recommended p year)
KNK-STD-KIT5	Set of calibration compounds for LC-MS	1 1
AGKA0584	Nut peek 1/16IN UNF 10-32 (PK10)	2 2
AGKA0685	Peek capillary 1/16IN ODX0.25MM ID, 1.5M long	1 1
MS1131PUNTAESI1	ESI TIP complete	2 2
MS1130CALDRY--0	Drying Gas Heater	1 1
MS1360PT-100--1	MS Q12 Temperature sensor	1 1
MS1130ORINGSET0	O'ring set for ESI/APCI source	1 1
AUC211105	0.5mm graphite ferrule (PK10)	1 1
MS1132CORAPCI-0	APCI Corona complete	1
MS1132CALAPCI-0	APCI Heater and Temperature sensor	1
MS1132CAPIAPCI0	APCI capillary SS 33/180mm/3	2

KONIK HPLC Spares Kit

560 ISOCRATIC PUMP SPARES KIT *KNK-069-050*
560 GRADIENT PUMP SPARES KIT *KNK-069-055*

Contains:

Description	Item n°	Qty (recommended p year)
Check Valve Cartridge Inlet	AIA2501190	1
Check Valve Cartridge Outlet	AIA2501195	1
Replacement filter pk5	AIA2501220	1
Piston seal 1/8" (black, PTFE) *	AIA2001540	2
Purge Valve Set	ACEPG250000	1
Seal for bypass Valve (PTFE)	ACE59200150	1

* also available in UHMW-PE

UV-VIS 560 DETECTOR SPARES KIT *KNK-069-965*

Contains:

Description	Item n°	Qty (recommended p year)
Flow Cell Analytical UV-VIS 560	ACE79000001	1
Deuterium Lamp UV-VIS 560	ACE22590001	1
Tungsten Lamp UV-VIS 560	ACE7590002	1

PDA 560 AND UV-VIS 560 MW DETECTOR SPARES KIT *KNK-069-975*

Contains:

Description	Item n°	Qty (recommended p year)
Flow Cell Analytical PDA 560	ACE14000000	1
Deuterium Lamp PDA 560	ACE22590001	1

FL 560 DETECTOR SPARES KIT *KNK-069-270*

Contains:

Description	Item n°	Qty (recommended p year)
Flow Cell 16uL	ABJ6715H311B	1
Xenon Lamp	ABJJID32001	1

7725i INJECTION VALVE SPARE KIT *KNK-069-960*

Contains:

Description	Item n°	Qty (recommended p year)
Stator for 7725i	AVR7725-010	1
Stator face assembly for 7725i	AVR7725-026	1
Vespel rotor Seal for 7725i	AVR7125-047	1

HPLC TOOL KIT *KNK-069-985*

Contains:

Description	Item n°	Qty (recommended p year)
Tub cutting 1/6" OD	29KNKTUBCUT/	1
Fixed key 1/4 - 5/16"	29FIJ04516/	2

NOTE: We also sell spare parts compatible with the major brands of HPLC (Check valves, seals, pistons). Please don't hesitate to ask for a quote.



KONIK HPLC 560

GENERAL SUPPLIES: KITS AND TOOLS

Capillary Survival Kit®

Our Capillary Survival Kit was designed with the practicing chromatographer in mind. Each kit includes:



AUC205625

- Magnifier with built in light
- Slide-Lok tweezers for holding small items; “spacing” the column proper distances into the injection port, etc.
- 15 cm steel ruler
- 3 column scribes, for cleanly-cut columns
- 2 universal unions for joining broken capillary columns or connecting guard columns
- Single-ended pin vise holds drill bits
- 3 drill bits, 0.4 mm, 0.5 mm and 0.8 mm
- Multipurpose septum pick
- Nylon brushes, 1/8”, 3/16” and 1/4”
- Pipecleaners 5 each, 1/8” OD and 1/4” OD
- Open-end wrench, 1/4” + 5/16”
- High temperature string (>400OC) 25 ft.
- 2 Ferrule remover

Description

Capillary Survival Kit

Item No.

AUC205625

Injection Port Cleaning Kit

This is designed for cleaning all GC injection ports, including those in KONIK instruments. Kit contains three stainless steel brushes, 5 mm, 1/4” and 3/8”, and one scraper for removing septum residue.



AUC206211

Description

Injection Port Cleaning Kit

Item No.

AUC206211

FID Cleaning Kit

Use this kit to clean both the jet tip and collector. It includes three jet reamers, 0.016”, 0.019”, and 0.024” OD; one mini-drill bit 0.0102” OD; two wire mini-brushes, one brass and one stainless steel; and a dual-ended handle for the reamers and brushes.



AUC205220

Description

FID Cleaning Kit

Item No.

AUC205220

Packed Column Change Kit

The Packed Column Change Kit includes three ratchet wrenches, 7/16”, 1/2” and 9/16”; one Imp® Tubing cutter, and one roll of PTFE tape, 1/2” x 520”. The ratchet wrenches are ideal for tight spaces; the ratchet tips can be opened, then snapped closed around the fittings.



AUC205250

Description

Packed Column Change Kit

Item No.

AUC205250

Injection Liner Cleaning Kit

This kit includes four different sizes of nylon brushes to clean most liners, and one foot of pipe cleaner. The 4 mm and 2 mm diameter brushes clean standard liners; the 1 mm and 0.5 mm diameter brushes can reach inside reversible tapered liners.

Description	Item No.
Injection Liner Cleaning Kit	AUC205215



AUC205215

Glass Wool Inserter

Used for inserting glass wool into packed columns. Simply wrap a small piece of glass wool around the tip to push it into the column.

Description	Item No.
Glass Wool Inserter	AUC486310



AUC486310

Fine Wire Kit

The KONIK Fine Wire Kit lets you clean many small items around the lab; also useful for bending into microhooks, other uses. The kit contains a pin vise, and 30 stainless steel wires, 10 each of the following sizes, 0.006", 0.010" and 0.020".

Description	Item No.
Fine Wire Kit	AUC205230



AUC205230

Glass Tubing Cutter

For shortening glass columns or inserts; other applications involving glass tubing. The hardened steel cutting wheel scores tubing as it is turned; cuts tubing up to 1.5" OD.

Description	Item No.
Glass Tubing Cutter	AUC205595
Spare Cutting Wheels, 5/pk	AUC205596



AUC205595

Allen Wrench Set

Standard or Metric. The standard (USA) Allen wrenches come in a set of 9, from 0.050" to 3/16". The metric Allen wrenches come in a set of 7, from 1.5 mm to 6 mm.

Description	Item No.
Allen Wrench Set, Standard	AUC205670
Allen Wrench Set, Metric	AUC205671



AUC205670

PTFE Tape

This is great for leak-proofing fittings; dry-lubricating joints. Do not use over ferrules. PTFE tape comes in rolls of 520 inches; 1/2" wide.

Description	Item No.
PTFE Tape	AUC205117



AUC205117

GC/HPLC/MS MAINTENANCE



AUC205632

Mirror on a Stick

The Mirror on a Stick lets you peer around corners or tight spaces; also used at the outlet of flame detectors; condensation on the mirror indicates the flame is lit.

Description	Item No.
Mirror on a Stick	AUC205632



AUC205678

Micro Hook

This is a multi-purpose hook used for pulling O-rings, springs, or septum fragments.

Description	Item No.
Micro Hook	AUC205678



AUC205642

Threadulator Thread Cutter

Cleans up cross-threaded fittings on columns, fittings, ect. Knurled outer handle for secure grip; hardened steel cutter. Available in three sizes.

Description	Item No.
Threadulator, 1/16"	AUC205638
Threadulator, 1/8"	AUC205640
Threadulator, 1/4"	AUC205642



AUC205676

Jeweler's Screwdriver

Six flat head screwdrivers with convenient swivel-top handles. Blades are from 0.025" to 100" in width.

Description	Item No.
Jeweler's Screwdriver	AUC205676



AUC205320

Capillary / HPLC Wrench Set

This set includes 4 wrenches for use on 1/32", 1/16" or 1/8" nuts. The wrench ends are 3/16", 1/4", 5/16", 3/8" and 7/16".

Description	Item No.
Capillary / HPLC Wrench Set	AUC205320



AUC205622

Open End Wrenches

This set fits most types of fittings. Sizes range from 5/16" to 9/16" in 1/16" increments. Made from chrome-plated steel. 5 wrenches.

Description	Item No.
Open End Wrenches	AUC205622

Magnet on a Stick

This is used to pick up small objects such as screws and nuts from instrument cabinets and circuit boards.

Description

Magnet on a Stick

Item No.

AUC205630



AUC205630

Needle Cleaning Kit

This kit is specifically designed for cleaning syringes and needles. It includes one bottle of organic, biodegradable cleaning solution, and 10 each of five different diameter tungsten wires, ranging in diameter from 0.0035" to 0.0121". Suggested cleaning procedures are included. This kit is especially recommended for cleaning Hamilton syringes.

Description

Needle Cleaning Kit

Item No.

ACH76620



ACH76620

Lighted Magnifier

This is perfect for inspecting capillary end cuts and syringe tips. The 3 cm x 3 cm lens magnifies 4x; small bifocal insert lens measure 8x. Keep one in your desk. Batteries included.

Description

Lighted Magnifier

Item No.

AUC205648



AUC205648

Needle-Nose Pliers

These are useful for picking up or clamping small parts. Comes with vinyl grips for sure grip.

Description

Needle-Nose Pliers

Item No.

AUC205626



AUC205626

Wire Stripper / Crimper

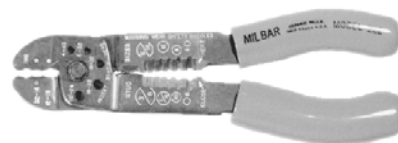
Useful for cutting or stripping wire, and crimping on connectors. For repairs, maintenance and prototyping.

Description

Wire Stripper / Crimper

Item No.

AUC205574



AUC205574

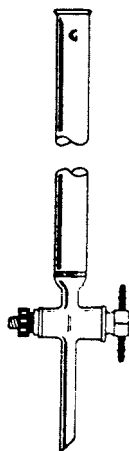


10 • *Sample Preparation*

GLASSWARE

Liquid Chromatography Columns

These have a coarse glass frit at the bottom end, and come with or without PTFE stopcock. Also available without frit; please call for information.



Liquid Chromatography Column

Description	Item No.
10 mm ID x 300 mm Glass Column with Frit	AUC476310
10 mm ID x 300 mm Glass Column with Frit and Stopcock	AUC477310
19 mm ID x 400 mm Glass Column with Frit and Stopcock	AUC477419
22 mm ID x 400 mm Glass Column with Frit and Stopcock	AUC477422

SOLID PHASE EXTRACTION

Solid Phase Extraction cartridges from KONIK provide fast and efficient sample clean-up and concentration prior to analysis. Our cartridges use medical grade polypropylene tubes, porous polyethylene frits, and highly reproducible sorbents. All of our SPE syringe cartridges are equipped with male Luer tips, for versatility in connections and processing.

Choosing the Proper Packing Type

Reversed Phase - C18, C8, C4, C2 and Phenyl bonded phases are available and offer a variety of selectivities. Non-polar to moderately polar compounds in a polar matrix are retained by reversed-phase sorbents. Reversed-phase packings require conditioning with an organic solvent followed by an aqueous solvent prior to use. Elution of moderately polar compounds is often accomplished with mid-polarity solvents while non-polar compounds require less polar solvents.

Normal Phase - Silica, Florisil, Amino, Cyano, Diol and Alumina are usually used to retain polar compounds from non-polar matrices. Conditioning is carried out with a non-polar solvent. Elution is accomplished with more polar solvents. Compounds with pH basic functional groups are readily retained by silica. However, very polar compounds such as carbohydrates can be irreversibly retained on silica surface. In this case, a bonded and mid-polarity phase such as Diol or Amino is a better choice.

Ion Exchange - Strong anion (SAX) and cation (SCX) exchangers are available. Anions and cations are retained on the corresponding resin by exchanging the anion or cation in the buffers, 0.1 M - 0.5 M, or by changing the pH of elution solvent such that the sample compound is no longer charged. These resins are silica based and lose some exchange capacity with increasing organic solvent content in the sample.



SPE Cartridges

General Extraction Protocols

Reversed Phase

- Rinse packing bed with 3 - 5 mL methanol. Rinse with 3 - 5 mL water or buffer. Do not let packing dry.
- Apply sample solution to the top of the packing bed. Push or draw through the bed at 1-5 mL/min. Collect sample for analysis if desired compound has passed through the bed without being retained.
- If desired compound was retained, wash off weakly retained interfering compounds with a polar solvent.
- Elute desired compound with 1 -2 mL of non-polar solvent and collect for analysis.

Normal Phase

- Rinse packing bed with 3 - 5 mL of a non-polar solvent. Do not let packing dry.
- Apply sample solution to the top of the packing bed. Push or draw through the bed at 1-5 mL/min. Collect sample for analysis if desired compound has passed through the bed without being retained.
- If desired compound was retained, wash off weakly retained interfering compounds with a non-polar solvent.
- Elute desired compound with 1 - 2 mL of polar solvent and collect for analysis.

Ion Exchange

- Rinse packing bed with 5 mL deionized water or low-ionic strength buffer.
- Apply sample solution to the top of the packing bed. Push or draw through the bed at 1-2 mL/min. Collect sample for analysis if desired compound has passed through the bed without being retained.
- If desired compound was retained, wash off weakly retained interfering compounds with deionized water or low-strength buffer.
- Elute analyte with 1 - 5 mL of a high salt concentration solution, or change elution buffer pH so analyte is no longer ionized.

Reverse Phase SPE Cartridges, Non-Polar

Description	Qty	Item No.
C18 (ODS)		
C18, 100 mg/ 1 mL	100/pk	AUC186311
C18, 200 mg/ 3 mL	50/pk	AUC186312
C18, 500 mg/ 3 mL	50/pk	AUC186313
C18, 500 mg/ 6 mL	50/pk	AUC186314
C18, 1000 mg/ 6 mL	30/pk	AUC186315
C8 (Octyl)		
C8, 100 mg/ 1 mL	100/pk	AUC186321
C8, 200 mg/ 3 mL	50/pk	AUC186322
C8, 500 mg/ 3 mL	50/pk	AUC186323
C8, 500 mg/ 6 mL	50/pk	AUC186324
C8, 1000 mg/ 6 mL	30/pk	AUC186325
Phenyl		
Phenyl, 100 mg/ 1 mL	100/pk	AUC186341
Phenyl, 200 mg/ 3 mL	50/pk	AUC186342



SPE Cartridges

SAMPLE PREPARATION



SPE Cartridges

Non-Silica SPE Cartridges

Description	Qty	Item No.
Alumina A		
Alumina A, 500 mg/ 3 mL	50/pk	AUC186463
Alumina A, 500 mg/ 6 mL	50/pk	AUC186464
Alumina A, 1000 mg/ 6 mL	30/pk	AUC186465
Alumina B		
Alumina B, 100 mg/ 1 mL	100/pk	AUC186471
Alumina B, 500 mg/ 3 mL	50/pk	AUC186473
Alumina B, 500 mg/ 6 mL	50/pk	AUC186474
Alumina B, 1000 mg/ 6 mL	30/pk	AUC186475
Alumina N		
Alumina N, 500 mg/ 3 mL	50/pk	AUC186483
Alumina N, 500 mg/ 6 mL	50/pk	AUC186484
Alumina N, 1000 mg/ 6 mL	30/pk	AUC186485
Florisil		
Florisil, 100 mg/ 1 mL	100/pk	AUC186491
Florisil, 200 mg/ 3 mL	50/pk	AUC186492
Florisil, 500 mg/ 3 mL	50/pk	AUC186493
Florisil, 500 mg/ 6 mL	50/pk	AUC186494
Florisil, 1000 mg/ 6 mL	30/pk	AUC186495

Normal Phase SPE Cartridges, Polar

Description	Qty	Item No.
Silica		
Silica, 100 mg/ 1 mL	100/pk	AUC186361
Silica, 200 mg/ 3 mL	50/pk	AUC186362
Silica, 500 mg/ 3 mL	50/pk	AUC186363
Silica, 500 mg/ 6 mL	50/pk	AUC186364
Silica, 1000 mg/ 6 mL	30/pk	AUC186365
Diol		
Diol, 100 mg/ 1 mL	100/pk	AUC186391
Diol, 200 mg/ 3 mL	50/pk	AUC186392
Diol, 500 mg/ 3 mL	50/pk	AUC186393
Cyano (CN)		
Cyano, 100 mg/ 1 mL	100/pk	AUC186381
Cyano, 200 mg/ 3 mL	50/pk	AUC186382
Cyano, 500 mg/ 3 mL	50/pk	AUC186383
Cyano, 500 mg/ 6 mL	50/pk	AUC186384
Amino (NH₂)		
Amino, 100 mg/ 1 mL	100/pk	AUC186371
Amino, 200 mg/ 3 mL	50/pk	AUC186372
Amino, 500 mg/ 3 mL	50/pk	AUC186373
Amino, 500 mg/ 6 mL	50/pk	AUC186374
Amino, 1000 mg/ 6 mL	30/pk	AUC186375



SPE Cartridges

Ion Exchange SPE Cartridges

Description	Qty	Item No.
SAX		
SAX, 100 mg/ 1 mL	100/pk	AUC186411
SAX, 200 mg/ 3 mL	50/pk	AUC186412
SAX, 500 mg/ 3 mL	50/pk	AUC186413
SAX, 500 mg/ 6 mL	50/pk	AUC186414
SAX, 1000 mg/ 6 mL	30/pk	AUC186415
SCX		
SCX, 100 mg/ 1 mL	100/pk	AUC186421
SCX, 200 mg/ 3 mL	50/pk	AUC186422
SCX, 500 mg/ 3 mL	50/pk	AUC186423

VACUUM MANIFOLDS



Vacuum Manifold
SPE Cartridges not included

- 12 and 24-port manifolds
- Glass chamber for visual monitoring
- Accepts standard male luer devices

Vacuum manifolds allow the processing of multiple samples simultaneously. Manifold systems come complete with components shown below. Includes polypropylene needles; stainless steel or PTFE needles are available separately.

- Glass chamber
- Vacuum valve and gauge
- Polypropylene lid
- Stopcock valves
- Collection rack plates
- Support posts for collection racks
- Retaining clips for collection racks
- Lid legs
- Manifold inlet caps
- Polypropylene needles

Description

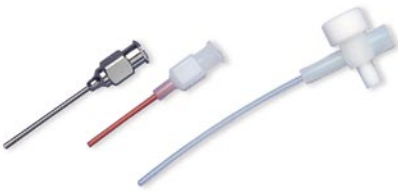
Item No.

Manifolds

12 Position Vacuum Manifold, Complete	AUC61000
24 Position Vacuum Manifold, Complete	AUC61200

Accessories for 12 Position Vacuum Manifold

Glass Chamber	AUC61002
Cover with Gasket & 12 Stopcocks	AUC61003
Gaskets, 2/pk	AUC61004
Vacuum Valve, Gauge and Glass Block	AUC61006
Needles, Polypropylene, 12/pk	AUC61019
Stopcocks, 12/pk	AUC61015

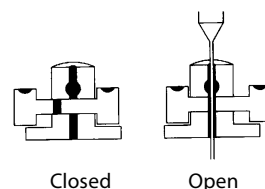


Needles: Stainless steel, polypropylene, PTFE
with control valve

MININERT® VALVES & REACTION VIALS

Mininert Valves

These are unique push-button PTFE vial closures featuring inertness and syringe access without exposure of the vial contents. When used with a glass vial, only PTFE and glass are in contact with the sample. A silicone rubber gasket above the PTFE valve stem (isolated from the contents) provides a seal for the needle and prevents leakage or exposure of the contents during sampling. Push the green button to open, insert the needle and take sample, withdraw the needle, then push the red button to close. The needle seal septum may be replaced as needed with the valve closed to avoid exposing contents. Mininert Valves can be used up to 105°C. 12/pk.



Description	Thread Size	Item No.
13 mm Screw Cap Mininert Valve	13-425	AUC614158
15 mm Screw Cap Mininert Valve	15-425	AUC614160
18 mm Screw Cap Mininert Valve	18-400	AUC614161
20 mm Screw Cap Mininert Valve	20-400	AUC614170
24 mm Screw Cap Mininert Valve	24-400	AUC614163
20 mm Crimp Cap Mininert Valve	NA	AUC614250
Replacement Septa, 50/pk	NA	AUC644350
Septum Installing Tool, each	NA	AUC644850



AUC614163

Mininert Valves for use with Miniature Tubing

These are now available with 1/4-28 threads and can be used with Cheminert® and other similar miniature connectors to create an almost endless number of piping and plumbing combinations. They are quick-acting and tight-sealing and are suitable for low-pressure applications requiring positive, on/off fluid control.

Description	Qty	Item No.
1/4-28 Male to Mininert	each	AUC631201
1/8" Male NPT to Mininert	each	AUC631202
1/4-28 Female to Mininert	each	AUC631203
1/8" Female NPT to Mininert	each	AUC631204
1/4-28 Male to 1/4-28 Male Mininert	each	AUC631205
1/4-28 Female to 1/4-28 Female Mininert	each	AUC631206



AUC614250

Reaction Vials

These are useful for micro and semi-micro scale reactions or concentration work. The vials have thick walls, conical tapered interiors and come complete with PTFE-faced silicone liners and open-hole screw caps. Vials have graduation marks (except 0.1 and 0.3 mL). Made from borosilicate glass. 12/pk.

Description	Thread Size	Item No.
0.1 mL Reaction Vials	8-425	AUC099400
0.3 mL Reaction Vials	13-425	AUC099410
1.0 mL Reaction Vials	13-425	AUC099420
3.0 mL Reaction Vials	20-400	AUC099430
5.0 mL Reaction Vials	20-400	AUC099440
10.0 mL Reaction Vials	24-400	AUC099450

Reaction vials are also available in amber.



AUC631201



Reaction Vials, 5 mL and 1 mL

SYRINGE FILTERS, DISPOSABLE SYRINGES

Syringe Filters

KONIK offers a wide range of syringe filters for most of your sample clean up applications. Filter housings are made from polypropylene and have luer hubs to fit all luer lock syringes. Two membrane materials are available; nylon (hydrophilic) for general filtration of aqueous samples and many solvents, and PTFE for gases, air virtually all solvents, and highly corrosive acids and bases. PTFE can be used with aqueous samples by pre-wetting with methanol.

- 4 mm size - Low sample hold-up; hold up is less than 10 μ l. 100/pk
- 17 mm size - For general laboratory sampling. Filters have higher sample capacity than the 4 mm size. Maximum pressure for filtering is 5 bar (75 psi). 100/pk
- 30 mm size - For all around lab use. The 30 mm diameter allows greater through-put when hold-up of some sample is not critical. Maximum pressure is 5 bar (75 psi). 100/pk



Syringe Filters

Description	Item No.
4 mm Nylon Filter, 0.2 micron	AUC189000
4 mm Nylon Filter, 0.45 micron	AUC189001
4 mm PTFE Filter, 0.2 micron	AUC189002
4 mm PTFE Filter, 0.45 micron	AUC189003
17 mm Nylon Filter, 0.2 micron	AUC186502
17 mm Nylon Filter, 0.45 micron	AUC186503
17 mm PTFE Filter, 0.2 micron	AUC186500
17 mm PTFE Filter, 0.45 micron	AUC186501
30 mm Nylon Filter, 0.2 micron	AUC186055
30 mm Nylon Filter, 0.45 micron	AUC186054
30 mm PTFE Filter, 0.2 micron	AUC186057
30 mm PTFE Filter, 0.45 micron	AUC186058

Disposable Syringes

These disposable syringes are useful for sample preparation, especially when used with our syringe filters. Syringes are made from polypropylene and polyethylene and are silicone-free. Extractables are minimized compared with rubber-tipped plunger syringes. Syringes are individually wrapped in sterile "peel packs." 100/pk.



Disposable Syringe

Description	Item No.
3 mL Disposable Syringe	AUC186603
5 mL Disposable Syringe	AUC186605
10 mL Disposable Syringe	AUC186610
20 mL Disposable Syringe	AUC186620

SAMPLE CONCENTRATION, EVAPORATORS

Adjustable Mini-Vap

This is a versatile concentrator/evaporator for use with a single container. Adjustable design allows use with any size vessel from mini-vial to 250 mL beaker. It is nickel-plated for resistance to solvents and dilute acids, and comes with instructions.

Description	Item No.
Adjustable Mini-Vap (Single)	AUC201001



AUC201001

6-Port Mini-Vap

This concentrator/evaporator handles up to six miniature vials or containers simultaneously. It comes with six stainless steel needles, a nickel-plated needle valve, and 3 feet of plastic tubing. The needle valve allows fine control of the nitrogen or dry air flow for the evaporator. Instructions are included.

Description	Item No.
6-Port Mini-Vap	AUC201006



AUC201006

Replacement Parts

4" Stainless Steel Luer Needles, 6/pk	AUC201007
Spare Luer Lock Adapters, 6/pk	AUC201114
O-Ring Seal, 6/pk	AUC201115
Plastic End Caps, 100/pk	AUC205122

SAMPLE PREPARATION



Fixed volume pipettes

NEW HAMILTON SOFTGRIP™ PIPETTES

- Best overall accuracy and precision
- Fully autoclavable
- Ergonomic by design
- Made in the U.S.A.

The new SoftGrip boasts an enlarged ejector button, dual needle volume indicator, slimmer ejector sleeve, redesigned plunger button, and a more stain resistant grip. These modifications have enhanced the functionality of the SoftGrip while maintaining the principles of quality, ergonomics, and functionality that made the SoftGrip popular.



Volume Adjustment

Fixed Volume Pipettes - 5 µl - 1 mL

Volume	Color	At 100% of Pipette Volume		Item No.
		Accuracy within +/- %	Precision within +/- %	
5 µl	Steel Blue	4.10	0.75	ACH1708-03
10 µl	Purple	0.80	0.40	ACH1708-05
25 µl	Forest Green	0.80	0.30	ACH1708-07
50 µl	Sandstone	0.60	0.30	ACH1708-09
100 µl	Violet	0.50	0.20	ACH1708-11
200 µl	Mustard	0.40	0.18	ACH1708-13
250 µl	Burnt Orange	0.40	0.18	ACH1708-15
500 µl	Olive Green	0.40	0.18	ACH1708-19
1 mL	Sky Blue	0.30	0.12	ACH1708-21

Adjustable Volume Pipettes



New Pipette Plunger Design

Volume	Increments µl	Color	At 10% of Pipette Volume		At 100% of Pipette Volume		Item No.
			Accuracy +/- %	Precision +/- %	Accuracy +/- %	Precision +/- %	
2.5 - 25 µl	0.02	Forest Green	4.50	1.50	0.80	0.20	ACH1708-34
10 - 100 µl	0.2	Violet	1.80	0.70	0.60	0.15	ACH1708-36

Hamilton Pipette Accessories

AdvanTip™ Non-Filter Tips

AdvanTip precision pipette tips for routine high-throughput work where an extensive range of universal tips and multiple packaging options are needed to meet laboratory requirements. Tips include extended length, filter tips, and macrovolume tips. Hamilton pipette tips are universal-fit and deliver outstanding accuracy and precision. AdvanTip products are certified to be free of RNase, DNase and pyrogens.

Description	Total Tips	Item No.
10 µl, 96/rack, 10 racks/box	960	ACH11006-01
200 µl, 96/rack, 10 racks/box	960	ACH11006-03



Pipette Tips

AdvanTip Filtered Tips

Use filter tips for the ultimate protection against contamination when working in applications such as PCR, DNA amplification and sequencing, and other techniques involving the use of vaporous, radioactive, biohazardous or corrosive materials.

Description	Total Tips	Item No.
10 µl, 96/rack, 10 racks/box	960	ACH1007-02
300 µl, 96/rack, 10 racks/box	960	ACH1007-07

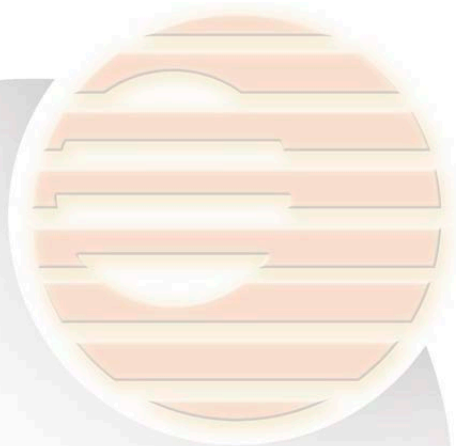


ACH53578-01

SoftGrip Pipette Stand

Single or multi-channel pipette rack keeps pipettes in easy reach. Constructed of a heavy, non-skid, metallic casting.

Description	Item No.
Six Position Pipette Stand	ACH53578-01







11 • Vials

RECOMMENDED KONIK AUTOSAMPLER VIALS - CHROMACOL VIALS



KNK-V00-010 KNK-V00-020

0.8 mL vials using 8 mm crimp caps (171 vial tray) For GC and LC modes AS

Description	Qty	Item n°
800 uL crimp Top Vial - clear	125	KNK-V00-010
Al cap with PTFE septum 8 mm	125	KNK-TS0-008

2 mL vials using 11 mm crimp caps (105 vial tray) For GC and LC modes AS

Description	Qty	Item n°
2 mL crimp Top Vial - clear	100	KNK-V00-020
Al cap with PTFE septum 11 mm (PK100)	100	KNK-TS0-011



KNK-V00-060 KNK-V00-100

Vials using 20 mm crimp caps (32 vial tray) For HS mode AS

Description	Qty	Item n°
6 mL crimp Top Vial - clear	125	KNK-V00-060
10 mL crimp Top Vial - clear	125	KNK-V00-100
20 mL crimp Top Vial - clear	125	KNK-V00-200
Magnetic cap 20 mm	125	KNK-TMG-200
Chlorbutyl/PTFE septum 20 mm	125	KNK-S01-200

20 mL Vials using 20 mm crimp caps (32 vial tray) For P&T mode AS

Description	Qty	Item n°
20 mL crimp Top Vial - clear	125	KNK-V00-200
Al cap 20 mm	125	KNK-TAL-200
Silicon/Al septum 20 mm	125	KNK-S00-200



KNK-V00-200 KNK-V00-10S

Vials using 20 mm crimp caps (32 vial tray) For SPmE mode AS

Description	Qty	Item n°
6 mL crimp Top Vial - clear	125	KNK-V00-060
10 mL crimp Top Vial - clear	125	KNK-V00-100
Magnetic cap 20 mm	125	KNK-TMG-200
High purity Si/PTFE septum	125	KNK-S03-200

Cleaning Vials (For GC and LC modes)

Description	Qty	Item n°
10 mL screw top vial	10	KNK-V00-10S
18 mm metallic screw cap	10	KNK-TAL-20S
18 mm PTFE/Silicone Seal	10	KNK-S04-200



KNK-TS0-008
KNK-TS0-011



KNK-TMG-200

Crimpers

Description	Item n°
8 mm precision hand crimper	AUC308000
11 mm precision hand crimper	AUC311990
20 mm precision hand crimper	ADCCR-20



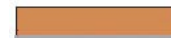
KNK-TAL-200



KNK-TAL-20S



KNK-S01-200



KNK-S00-200



KNK-S03-200



KNK-S04-200



ADCCR-20



AUTOSAMPLER MANUFACTURER / VIAL CROSS REFERENCE

Autosampler Manufacturer	Model	8 mm Crimp Top	11 mm Crimp Top	Headspace	8 mm Screw Top	9 mm Screw Top	10 mm Screw Top
Agilent	5890, 6890, 7890		X			X	
	6850, 6890, 7670A, -B, 7672	X			X		
	7673A/B, 7683, 8042		X			X	
	Headspace			X			
A.I.M.	CPS-100, 200		X		X		
A.I.	42 Vial Tray		X				
	60 Vial Tray	X					
	Headspace			X			
Alcott	738		X		X		X
Alltech	570		X		X		X
	580 (standard tray)		X				
Altex			X				X
AMS	42		X				
Antek	736 Unisampler, 738		X				
ASC			X		X		X
Beckman	501, 502, 507				X		X
Carbo Erba/	42 vial tray		X				
Fisons	60 vial tray, AS 105 tray	X					
	AS 800		X		X	X	
	8000				X		
Carnegie	CMA-250/200		X				
Chrompack	CP 9000 GC Series		X				
CTC	CTC A105S		X				
	Headspace		X				
Cueni	Headspace			X			
Dani	ALS 39.80, 86.80		X		X	X	
	HSS 39.50, 86.50, SPT 37.50		X				
Delsi			X				
Dynatech	42 vial tray		X		X	X	
	60 vial tray	X					
	LC2000		X				
Fisons	42 vial tray		X				
	60 vial tray	X					
GBC			X				
Gerstel			X				
Gilson	231-, 232-, 233-, Aspec-XL	X		X	X		
	Asted XL		X		X		
Gynkotec	Gina		X		X		
Hitachi	AS-2000, -6000		X			X	
	S6551				X		
	L-7200, -7250				X		
IBM			X		X		
ICI			X		X		
Infochroma			X		X		
Jasco	851-AS, AS-950		X		X		
	LC800, 900 series				X		
Kipp			X		X		
Konik	Robokrom	X	X	X	X	X	
Kontron	360		X		X		
	460				X		

AUTOSAMPLER MANUFACTURER / VIAL CROSS REFERENCE

Autosampler Manufacturer	Model	8 mm Crimp Top	11 mm Crimp Top	Headspace	8 mm Screw Top	9 mm Screw Top	10 mm Screw Top
LDC	Marathon, Promis 713	X	X			X	
LEAP	CTC A2005 CTC A1055 HS 500		X	X	X	X	X
Magnus PerkinElmer	Autosystem AI-1 ISS100, LC600, 42 vial tray ISS 200 Integral 4000 420/B, 4900 F40, F45, H6, H40 LC600 (60), AS100A/B 300, 8300, AS2000 LC 30, 2000, B2000	X	X	X	X	X	
Pharmacia	2157-010		X		X		
Precision	GC111, -311, LC241-60	X	X		X		
Phillips	4247, 4710, LC-XP		X		X		
Polymer Labs	GPC 110/210		X				
Pye	LCXP		X				
S.G.E.	M280D		X		X		
Sedere			X		X		
Shimadzu	AOC-8B/9, SIL-6A, -6B, -9A, -8A AOC-14/1400, -17 SIL-10A, -Ai, -AxL HSS-2B			X	X	X	X
Siemens	AS 32, AS 200		X				
Sigma	2000	X					
Spark	SPH 125 Marathon, Promis Triathlon, Midas		X		X	X	
Spectra Phys.	8875, 8880		X		X	X	
Talbot			X		X		
Tekmar	7000, 7000/7050			X			
Tosoh	TSK-6080, AS-8010						
Thermo	A2005	X	X			X	
TOA	ICA5450				X		
TSP	8875, 8880, AS100/1000 AS300/3000	X	X	X	X		
Tracor	770, 771, 772		X				
Unicam	4710 4700LC, 4247, LC-XP		X		X		
Varian	8035, 8055, 8000 Series 8085, 3800 GC 8100/8200 Marathon 9100/9090/9095 Genesis		X	X	X	X	X
Waters	Alliance 2690		X		X	X	X



AUC063211

CRIMP VIALS

6 - 7 mm Crimp Vials

6 x 32 mm Vials - 0.3 mL Capacity

- Fits CMA autosamplers, others
- Uses 8 mm crimp caps and seals listed below
- Type 1 borosilicate glass

Description	Qty	Item No.
0.3 mL Crimp Top Vial	100/pk	AUC063211
Combo Pack, 0.3 mL Vial, Cap, Std Seal	100/pk	AUC063231



7 x 30 mm Crimp Vials

7 x 30 mm Amber Crimp Top Vial - 0.6 mL Capacity

- Tapered design allows withdrawal of almost all the sample
- Vial uses 8 mm crimp caps and seals listed below
- Type 1 borosilicate glass

Support Sleeves - These are 8 mm wide to mimic standard 8 x 30 mm vials. Support sleeves are required for proper positioning in autosampler trays that have a depression in the center of each vial position. They are made from PTFE and are reusable.

Description	Qty	Item No.
0.6 mL Amber Crimp Vial	100/pk	AUC083061
Combo Pack, 0.6 mL Vial, Cap, Std Seal	100/pk	AUC083081
Support Sleeve, PTFE	50/pk	AUC303001



AUC308001

8 mm Crimp Caps and Seals for 6 - 8 mm Vials

- Caps are made from lacquered aluminum and have an open-hole design
- Pre-stuffed with seals listed below

Standard Seal: Good for routine use; self-sealing.

Seal S: A better-quality PTFE/ silicone seal.

Seal TT: Premium-grade seal with two layers of PTFE. Coring is virtually eliminated.

TruSeal™: A silicone/ PTFE seal for pennies more than rubber. These offer lower permeability and bleed than natural rubber, and resist degradation to 250°C. Because the TruSeal is soft, lower crimping force is recommended. PTFE layer is 0.08 mm thick; total thickness is 1.1 mm.

Seal T: Pure PTFE. Recommended for single use only.



AUC308231

Description	Material	Qty	Item No.
8 mm Cap and Standard Seal	PTFE/ Rubber	100/pk	AUC308001
8 mm Cap and Seal S	PTFE/ Silicone	100/pk	AUC308201
8 mm Cap and Seal TT	PTFE/ Silicone/ PTFE	100/pk	AUC308401
8 mm Cap and TruSeal	PTFE/ Silicone	100/pk	AUC308231
8 mm Cap and Seal T	PTFE	100/pk	AUC308801



AUC308801

7 - 8 mm Crimp Vials

7 x 40 mm Crimp Top Vials - 0.8 mL and 0.7 mL Capacity

- Amber for protection of light-sensitive materials
- Flat bottom, or tapered bottom for microsampling work
- Vials use standard 8 mm crimp caps and seals
- Type 1 borosilicate glass

Description	Qty	Item No.
0.8 mL Amber Crimp Vials	500/pk	AUC074011
Combo Pack, 0.8 mL Vials, Cap, Std Seal	500/pk	AUC074031
0.7 mL Amber Crimp Vials	100/pk	AUC074061
Combo Pack, 0.7 mL Vials, Cap, Std Seal	100/pk	AUC074081



AUC074011 AUC074061

8 x 30 mm Shell Vials - 0.8 mL Capacity

- A handy alternative to crimp-top vials
- Comes complete with polyethylene plug cap; just push to seal
- Cap has 0.5 mm thickness in needle penetration zone for easy piercing
- Not for use with autosamplers that pressurize the vial
- Type 1 borosilicate glass

Description	Qty	Item No.
0.8 mL Shell Vial and Polyethylene Plug	100/pk	AUC083042



AUC083042

8 x 30 mm Crimp Top Vials - 0.8 mL Capacity

- Fit many autosamplers
- Vials use standard 8 mm crimp caps and seals
- Type 1 borosilicate glass

Description	Qty	Item No.
0.8 mL Clear Vial	200/pk	AUC083002
Combo Pack, 0.8 mL Vial, Cap, Std Seal	200/pk	AUC083022



AUC083002



AUC063251 AUC300011
Sci-Vi Vials in Sleeve 11



AUC084242 AUC053852 (Insert)
Shell Vial and Cap for Waters;
Vial with Insert



AUC084261



AUC08400 AUC084051



AUC308001

6 - 8 mm Crimp Vials, Sci-Vi® System

The Sci-Vi System for Microsampling

- Unique method of microsampling for virtually all autosamplers
- Vials fit in PTFE sleeve designed for your instrument
- Round bottom (0.3 mL) or tapered-bottom (0.2 mL) vials are made from Type 1 borosilicate glass. 6 x 32 mm

Sleeves - Made from PTFE or glass; reusable. Quantities are shown below.

8 mm Crimp Caps and Seals for 6 - 8 mm Vials - Caps are made from lacquered aluminum and have an open-hole design. Caps are pre-stuffed with seals listed below.

Description	Qty	Item No.
Vials and Caps		
0.2 mL Crimp Taper Vial	100/pk	AUC063251
8 mm Cap and Standard Seal	100/pk	AUC308001
8 mm Cap and Seal TT	100/pk	AUC308401
Combo Pack, 0.3 mL Vial, Cap, Std Seal	100/pk	AUC063221
Combo Pack, 0.2 mL Vial, Cap, Std Seal	100/pk	AUC063271

HPLC Vials

Waters® 96 Style Shell Vial - 1.2 mL Capacity

- Matches the Waters vial design; 8 x 40 mm (8 x 45 mm with cap, included)
- Made from Type 1 borosilicate glass
- Polyethylene cap is pre-scored in a star design for easier syringe penetration
- Insert available for small-volume sampling; fits into the cap

Tapered-Bottom Polypropylene Shell Vial - 1 mL Capacity

- Has the same 8 x 40 mm external dimensions as the glass vial above
- Comes with pre-scored polyethylene cap
- Type 1 borosilicate glass

Description	Qty	Item No.
1.2 mL Shell Vial with Polyethylene Cap	100/pk	AUC084242
200 µl Insert, Type 1 Borosilicate Glass	200/pk	AUC053852
1 mL PP Tapered Shell Vial with PP Cap	100/pk	AUC084261

8 x 40 mm Crimp Top Vials - 1.2 mL, 1.0 mL Capacity

- For Waters 96 Vial Tray
- Flat bottom, or tapered bottom for microsampling work
- Use standard 8 mm aluminum crimp caps or polyethylene plug caps
- Vials are made from Type 1 borosilicate glass
- For cap and seal descriptions see page

Description	Material	Qty	Item No.
1.2 mL Crimp Top Vial		100/pk	AUC084001
1.0 mL Tapered Crimp Top Vial		100/pk	AUC084051
8 mm Crimp Cap and Std Seal	PTFE/ Rubber	100/pk	AUC308001
8 mm Crimp Cap and Seal TT	PTFE/ Silicone/ PTFE	100/pk	AUC308401
Combo Pack, 1.2 mL Vial, Cap, Std Seal		100/pk	AUC084021
Combo Pack, 1.2P, with PE Plug Cap		100/pk	AUC084041
Combo Pack, 1.0 mL Vial, Cap, Std Seal		100/pk	AUC084071
Combo Pack, 1.0P, with PE Plug Cap		100/pk	AUC084091
Plug Cap for 8 mm Vials	Polyethylene	100/pk	AUC308021

12 x 32 mm Crimp, Standard Mouth



AUC123411 AUC123212L



AUC123202 AUC123203



AUC123201 AUC123211

1.8 mL Crimp Top Vials

- Compatible with most GC and HPLC autosamplers using 12 x 32 mm (1.8 mL) vials
- Standard width mouth
- All vials are made from Type 1 borosilicate glass

Description	Qty	Item No.
1.8 mL Clear Crimp Vial	100/pk	AUC123201
Combo Pack, Clear Vial, Cap, Std Seal	100/pk	AUC123221
Combo Pack, Clear Vial, Cap, Seal TT	100/pk	AUC123231
1.8 mL Amber Crimp Vial	100/pk	AUC123211
Combo Pack, Amber Vial, Cap, Std Seal	100/pk	AUC123131
Clear Labeled Crimp Vial	100/pk	AUC123411
Combo Pack, Labeled Vial, Cap, Std Seal	100/pk	AUC123491
Amber Labeled Crimp Vial	100/pk	AUC123212L
Clear Graduated Crimp Vial	100/pk	AUC123202
Amber Graduated Crimp Vial	100/pk	AUC123203



AUC311001G



AUC311001B



AUC311231



AUC311001



AUC311001R



AUC311201



AUC311401



AUC311001GO

11 mm Crimp Caps and Seals for 1.8 mL Vials

- Caps are made from lacquered aluminum and have an open-hole design
- Pre-stuffed with seals listed below

Standard Seal - Good for routine use; self-sealing.

Seal S - A better-quality PTFE/ silicone seal.

Seal TT - Premium-grade seal with two layers of PTFE. Coring is virtually eliminated.

TruSeal™ - A silicone/ PTFE seal for pennies more than rubber. These offer lower permeability and bleed than natural rubber, and resist degradation to 250°C. Because the TruSeal is soft, lower crimping force is recommended. PTFE layer is 0.08 mm thick; total thickness is 1.1 mm.

Description	Material	Qty	Item No.
11 mm Cap and Standard Seal	PTFE/ Rubber	100/pk	AUC311001
11 mm Red Crimp Cap Std Seal	PTFE/ Rubber	100/pk	AUC311001R
11 mm Green Crimp Cap Std Seal	PTFE/ Rubber	100/pk	AUC311001G
11 mm Blue Crimp Cap Std Seal	PTFE/ Rubber	100/pk	AUC311001B
11 mm Gold Crimp Cap Std Seal	PTFE/ Rubber	100/pk	AUC311001GO
11 mm Yellow Crimp Cap Std Seal	PTFE/ Rubber	100/pk	AUC311001Y
11 mm Purple Crimp Cap Std Seal	PTFE/ Rubber	100/pk	AUC311001PU
11 mm Orange Crimp Cap Std Seal	PTFE/ Rubber	100/pk	AUC311001O
11 mm Steel Crimp Caps		100/pk	AUC311002
11 mm Cap and Seal S	PTFE/ Silicone	100/pk	AUC311201
11 mm Cap and Seal TT	PTFE/ Silicone/ PTFE	100/pk	AUC311401
11 mm Cap and TruSeal	PTFE/ Silicone	100/pk	AUC311231

12 x 32 mm Crimp, Standard Mouth

Tapered-Bottom Vial - 1.1 mL / 0.9 mL Capacity

- Microsample and analyze in one vial
- Unique shape lets you concentrate samples into the tip by solvent evaporation
- Tapered bottom allows maximum sample recovery
- Type 1 borosilicate glass

Please note: The 0.9 mL Univial is recommended for use with Agilent 7673 / 7683.

Support Sleeves - For use in autosampler trays that offer little lateral (sideways) support. Sleeves are made from PTFE for repeated use.



AUC123251

AUC123251

AUC303121

Description	Qty	Item No.
1.1 mL Tapered Bottom Vial	100/pk	AUC123251
Combo Pack, 1.1 mL Univial, Cap, Std Seal	100/pk	AUC123271
Standard Sleeves for 1.1 mL	50/pk	AUC303121

Inserts

- Allows use of microliter-size samples
- Fit inside standard-mouth 12 x 32 mm, 1.8 mL vials
- Mandrel- or pulled-point tip available
- Inserts measure 5 x 31 mm except TriSpring inserts 5 x 29 mm
- TriSpring inserts have a plastic spring already attached, to center the insert and absorb shocks to minimize needle damage
- Type 1 borosilicate glass except as noted



A

B

C

D

E

A) AUC053101
B) AUC053159
C) AUC053151

D) AUC053161
E) AUC053171

Description	Qty	Item No.
250 µl Flat Bottom Insert	100/pk	AUC053101
100 µl Pulled Point Insert	100/pk	AUC053159
100 µl Mandrel Point Insert	100/pk	AUC053151
100 µl TriSpring Insert	100/pk	AUC053161
100 µl TriSpring Insert, Polypropylene	100/pk	AUC053171

12 x 32 mm Crimp, Wide Mouth



AUC123101 AUC123211A AUC123211L AUC123222 AUC123224

1.8 mL Wide Crimp Top Vials

- Wider opening minimizes bent autosampler needles, especially when using with inserts
- All vials are made from Type 1 borosilicate glass

Caps and Seals - Wide-mouth vials use the same caps and seals as our standard mouth vials.

Description	Qty	Item No.
1.8 mL Clear Wide Crimp Vial	100/pk	AUC123101
Combo Pack, Wide Vial, Cap, Std Seal	100/pk	AUC123121
Combo Pack, Wide Vial, Cap, Seal TT	100/pk	AUC123111
1.8 mL Amber Wide Crimp Vial	100/pk	AUC123211A
1.8 mL Amber Wide Labeled Crimp Vial	100/pk	AUC123211L
Clear Graduated Wide Crimp Vial	100/pk	AUC123222
Amber Graduated Wide Crimp Vial	100/pk	AUC123224



AUC123341 AUC123343 AUC123344

Snap / Crimp Wide Mouth Vials - 1.8 mL Capacity

- Easy to use - just snap on the cap
- Recommended for short-term sample storage; the seal is not as tight as with crimp or screw caps
- Type 1 borosilicate glass

Caps for Snap / Crimp Vials
Polyethylene caps, available with a variety of septum materials.

Description	Qty	Item No.
1.8 mL Snap/Crimp Clear Vial	100/pk	AUC123341
1.8 mL Snap/Crimp Amber Vial	100/pk	AUC123343
1.8 mL Snap/Crimp Clear Labeled Vial	100/pk	AUC123371
1.8 mL Snap/Crimp Clear Labeled Vial with 250 µL Insert	100/pk	AUC123344

	Seal Material	Qty	Item No.
Snap Cap for Snap/Crimp Vial	PTFE	100/pk	AUC311251
Snap Cap for Snap/Crimp Vial	PTFE/ Rubber	100/pk	AUC311261
Snap Cap for Snap/Crimp Vial	PTFE/ Silicone	100/pk	AUC311271
Snap Cap for Snap/Crimp Vial	Polyethylene	100/pk	AUC311281



AUC311251



AUC311261



AUC311271

12 x 32 mm Crimp, Wide Mouth

Pre-Inserted Crimp Vial - 0.25 mL Capacity



AUC123281 AUC123284 AUC123286

- Unique one-piece design for easy microsampling in your autosampler
- Recommended for Agilent 7673 A/B; 7683 A/B
- Vials have a permanently attached insert
- Wide mouth design; uses 11 mm crimp caps and seals
- Type 1 borosilicate glass

Description	Qty	Item No.
Pre-Inserted Clear Vial	100/pk	AUC123281
Pre-Inserted Clear Vial with Label	100/pk	AUC123284
Pre-Inserted Amber Vial with Label	100/pk	AUC123286

EvapoVial - 1.5 mL Capacity



AUC123153 AUC123157

- Allows concentration and micro-volume delivery in the same vial, at a low price
- The special tapered ID bottom allows withdrawal of virtually all the sample
- Wide mouth design
- May be used with the 6-Port Mini-Vap for easy sample preparation
- The screw top EvapoVial comes complete with cap and seal
- Type 1 borosilicate glass

Description	Qty	Item No.
1.5 mL Clear Crimp EvapoVial	100/pk	AUC123153
Combo Pack, EvapoVial, Cap, Std Seal	100/pk	AUC123157
11 mm Crimp Cap and Standard Seal	100/pk	AUC311001

Inserts



A B C D E F

- A) AUC063101 D) AUC063161
 B) AUC063011 E) AUC063171
 C) AUC063151 F) AUC063181

- Allows use of microliter-size samples
- Fit inside wide-mouth 12 x 32 mm, 1.8 mL vials
- Mandrel- or pulled-point tip available
- Inserts measure 6 x 31 mm except TriSpring inserts 6 x 29 mm
- TriSpring inserts have a plastic spring already attached, to center the insert and absorb shocks to minimize needle damage
- Type 1 borosilicate glass except as noted

Description	Qty	Item No.
350 μ L Flat Bottom Insert	100/pk	AUC063101
250 μ L Pulled Point Insert	100/pk	AUC063011
250 μ L Mandrel Point Insert	100/pk	AUC063151
250 μ L TriSpring Insert	100/pk	AUC063161
250 μ L TriSpring Insert, Polypropylene	100/pk	AUC063171
250 μ L Tapered Hanging Insert	100/pk	AUC063181



Wide-mouth vial with
Hanging Insert AUC063181

12 x 32 mm, Special Crimp Vials

Conical Vials - 0.1 mL Capacity

- For microsampling without inserts, simply place in your autosampler
- External dimensions are the same as regular 12 x 32 mm crimp top vials
- Standard mouth design
- Type 1 borosilicate glass

Plastic

- Economical alternative to solid glass vials; disposable
- Polypropylene is translucent white in color
- TPX (polymethylpentene) has properties similar to polypropylene, but with transparency close to that of glass



AUC123351 AUC123161 AUC123171

Description	Qty	Item No.
0.1 mL Polypropylene Crimp Vial	100/pk	AUC123161
Combo Pack, Poly Vial, Cap, Std Seal	100/pk	AUC123181
0.1 mL TPX Crimp Vial	100/pk	AUC123171
0.1 mL Glass Crimp Vial	12/pk	AUC123351



AUC123321

Polypropylene Snap Ring Vial - 0.8 mL Capacity

- The highest capacity of any of our plastic 12 x 32 mm vials
- Vial uses snap caps or standard aluminum crimp caps and seals

Description	Qty	Item No.
0.8 mL Snap/ Crimp Vial	100/pk	AUC123321

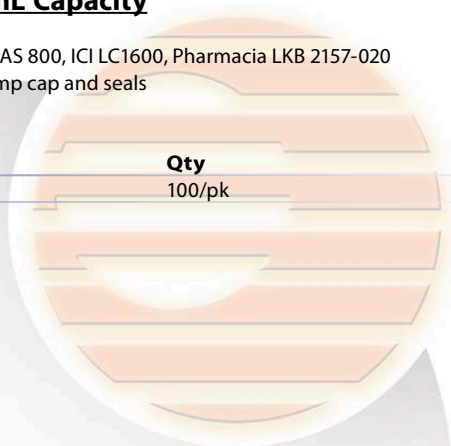


AUC124001

12 x 40 mm Vial - 2.5 mL Capacity

- Fits Thermo Instruments AS 800, ICI LC1600, Pharmacia LKB 2157-020
- Uses standard 11 mm crimp cap and seals
- Type 1 borosilicate glass

Description	Qty	Item No.
2.5 mL Clear Crimp Vial	100/pk	AUC124001





AUC311950

NEW ELECTRONIC CRIMPERS & DECAPPERS

- 4.8 volt battery for quicker operation
- New battery allows for faster charge cycle
- Robust, ergonomic design

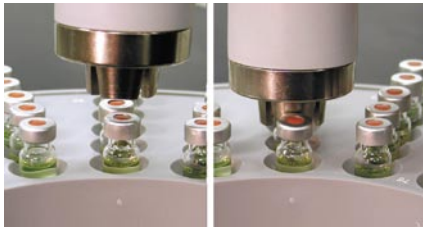
The newly designed electronic Crimpers and Decappers come complete with the battery installed. Available in 8 (Crimper only), 11, 13 and 20 mm cap sizes. Simple to use and has a comfortable grip. Easily fits around vials in a standard autosampler tray.

Recharging the Battery Crimper

The battery is recharged by plugging the DC power supply into the crimping tools. Charging takes thirty minutes to two hours. When charging is complete the LED light on the tool will blink green. Simply disconnect the tool and use. The power supply includes a plug set for operation in most countries.

Adjusting the Crimp Setting

The Electronic Crimpers and Decappers are designed to be adjustable for most aluminum caps and standard seals used in the laboratory. To adjust the crimp setting, push the adjustment buttons on the front of the crimping tool until the desired setting is reached. The negative button will adjust to a looser crimp and the plus button will adjust to a tighter crimp.



Fits around vials placed in a standard autosampler tray.

Description

Description	Item No.
Electronic Crimper, 8 mm Complete Set*	AUC308950
Electronic Crimper, 11 mm Complete Set*	AUC311950
Electronic Crimper, 13 mm Complete Set*	AUC313950
Electronic Crimper, 20 mm Complete Set*	AUC320950
Electronic Decapper, 11 mm Complete Set*	AUC311960
Electronic Decapper, 13 mm Complete Set*	AUC313960
Electronic Decapper, 20 mm Complete Set*	AUC320960

*Complete kit includes tool and power supply with plug set for most countries.



Electronic Crimper and Power Supply



Plug Set

SCREW VIALS

9 mm Screw Thread Vials

1.8 mL, 9 mm Screw Thread Vials

- Large opening vials
- 9 mm finish
- For use with Agilent 7673 and other robotic arm autosamplers that use 12 x 32 mm crimp top vials
- Excellent for long term storage
- Clear Vials Type 1, 33 expansion glass
- Amber Vials for light sensitive samples

Description	Qty	Item No.
9 mm Clear Screw Vial	100/pk	AUC123242
Combo Pack, 9 mm Vial, Cap, PTFE/Rubber Seal	100/pk	AUC123243
Combo Pack, 9 mm Vial, Cap, PTFE/Silicone/PTFE	100/pk	AUC123247
9 mm Clear Screw Vial with Label	100/pk	AUC123248
Combo Pack, 9 mm Labeled Vial, Cap, Preslit PTFE/Sil	100/pk	AUC123252
9 mm Amber Screw Vial with Label	100/pk	AUC123253
Combo Pack, 9 mm Labeled Amber, Cap, Std Seal	100/pk	AUC123254
Combo Pack, 9 mm Labeled Amber, Cap, PTFE/Sil/PTFE	100/pk	AUC123258



AUC123242

Pre-Stuffed Caps for 9 mm Vials

- Fits 9 mm screw thread vials for Agilent 7673 and other robotic arm autosamplers that use 12 x 32 mm crimp top vials
- Caps available pre-stuffed with several seal materials

Description	Material	Qty	Item No.
Pre-Stuffed Caps	PTFE	100/pk	AUC309041
Pre-Stuffed Caps	PTFE/ Rubber	100/pk	AUC309042
Pre-Stuffed Caps	PTFE/ Silicone	100/pk	AUC309043
Pre-Stuffed Caps	PTFE/Pre-slit Silicone	100/pk	AUC309044
Pre-Stuffed Caps	PTFE/Silicone/PTFE	100/pk	AUC309045



AUC309043

12 x 32 mm Screw, Standard Mouth

1.8 mL Screw Top Vials

- Compatible with most GC and HPLC autosamplers requiring 1.8 mL, 12 x 32 mm vials; 12 x 35 mm with cap
- Vials use 8 mm, 8-425 caps
- Combo packs include vial and pre-stuffed cap with PTFE/ Silicone seal
- Type 1 borosilicate glass



AUC123205

AUC123215

Description	Qty	Item No.
Clear Screw Vial	100/pk	AUC123205
Combo Pack, Vial, Cap, PTFE/Silicone Seal	100/pk	AUC123225
Amber Screw Vial	100/pk	AUC123215
Combo Pack, Vial, Cap, PTFE/Silicone Seal	100/pk	AUC123135



AUC123225

Caps and Seals

- Caps have open hole design; 8-425 threads
- Available individually or pre-stuffed with seals to save time and effort
- Pierceable screw caps are for single-time use. They have a 0.25 mm thick polypropylene seal molded into the cap, so it cannot fall out

Note: Shimadzu, Hitachi and Jasco autosamplers require a special wide-lip cap, listed below or use wide mouth vials with these autosamplers.



AUC308115

AUC309115

Silicone Seal ST: Total thickness is 1.5 mm.

Seal TT: Double layer of PTFE minimizes coring and inlet plugging.

TruSeal™: These offer reduced permeability and lower bleed than natural rubber, yet cost only slightly more per seal.

Slit Seal: Recommended for Hitachi, Jasco and Shimadzu autosamplers. Prescored for easy needle penetration. Use with standard mouth vials and wide lip caps.



AUC309525

Description	Material	Qty	Item No.
8 mm Black Screw Cap	Polypropylene	100/pk	AUC308115
8 mm Wide-Lip Screw Cap	Black Polypropylene	100/pk	AUC309115
8 mm Wide-Lip Screw Cap	White Polypropylene	100/pk	AUC309415
8 mm Silicone Seal ST	PTFE/ Silicone	100/pk	AUC308515
8 mm Seal TT	PTFE/ Silicone/ PTFE	100/pk	AUC308715
8 mm Slit Seal	PTFE/ Silicone	100/pk	AUC309715
8 mm TruSeal	PTFE/ Silicone	100/pk	AUC308565



8 mm Seals; ST, TT, PTFE

Pre-Assembled Open-Hole Screw Caps

8 mm (8-425) Cap with Seal ST	PP/ PTFE/ Silicone	100/pk	AUC309525
8 mm (8-425) Cap with Seal TT	PP/PTFE/Silicone/PTFE	100/pk	AUC309585
8 mm Pierceable Screw Cap	Polypropylene/ Poly Seal	100/pk	AUC309915



AUC309715



Pierceable Screw Caps

12 x 32 mm Screw, Standard Mouth

Screw Top Vials with Label - 1.8 mL Capacity

- Mark vials with an ordinary pen or pencil on permanent ceramic patch
- Graduated label vials show the approximate volume of contents
- 8-425 threads
- Type 1 borosilicate glass

Description	Qty	Item No.
Clear Labeled Screw Vial	100/pk	AUC123315
Combo Pack, Labeled Vial, Cap, PTFE/Sil	100/pk	AUC123215L
Amber Labeled Screw Vial	100/pk	AUC123385
Clear Graduated Screw Vial	100/pk	AUC123340
Amber Graduated Screw Vial	100/pk	AUC123342



AUC123315 AUC123215L

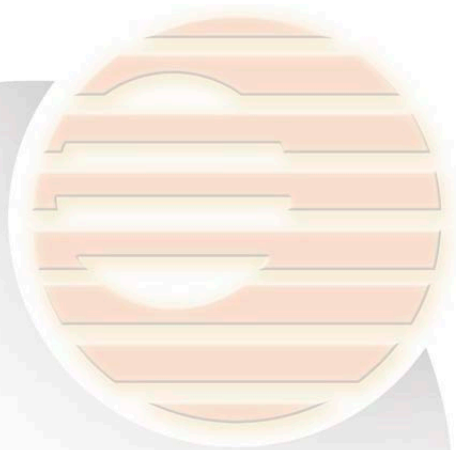
Inserts

- Allows use of microliter-size samples
- Fit inside standard-mouth 12 x 32 mm, 1.8 mL vials
- Mandrel- or pulled-point tip available
- Inserts measure 5 x 31 mm except TriSpring inserts 5 x 29 mm
- TriSpring inserts have a plastic spring already attached, to center the insert and absorb shocks to minimize needle damage
- Type 1 borosilicate glass except as noted

Description	Qty	Item No.
250 µL Flat Bottom Insert	100/pk	AUC053101
100 µL Pulled Point Insert	100/pk	AUC053159
100 µL Mandrel Point Insert	100/pk	AUC053151
100 µL TriSpring Insert	100/pk	AUC053161
100 µL TriSpring Insert, Polypropylene	100/pk	AUC053171



AUC123340 AUC123342



A B C D E

A) AUC053101 D) AUC053161
 B) AUC053159 E) AUC053171
 C) AUC053151



AUC123425

12 x 32 mm Screw, Standard Mouth

Pre-assembled Screw Top Vials - 1.8 mL Capacity

- Completely pre-assembled with PTFE/ Silicone seal and open-hole screw cap
- Cap is made from polypropylene
- Type 1 borosilicate glass

Silicone Seal ST: Total thickness is 1.5 mm.

Seal TT: Double layer of PTFE minimizes coring and inlet plugging.

Description	Qty	Item No.
1.8 mL Pre-assembled Vial ST	100/pk	AUC123425

Conical Vials - 0.1 mL Capacity

- Standard dimensions of 12 x 32 mm, yet 100 µL capacity for small sample sizes
- Standard mouth design with 8-425 threads
- Type 1 borosilicate glass
- Use standard 8-425 thread screw caps and seals (not included)



AUC123165 AUC123175

Plastic Vials

- Economical alternative to solid glass vials; disposable
- Polypropylene is translucent white in color
- TPX (polymethylpentene) has properties similar to polypropylene, but with transparency close to that of glass

Description	Qty	Item No.
0.1 mL Poly Screw Top Vial	100/pk	AUC123165
0.1 mL TPX Screw Top Vial	100/pk	AUC123175

Tapered Bottom Vial - 1.1 mL Capacity

- Microsampling and analysis with one vial
- Tapered bottom lets you concentrate samples into the tip by solvent evaporation.
- Standard mouth design; 8-425 threads
- Type 1 borosilicate glass

Support Sleeves

- For use in autosampler trays that offer little sideways (lateral) support
- Made from PTFE for repeated use



AUC123255 AUC123255
AUC303121

1.1 mL Univial in cut-away sleeve

Description	Qty	Item No.
1.1 mL Screw Top Tapered Vial	100/pk	AUC123255
Combo Pack, 1.1 mL Vial, Cap, PTFE/Sil	100/pk	AUC123275
Standard Sleeves	50/pk	AUC303121

12 x 32 mm Screw, Wide Mouth

1.8 mL Screw Top Vials

- 40% larger opening than our standard vial
- Minimizes risk of bent needles; especially when using small volume inserts
- Compatible with most GC/HPLC autosamplers requiring 1.8 mL, 12 x 32 mm vials
- Type 1 borosilicate glass

Description	Qty	Item No.
1.8 mL Clear Screw Vial	100/pk	AUC123405
Combo Pack, Vial, Cap, PTFE/Silicone	100/pk	AUC123415
1.8 mL Amber Screw Vial	100/pk	AUC123406



AUC123405 AUC123406

Caps and Seals

- 10 mm, 10-425 thread caps fits the thread dimensions of 1.8 mL wide mouth vials
- Made from polypropylene; open-hole design
- Wide mouth vials are recommended for use with autosamplers that require it to be suspended by the cap, including Shimadzu, Hitachi and Jasco (not recommended for the Agilent 7673 or 7683 A/B)
- Cap uses 9 mm seals

Silicone Seal ST - is made from white silicone rubber faced with a 0.08 mm PTFE layer. Total thickness of 1.5 mm; resealable.

Seal TT - is made from silicone faced on both sides with a 0.08 mm layer of PTFE, to reduce coring and inlet plugging; resealable.

Seal PTFE - disk is pure PTFE, 0.25 mm thick; not resealable.

Slit Seal - Recommended for Hitachi, Jasco and Shimadzu autosamplers. Prescored for easy needle penetration. The slit seal is made from PTFE layered on pure silicone. It can also be used with other autosamplers, when lower sampling-needle force is desired.



AUC310115

Description	Material	Qty	Item No.
10 mm Black Screw Cap	Polypropylene	100/pk	AUC310115
9 mm Silicone Seal ST	PTFE/ Silicone	100/pk	AUC310515
9 mm Seal TT	PTFE/ Silicone/ PTFE	100/pk	AUC310615
9 mm Seal PTFE	PTFE	100/pk	AUC310005
9 mm Slit Seal	PTFE/ Silicone	100/pk	AUC310815



9 mm Seals: ST, TT, PTFE



AUC310815



1.1 mL Unival in cut-away sleeve

12 x 32 mm Screw, Wide Mouth

Vials with Graduated Label

- Mark vials with an ordinary pen or pencil on permanent ceramic patch
- Graduated label vials show the approximate volume of contents
- 10-425 threads
- Type 1 borosilicate glass

Description	Qty	Item No.
Graduated Screw Vial	100/pk	AUC123408
Amber Graduated Screw Vial	100/pk	AUC123409

Cap and Seals

- 10 mm, 10-425 thread cap fits the thread dimensions of 1.8 mL wide mouth vial
- Made from polypropylene; open-hole design
- Cap uses 9 mm seals



AUC310115

Silicone Seal ST - made from white silicone rubber faced with 0.08 mm PTFE. Total thickness is 1.5 mm; resealable.

Seal TT - made from silicone faced on both sides with 0.08 mm layer PTFE, to reduce coring and inlet plugging; resealable.

Description	Material	Qty	Item No.
10 mm Black Screw Cap	Polypropylene	100/pk	AUC310115
9 mm Silicone Seal ST	PTFE/ Silicone	100/pk	AUC310515
9 mm Seal TT	PTFE/ Silicone/ PTFE	100/pk	AUC310615



9 mm Seals: ST, TT, PTFE

Inserts for 12 x 32 mm Vials

For use when you have only a small amount of sample available for analysis

- Available in a variety of styles, to fit both standard and wide mouth 1.8 mL, 12 x 32 mm vials
- Inserts for standard mouth vials measure 5 mm in diameter, while wide mouth inserts measure 6 mm in diameter. Inserts measure 31 mm in length, except for TriSpring inserts measure 29 mm

Flat Bottom Inserts - have the largest capacity and are generally lowest in cost. They are placed directly in the host vial.

Tapered Bottom Inserts - allow sampling of just microliters of liquid, with nearly complete withdrawal from the tip. They are also set directly into the host vial. The tips are either drawn during manufacture ("pulled point") or formed ("mandrel point").

TriSpring Inserts - have a plastic spring already attached to the tapered bottom. The spring centers the insert in the host vial and acts as a shock absorber if the insert is touched by the autosampler needle.

Hanging Insert - has a lip that rests on top of a wide mouth crimp or screw vial. The septum seals directly and positively against the insert, reducing the risk of solvent evaporation. Not available for standard mouth vials.



A) Flat Bottom
B) Pulled Point
C) Mandrel Point
D) TriSpring Glass
E) TriSpring Plastic
F) Hanging

Description	Qty	Item No.
Inserts for Standard Mouth 1.8 mL Vials, Type 1 Borosilicate Glass		
250 µL Flat Bottom Insert	100/pk	AUC053101
100 µL Pulled Point Insert	100/pk	AUC053159
100 µL Mandrel Point Insert	100/pk	AUC053151
100 µL TriSpring Insert	100/pk	AUC053161

Inserts for Standard Mouth 1.8 mL Vials, Polypropylene		
100 µL TriSpring Insert	100/pk	AUC053171

Inserts for Wide Mouth 1.8 mL Vials, Type 1 Borosilicate Glass		
350 µL Flat Bottom Insert	100/pk	AUC063101
250 µL Pulled Point Insert	100/pk	AUC063011
250 µL Mandrel Point Insert	100/pk	AUC063151
250 µL TriSpring Insert	100/pk	AUC063161
250 µL Tapered Hanging Insert	100/pk	AUC063181

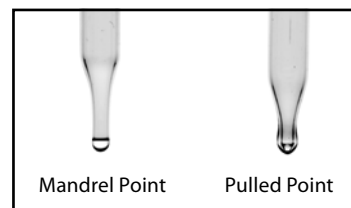
Inserts for Wide Mouth 1.8 mL Vials, Polypropylene		
250 µL TriSpring Insert, Polypropylene	100/pk	AUC063171



AUC063181
Hanging insert; Hanging insert in wide-mouth screw vial.

Tapered Inserts - Mandrel vs. Pulled Point

Tapered glass inserts are manufactured in different ways. The point can either be flame-drawn and pulled (pulled point) or shaped over a die (mandrel point). The pulled point is less costly to produce, while the mandrel point typically has more accurate dimensional tolerances.



Miscellaneous 12 x 32 mm Vials

Shell Vials



AUC123332 AUC123362
12 x 32 mm Shell Vial, Insert and Plug Cap

- Inexpensive alternative to crimp or screw top vials; just push in the cap
- Can be used in most autosamplers except robot arm types, and autosamplers that pressurize the vial (Not usable with Agilent 7673/83A and 1090A autosamplers)
- Polyethylene plug cap included; the needle pierces the cap directly
- Type 1 borosilicate glass

Description	Qty	Item No.
2 mL Clear Shell Vial with Plug Cap	100/pk	AUC123332
2 mL Amber Shell Vial with Plug Cap	100/pk	AUC123362

Tapered Crimp Vial and Sleeve

- Vial measures 7 x 32 mm and fits into a 12 x 32 mm PTFE sleeve
- Vial uses standard 8 mm crimp caps and seals
- Type 1 borosilicate glass

Support Sleeve

- Mimics 12 x 32 mm vials; reusable, PTFE

Caps and Seals

- Cap is made from lacquered aluminum with an open-hole design
- The standard seal is good for routine use; PTFE/rubber, resealable
- Seal TT is a premium-grade septum made by coating pure silicone on both sides with 0.08 mm PTFE, to minimize coring



0.7 mL Crimp Vial,
12 x 32 mm Sleeve

Description	Qty	Item No.
0.7 mL Amber Crimp Vial	100/pk	AUC073251
Combo Pack, 0.7 mL Vial, Cap, Std Seal	100/pk	AUC073281
8 mm Crimp Cap and Std Seal	100/pk	AUC308001
8 mm Crimp Cap and Seal TT	100/pk	AUC308401
Support Sleeve	25/pk	AUC303005

Miscellaneous Vials, Caps and Seals

Reaction Vials

These minivials are useful for micro and semi-micro scale reactions or concentration work. The vials have thick walls, conical tapered interiors and come complete with PTFE-faced silicone liners and open-hole screw caps. Vials have graduation marks (0.1 mL and 0.3 mL vials are not graduated), and are made from Type 1 borosilicate glass.

Description	Thread Size	Qty	Item No.
0.1 mL Clear Reaction Vials	8-425	12/pk	AUC099400
0.3 mL Clear Reaction Vials	13-425	12/pk	AUC099410
1.0 mL Clear Reaction Vials	13-425	12/pk	AUC099420
3.0 mL Clear Reaction Vials	20-400	12/pk	AUC099430
5.0 mL Clear Reaction Vials	20-400	12/pk	AUC099440
10.0 mL Clear Reaction Vials	24-400	12/pk	AUC099450



Reaction Vials, 5 mL, 1 mL

Soil Sample Jars

Clear jars for soil sampling. Soil sample jars are supplied with caps; caps have 48-400 threads and are lined with PTFE for sample protection. Caps are also available separately. Jars are without graduations.

Description	Qty	Item No.
120 mL Soil Jar	24/pk	AUC472305



AUC472305

Soil Sample Septa

- GC-quality septa; specially developed for purge-and-trap analysis using soil sample jars in DynaSoils®, DynaTrap® and similar instruments
- Conditioned to be free of volatiles
- Also superior for EPA sampling
- 22 mm diameter and 3 mm thick, coated on one side with 0.13 mm PTFE

Description	Qty	Item No.
Soil Sample Septa, 22 mm	100/pk	AUC322545



AUC322545

15 x 45 mm Screw Vials

4.0 mL Vials

- Ideal for your most demanding sampling needs
- Recommended for pH-sensitive work and other highly critical applications
- Type 1 borosilicate glass

Caps and Seals

- Screw vials use caps and seals listed on the following page



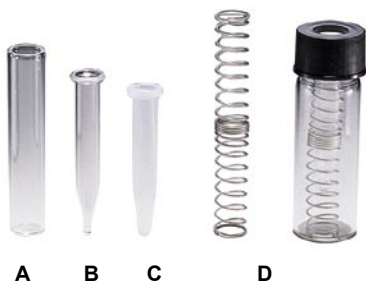
AUC154505

AUC154515

Description	Qty	Item No.
4.0 mL Clear Screw Vial	100/pk	AUC154505
Combo Pack, Clear Vial, Cap, Seal ST	100/pk	AUC154525
Combo Pack, Clear Vial, Cap, Seal PTFE	100/pk	AUC154545
4.0 mL Amber Screw Vial	100/pk	AUC154515
Combo Pack, Amber Vial, Cap, Seal ST	100/pk	AUC154535

Inserts

- Allows small volume sampling in 15 x 45 mm vials
- Shell inserts fit directly into the vial; 8 x 42 mm
- Tapered glass (6 x 41 mm) and tapered polyethylene (6 x 35 mm) inserts require a spring for support; the spring is reusable
- TriSpring inserts have a plastic support spring permanently attached, to center the insert and act as a shock absorber to prevent needle damage
- Type 1 borosilicate glass, except as noted



Inserts for 4 mL Wisp®-type vials.

- A) AUC084201 B) AUC063951
C) AUC063551 D) AUC300501

Description	Qty	Item No.
1.2 mL Shell Insert for 4 mL Vial	100/pk	AUC084201
300 µL Tapered Insert*	100/pk	AUC063951
250 µL Tapered Insert, Polyethylene*	100/pk	AUC063551
50 mm Spring, Steel	100/pk	AUC300501
TriSpring Insert, 300 µL	100/pk	AUC063961
TriSpring Insert, 250 µL, Polypropylene	100/pk	AUC063971

*Requires spring for support

Pre-assembled Vials

- Completely pre-assembled with PTFE/ Silicone seal and open-hole screw cap
- Cap is made from polypropylene
- Type 1 borosilicate glass



AUC154565

Silicone Seal ST - Total thickness is 1.5 mm.

Seal TT - Double layer of PTFE minimizes coring and inlet plugging.

Description	Qty	Item No.
4.0 mL Pre-assembled Vial ST	100/pk	AUC154565
4.0 mL Pre-assembled Vial PTFE	100/pk	AUC154575

15 x 45 mm Screw Vials

Screw Vials with Label

- Mark vials with an ordinary pen or pencil on permanent ceramic patch
- Graduated label vials show the approximate volume of contents
- 13-425 threads
- Uses caps and seals listed below
- Type 1 borosilicate glass

Description	Qty	Item No.
4 mL Clear Labeled Screw Vial	100/pk	AUC154555
Combo Pack, Labeled Vial, Cap, PTFE/Sil	100/pk	AUC154595
Combo Pack, Labeled Vial, Cap, PTFE	100/pk	AUC154615
4 mL Amber Labeled Screw Vial	100/pk	AUC154515L
Clear Graduated Screw Vial	100/pk	AUC154506
Amber Graduated Screw Vial	100/pk	AUC154507



AUC154555 AUC154515L



AUC154506 AUC154507

Caps and Seals for 15 x 45 mm Screw Vials

- Caps are made from polypropylene; open-hole design
- 12 mm caps (13-425 threads) fit the threads of 15 x 45 mm vials

Silicone Seal - is 1.5 mm thick silicone faced on one side with 0.08 mm of PTFE, resealable.

Seal PTFE - 12 mm x 0.25 mm thick disk of pure PTFE. For one-time use, not resealable.

Similar to Waters Part No. 73018.

Seal TT - is our premium silicone seal coated on both sides with a 0.08 mm layer of PTFE, to reduce coring and inlet plugging; resealable.

TruSeal™ - Silicone seal for routine sampling. These seals offer reduced permeability and lower bleed than natural rubber, and resist degradation from -68°C to 250°C. The PTFE layer is 0.08 mm thick.

Description	Material	Qty	Item No.
12 mm Screw Cap	Polypropylene	100/pk	AUC312115
12 mm Silicone Seal ST	PTFE/ Silicone	100/pk	AUC312515
12 mm Seal TT	PTFE/ Silicone/ PTFE	100/pk	AUC311715
12 mm Seal PTFE	PTFE	100/pk	AUC312005
12 mm TruSeal	PTFE/ Silicone	100/pk	AUC312565



AUC312115



AUC312565



12 mm Seals;
ST, TT, PTFE

15 x 45 mm Vials

Shell Vials

- No need to crimp or assemble screw caps
- Polyethylene plug cap included; just push in to seal
- The polypropylene shell vial has a tapered bottom, for small volume sampling; 3 mL capacity
- Type 1 borosilicate glass



AUC154541; with cap and insert

Insert

- For glass shell vials, 1.2 mL capacity; dimensions 8 x 42 mm
- Type 1 borosilicate glass

Description	Qty	Item No.
4 mL Shell Vial with Plug	100/pk	AUC154541
1.2 mL Flat Bottom Insert	100/pk	AUC084201
3 mL Tapered Polypropylene Shell Vial, Cap	100/pk	AUC154562

Reduced Volume Polypropylene Vials

1.2 mL, 2.5 mL Capacity

- Screw top polypropylene vial fits WISP® and other autosamplers directly
- Reduced volume and non-ionic makes it ideal for IC and HPLC applications
- Interior is tapered at the bottom to allow nearly complete sample withdrawal
- Uses the same 12 mm screw caps and seals listed on previous page



AUC154562

Inserts

- Use with 2.5 mL vials for sampling small volumes
- Spring is automatically adjusted to the center of the vial
- Polyethylene

Caps and Seals: screw polypropylene vials use the same 12 mm (13-425) screw caps and seals as listed on previous page. The crimp poly vial uses standard 13 mm aluminum crimp caps and seals.



AUC154645

Description	Qty	Item No.
1.2 mL Polypropylene Screw Vial	100/pk	AUC154645
2.5 mL Polypropylene Screw Vial	100/pk	AUC154655
2.5 mL Polypropylene Crimp Vial	100/pk	AUC154561
Combo Pack, 2.5 mL Vial, Cap, PTFE Seal	100/pk	AUC154675
13 mm Crimp Cap, PTFE/Rubber Seal	100/pk	AUC313001
250 µl Tapered Insert (requires support)	100/pk	AUC063551
50 mm Spring, Steel	100/pk	AUC300501



AUC154561

SAMPLE VIALS - TOC VIALS

Sample Vials

- Ideal for sample storage; available in several sizes
- Vials are made from Type 1 borosilicate glass
- Use PTFE-lined screw caps shown below

Description	Dia x Ht, mm	Cap Size	Qty	Item No.
Clear Sample Vials				
1.8 mL	12 x 32	8-425	100/pk	AUC123205
4 mL	15 x 45	13-425	100/pk	AUC154505
8 mL	17 x 60	15-425	200/pk	AUC176003
12 mL	19 x 65	15-425	200/pk	AUC196503
16 mL	21 x 70	18-400	200/pk	AUC217003
24 mL	27 x 57	24-400	100/pk	AUC275705
40 mL	27 x 98	24-400	100/pk	AUC279505
Amber Storage Vials				
1.8 mL	12 x 32	8-425	100/pk	AUC123215
4 mL	15 x 45	13-425	100/pk	AUC154515
8 mL	17 x 60	15-425	100/pk	AUC176005
40 mL	27 x 98	24-400	100/pk	AUC279515



Sample Vials

PTFE Lined Screw Caps

- Solid (no-hole) replacement screw caps for all of our sample vials and jars
- PTFE-faced foam seals are ultrasonically bonded to the inside of the caps
- Not autoclavable

Description	Qty	Item No.
8-425 Thread Screw Cap	100/pk	AUC309925
13-425 Thread Screw Cap	100/pk	AUC309935
15-425 Thread Screw Cap	100/pk	AUC520110
18-400 Thread Screw Cap	100/pk	AUC520310
24-400 Thread Screw Cap	100/pk	AUC520510
38-400 Thread Screw Cap	100/pk	AUC520810
48-400 Thread Screw Cap	100/pk	AUC521110



PTFE Lined Screw Caps

HEADSPACE VIALS - CRIMP TOP

Rounded Bottom Vials - 10 mL, 20 mL Capacity

- Vial lip has a beveled shape (slightly raised inner edge) for better, tighter seals
- Type 1 borosilicate glass
- Dimensions are: 10 mL, 23 x 46 mm; 20 mL, 23 x 75 mm
- Vials use standard 20 mm aluminum crimp caps and seals shown on next page

Description	Qty	Item No.
10 mL Headspace Vial	100/pk	AUC224601
Combo Pack, 10 mL Vial, Cap, Septum 3	100/pk	AUC224621
20 mL Headspace Vial	100/pk	AUC237501
Combo Pack, 20 mL Vial, Cap, Septum 3	100/pk	AUC237521



6 mL, 10 mL, 20 mL Headspace Vials

Flat Bottom Vials - 6 mL, 10 mL, 20 mL Capacity

- Flat bottom headspace vials for those who cannot use the rounded bottom style
- Vials use standard 20 mm aluminum crimp caps and seals and are the same dimensions as round bottom vials listed above. Dimensions for the 6 mL, 23 x 38 mm
- Vials use standard 20 mm aluminum crimp caps and seals shown on next page

Description	Qty	Item No.
6 mL Headspace Vial	100/pk	AUC223801
Combo Pack, 6 mL Vial, Cap, Septum 3	100/pk	AUC223821
10 mL Headspace Vial	100/pk	AUC224604
20 mL Headspace Vial	100/pk	AUC237504

New Electronic Crimpers and Decappers

- Available in rechargeable hand-held, or heavy-duty bench top models



Electronic Crimper

Headspace Autosampler / Vial Cross Reference

Autosampler	Model or Type	6 mL	10 mL	20 mL	27 mL
Agilent	G1888/ 7694E		X	X	
A.I.	Headspace		X	X	
Carlo Erba/Fisons	HS 500, HS 700		X		
CTC Analytics	HTC PAL, GC PAL		X	X	
	Combi PAL		X	X	
Dani	HSS 39.50, 86.50		X	X	
	SPT 37.50				X
KONIK	Robokrom HS	X	X	X	
LEAP	HS 500		X		
	HTC PAL, GC PAL		X	X	
	Combi PAL		X	X	
PerkinElmer	TurboMatris HS-16, 40, 110, 40XL	X		X	
	Integral 4000	X		X	
Shimadzu	HSS-2B				X
Tekmar	7000HT/7050		X	X	
Thermo	AS-2000		X		
	HS-2000		X	X	
Varian	Genesis	X	X	X	
	Combi PAL		X	X	
	Prostar 410		X		
	Prostar 420	X	X		

20 mm Caps

Standard Cap - Made from lacquered aluminum with an open hole design. It fits the 6 mL, 10 mL, 20 mL and 27 mL headspace vials.

Safety Cap - Specially designed to vent high-pressure gas at approximately 5 bar (78 psi). Aluminum.

Magnetic Cap - Nickel plated steel cap is for use with autosamplers made by LEAP and CTC, and other autosamplers using a magnetic pick-up arm. May be used with the HD Electronic Crimper; not suitable for use with the rechargeable 20 mm Electronic Crimper or Electronic Decapper.

Magnetic Ring Crimp Cap - This is a 20 mm aluminum crimp cap, pre-assembled with an internal steel ring. The steel ring allows use with magnetic pick-up autosamplers while the aluminum cap can be crimped with the rechargeable 20 mm Electronic Crimper, the HD Crimper and other standard crimping tools.



20 mm Magnetic Crimp Caps



20 mm Magnetic Ring Crimp Caps

Description	Qty	Item No.
20 mm Crimp Cap	100/pk	AUC320001
20 mm Safety Crimp Cap	100/pk	AUC320301
20 mm Magnetic Crimp Cap*	100/pk	AUC320605
20 mm Magnetic Ring Crimp Cap**	100/pk	AUC320607

*Not suitable for use with 20 mm Electronic Crimper or Decapper. Can be crimped with the HD Crimper.

** May be used with the 20 mm Electronic Crimper.

20 mm Seals

All of our headspace seals are 20 mm diameter. For pre-stuffed caps with seals see next page.

Septum 3 - Pure silicone rubber, 3 mm thick, coated with 0.13 mm of PTFE.

Septum 2 - 2.4 mm thick silicone faced with 0.25 mm of PTFE.

Preconditioned Septa for Headspace - This is a 20 mm version of our popular seal for soil sampling. Suitable for your most sensitive analysis; it is pre-conditioned to be free from volatiles. 0.13 mm layer of PTFE on silicone; 3 mm total thickness.

Chlorobutyl Septum - gray, This is made from pure chlorobutyl rubber, 3 mm thick. It is low in cost for routine use. Chlorobutyl rubber has greater high-temperature stability compared with standard butyl rubber.

Butyl Septum - black, Available pre-stuffed in the standard aluminum cap; see next page.

Bellows Seal - Chlorobutyl rubber faced with PTFE for superior sample protection. Only PTFE contacts the sample, while the soft outer ring of rubber makes a tight seal.



Bellows Seal; Septum 3; Chlorobutyl Seal

Description	Qty	Item No.
20 mm Septum 3	100/pk	AUC320101
20 mm Preconditioned Septa	100/pk	AUC320545
20 mm Septum 2	100/pk	AUC320201
20 mm Chlorobutyl Septum (Gray)	100/pk	AUC320401
20 mm Bellows Seal	100/pk	AUC320501



Septum 2



Soil Sample Septa for Headspace

20 mm Pre-Stuffed Caps and Seals



AUC320121



AUC320122



AUC320123



AUC3201



AUC320222



AUC320223



AUC320421



AUC320521

Seals are pre-stuffed for added convenience and lower contamination risk. These fit all standard 6 mL, 10 mL, 20 mL and 27 mL headspace vials. Aluminum caps may be crimped using the 20 mm Electronic Crimper.

Standard Cap - Made from lacquered aluminum; open hole design.

Safety Cap - Specially designed to vent high-pressure gas at approximately 5 bar (78 psi). The safety cap is aluminum.

Magnetic Cap - Made from nickel-plated steel for use with magnetic pick-up arm autosamplers. Not suitable for use with the rechargeable 20 mm Electronic Crimper or Decapper. May be used with the Heavy Duty Crimper.

Septum 3 - Pure silicone rubber, 3 mm thick, coated with 0.13 mm PTFE.

Septum 2 - 2.4 mm thick silicone faced with 0.25 mm PTFE.

Butyl Septum - Black, Standard butyl rubber (not chlorobutyl) available pre-stuffed in the aluminum cap. Good for routine use.

Bellows Seal - Chlorobutyl rubber faced with PTFE for superior sample protection. Only PTFE contacts the sample, while the outer ring of rubber makes a tight seal.

Description	Qty	Item No.
Seals Pre-Stuffed in 20 mm Crimp Caps		
20 mm Septum 3/ Aluminum Crimp Cap	100/pk	AUC320121
20 mm Septum 3/ Safety Crimp Cap	100/pk	AUC320122
20 mm Septum 3/ Magnetic Crimp Cap*	100/pk	AUC320123
20 mm Septum 2/ Aluminum Crimp Cap	100/pk	AUC320221
20 mm Septum 2/ Safety Crimp Cap	100/pk	AUC320222
20 mm Septum 2/ Magnetic Crimp Cap*	100/pk	AUC320223
20 mm Black Butyl/ Aluminum Crimp Cap	100/pk	AUC320421
20 mm Bellows Seal/ Aluminum Crimp Cap	100/pk	AUC320521

* Not suitable for use with the 20 mm Electronic Crimper or Decapper. Can be crimped with the HD Crimper.

MICROWAVE VIALS AND CAPS

Microwave Vials

- Heavy wall, Type 1, 33-expansion glass
- Reactions take place in one vial
- 3 vial sizes; 0.5 - 2 mL tapered (17 x 83 mm); 2 - 5 mL round bottom (17 x 83 mm); 10 - 20 mL round bottom (28 x 83 mm)
- All vial sizes use 20 mm crimp caps and seals
- Stir bars and crimping tools are available separately

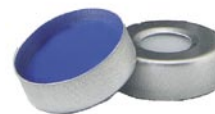


Microwave Vials; 10 - 20 mL; 2 - 5 mL; 0.5 - 2 mL

Description	Qty	Item No.
0.5 - 2 mL Microwave Vial	100/pk	AUC199102
2 - 5 mL Microwave Vial	100/pk	AUC199101
10 - 20 mL Microwave Vial	100/pk	AUC199100

Crimp Caps - Pre-stuffed; 100/pk

Description	Item No.
20 mm Aluminum Crimp Cap, Blue/ White Septa	AUC320130
20 mm Septum 3/ Aluminum Crimp Cap	AUC320121
20 mm Septum 3/ Safety Crimp Cap	AUC320122
20 mm Septum 3/ Magnetic Crimp Cap*	AUC320123
20 mm Septum 2/ Aluminum Crimp Cap	AUC320221
20 mm Septum 2/ Safety Crimp Cap	AUC320222
20 mm Septum 2/ Magnetic Crimp Cap*	AUC320223
20 mm Black Butyl/ Aluminum Crimp Cap	AUC320421
20 mm Bellows Seal/ Aluminum Crimp Cap	AUC320521



AUC320130

* Not suitable for use with the 20 mm Electronic Crimper or Decapper. Can be crimped with the HD Crimper.

Accessories

Description	Item No.
Stir Bars	
Stir Bar, PTFE, 5 mm x 10 mm Oval	AUC199401
Stir Bar, PTFE, 6 mm x 15 mm Oval	AUC199402
Crimpers and Decappers	
20 mm Electronic Crimper	AUC320950
20 mm Electronic Decapper	AUC320960



Oval Stir Bar



AUC320950

HEADSPACE VIALS - SCREW TOP

Precision-Thread Vials

- Recommended for CTC instruments
- Made from borosilicate glass

These are an alternative to crimp top headspace vials, which can be difficult to crimp manually when steel caps are used. The precision thread design allows a leak tight seal with moderate twisting force. Since they do not require crimpers or decappers, samples can be taken and sealed in the field without the need for sample transfer in the lab. Waste solvent disposal is also easy. Vials can be used either for traditional headspace analyses or SPME. Use with magnetic screw caps and seals shown below. Vials have rounded bottoms and 18 mm diameter necks. Dimensions: 10 mL, 46 x 23 mm; 20 mL, 76 x 23 mm.



AUC237508

AUC237509



AUC224608

AUC224609

Description	Qty	Item No.
10 mL Clear Screw Headspace Vial	100/pk	AUC224608
Combo Pack, 10 mL, Cap, PTFE/Silicone	100/pk	AUC224611
10 mL Amber Screw Headspace Vial	100/pk	AUC224609
20 mL Clear Screw Headspace Vial	100/pk	AUC237508
Combo Pack, 20 mL, Cap, PTFE/Silicone	100/pk	AUC237511
20 mL Amber Screw Headspace Vial	100/pk	AUC237509

Magnetic Precision-Thread Screw Caps with Seals

- Use with Precision-Thread Vials above
- Flat upper surface assures strong magnetic bond
- Seals available in a range of harness
- 8 mm center hole also suitable for SPME

Precision-thread magnetic screw caps present a convenient alternative to crimp cap designs. Caps come with 18 mm liners already installed. Liners are available in a range of hardnesses, as measured by Shore A durometer. Liners are thinner than typical crimp top headspace liner seals, so they may be more easily pierced by SPME sampling systems.



AUC320125



AUC320128



AUC320124



AUC320126

Description	Thickness	Shore A	Qty	Item No.
White PTFE/ Blue Silicone	1.3 mm	35	100/pk	AUC320125
Gray PTFE/ Red Butyl Rubber	1.6 mm	55	100/pk	AUC320128
Red PTFE/ White Silicone	1.3 mm	45	100/pk	AUC320124
Blue PTFE/ White Silicone	1.5 mm	55	100/pk	AUC320126

EPA SAMPLING VIALS - 24, 40 AND 60 ML

Bulk EPA Vials

- Meet specifications for water sampling under EPA 40 CFR
- Type 1 borosilicate glass
- Dimensions: 24 mL, 27 x 57 mm; 40 mL, 27 x 95 mm; 60 mL, 27 x 135 mm
- All have 24-400 threads and use 24 mm screw caps with 22 mm seals



AUC279505 AUC279515

Caps

- 24-400 or 24-414 threads; made from polypropylene. Both fit 24-400 thread vials
- The 24-414 threads caps are deeper, and are recommended for use with thick seals
- Open-hole design

Seals

- All seals for headspace are 22 mm diameter and come 100/pk
- Seals are made from silicone with a PTFE layer. Total thickness is 3 mm
- Available with 0.13 mm or 0.25 mm thick PTFE



Bulk Pack EPA Vials

Description	Qty	Item No.
24 mL Clear EPA Vial	100/pk	AUC275705
Combo Pack, 24 mL Clear Vial, Cap, Seal	100/pk	AUC275725
24 mL Amber EPA Vial	100/pk	AUC275805
Combo Pack, 24 mL Amber Vial, Cap, Seal	100/pk	AUC275905
40 mL Clear EPA Vial	100/pk	AUC279505
Combo Pack, 40 mL Clear Vial, Cap, Seal	100/pk	AUC279525
40 mL Amber EPA Vial	100/pk	AUC279515
Combo Pack, 40 mL Amber Vial, Cap, Seal	100/pk	AUC279535
60 mL Clear EPA Vial	144/pk	AUC271406



AUC324115

Caps

24 mm Screw Cap, 24-400	100/pk	AUC324115
24 mm Screw Cap, 24-414	100/pk	AUC324114
Preassembled 24-400 Screw Cap and Seal	100/pk	AUC324415



AUC322515

Seals

22 mm Standard Seal, PTFE/Silicone	100/pk	AUC322515
22 mm PTFE/Silicone (0.25 mm PTFE)	100/pk	AUC322516
22 mm PTFE Disk	100/pk	AUC322005



AUC322516

Soil Sample Septa

These GC quality septa have been specially developed for purge-and-trap analysis using soil sample jars in DynaSoils®, DynaTrap® and similar instruments. Septa are 22 mm diameter and 3 mm thick, coated on one side with 0.13 mm of PTFE. They are conditioned to be free of volatiles, and can be stored indefinitely at 80°C, ready for anytime use.

Description	Qty	Item No.
22 mm Soil Sample Septa	100/pk	AUC322545



AUC322005



AUC322545

Preassembled Vials

- Vial is completely preassembled, with PTFE/silicone seal and open-hole cap
- The seal is bonded to the open-hole polypropylene cap using a proprietary process without glue, so it cannot fall out
- Type 1 borosilicate glass

Description	Qty	Item No.
24 mL EPA Vials, Preassembled	100/pk	AUC275745
40 mL EPA Vials, Preassembled	100/pk	AUC279545



Precleaned EPA Vials

Precleaned Vials

- Precleaned EPA vials come precleaned with cap and PTFE/silicone seal
- 24 mL vials measure 27 x 57 mm; 40 mL, 27 x 98 mm
- Vials are cleaned to Protocol B as specified in the EPA "Specifications and Guidance for Contaminant-Free Sample Containers"
- Type 1 borosilicate glass

Description	Qty	Item No.
24 mL Clear Precleaned EPA Vials	72/pk	AUC275825
24 mL Amber Precleaned EPA Vials	72/pk	AUC275835
40 mL Clear Precleaned EPA Vials	72/pk	AUC279825
40 mL Amber Precleaned EPA Vials	72/pk	AUC279835
60 mL Clear Precleaned EPA Vials	72/pk	AUC271425
60 mL Amber Precleaned EPA Vials	72/pk	AUC271435



AUC324415

Prestuffed EPA Screw Caps

- Can be heated to 125°C for preparation per EPA protocols, or for autoclaving
- The PTFE/silicone seal is welded to the polypropylene cap so it cannot fall out
- Fits 24, 40 and 60 mL EPA vials. 24-414 threads

Description	Qty	Item No.
24 mm Prestuffed EPA Caps	100/pk	AUC324415

Vial Rack

This polypropylene rack holds 50, 40 mL EPA vials. It is autoclavable at 121°C for 20 minutes. Racks have an alpha-numeric indexed vial grid for convenient sample identification and are stackable, with openings in the well bottoms for drainage. 6 3/4" x 13" x 1 1/4".



AUC868806

Description	Qty	Item No.
50 Position Rack for EPA Vials	5/pk	AUC868806

SCREW CAPS, PREASSEMBLED

Caps are available either open-hole for autosampler use, or solid (no-hole) for storing samples. They are made from polypropylene, or phenolic where noted. Choose the seal material that is best for your sampling needs.

Pierceable Screw Caps - for autosampler use and are designed for fast and easy sample preparation; there are no seals to assemble. A 0.25 mm thick polypropylene seal is molded directly into the cap, so it cannot fall out. Concentric raised ridges at the contact point with the vial ensure a positive seal. Low cost for single-time use.

Polyethylene Plugs - suitable for most vials and autosamplers. Many people find them easier to work with than crimp or screw caps; just push into the vial. Do not use polyethylene plugs with systems that pressurize the vial.

Seal ST - silicone faced with PTFE; only PTFE contacts your sample.



Open-Hole and Solid Preassembled Screw Caps

8 mm Screw Caps, 8-425 Threads

Preassembled for all common, 12 x 32 mm standard mouth vials.

Description	Qty	Item No.
8 mm Preassembled, PTFE/Silicone	100/pk	AUC309525
8 mm Pierceable Screw Cap	100/pk	AUC309915
8 mm Solid Phenolic Cap, PTFE Liner	100/pk	AUC309925

12 mm Screw Caps, 13-425 Threads

Preassembled; fits 15 x 45 mm autosampler vials.

Description	Qty	Item No.
12 mm Pierceable Screw Cap	100/pk	AUC312815
12 mm Solid Phenolic Cap, PTFE Liner	100/pk	AUC309935



Pierceable Screw Caps

Polyethylene Plug Caps

These are for use with screw or crimp top vials; not for use with shell vials. For replacement shell vial plus, see listings with the respective shell vials. Do not use with systems that pressurize the vial. Plug 11-2 fits 12 x 32 mm standard mouth vials, pages 136 and 142. Plug 8-1 fits 7 x 40 mm and 8 x 30 mm vials.

Description	Qty	Item No.
Plug 11-2	100/pk	AUC311021
Plug 8-1	100/pk	AUC308021



Polyethylene Plug Caps



AUC308001



AUC311001



AUC311231



AUC311501



AUC311001R



AUC311001B



AUC311001G



AUC311001GO



AUC310001

CRIMP CAPS AND SEALS 8 MM, 11 MM

8 mm Caps and Seals

These fit all standard 6, 7 and 8 mm diameter crimp vials and others with 8 mm lips. Caps with standard seals are available silver, red, green, blue and gold.

11 mm Caps and Seals

These fit all common 12 x 32 mm (1.8 mL) crimp vials, both standard and wide mouth. Caps with standard seals are available silver, red, green, blue, gold, yellow, orange and purple.

Blank Crimp Caps

Made from lacquered aluminum for good crimping properties with low cost. Open-hole design.

Crimp Caps Prestuffed with Seals

Use the same lacquered aluminum crimp caps as above. Prestuffed with the following seals:

Standard Seal: Rubber, 1 mm thick, faced on one side with a 0.03 mm layer of PTFE for sample protection.

Seal S: A quality PTFE/silicone seal; silicone offers good sealing properties.

Seal TT: Our premium-grade silicone seal, coated on both sides with 0.08 mm layer of PTFE. Minimizes coring and the resulting inlet plugging.

TruSeal™: Our PTFE/silicone seal that costs just pennies more than rubber. It offers reduced permeability and lower bleed, and resists degradation from -68°C to 250°C. The silicone is softer than in many seals, so lower crimp force is needed. 0.08 mm thick layer of PTFE on 1.1 mm thick silicone.

Description	Qty	Item No.
8 mm Blank Crimp Cap	100/pk	AUC308501
8 mm Crimp Cap with Standard Seal	100/pk	AUC308001
8 mm Crimp Cap with Seal S	100/pk	AUC308201
8 mm Crimp Cap with Seal TT	100/pk	AUC308401
8 mm Crimp Cap with TruSeal	100/pk	AUC308231
11 mm Blank Crimp Cap	100/pk	AUC311501
11 mm Magnetic Crimp Cap	100/pk	AUC311002
11 mm Crimp Cap with Standard Seal	100/pk	AUC311001
11 mm Crimp Cap, Standard Seal, Red	100/pk	AUC311001R
11 mm Crimp Cap, Standard Seal, Green	100/pk	AUC311001G
11 mm Crimp Cap, Standard Seal, Blue	100/pk	AUC311001B
11 mm Crimp Cap, Standard Seal, Gold	100/pk	AUC311001GO
11 mm Crimp Cap, Standard Seal, Yellow	100/pk	AUC311001Y
11 mm Crimp Cap, Standard Seal, Orange	100/pk	AUC311001O
11 mm Crimp Cap, Standard Seal, Purple	100/pk	AUC311001PU
11 mm Crimp Cap with Seal S	100/pk	AUC311201
11 mm Crimp Cap with Seal TT	100/pk	AUC311401
11 mm Crimp Cap with TruSeal	100/pk	AUC311231

Seal PTFE

Disks of pure PTFE 0.25 mm thick, easy to penetrate and inexpensive for one time use. Not resealable. The 7.5 mm seal fits 8 mm crimp caps; the 10 mm seal fits 11 mm crimp caps.

Description	Qty	Item No.
7.5 mm Seal PTFE	100/pk	AUC307001
10 mm Seal PTFE	100/pk	AUC310001

SCREW CAPS AND SEALS, OPEN HOLE

Screw Caps, Polypropylene

8 mm Screw Caps: 8-425 threads. Fit standard mouth 12 x 32 mm vials.

8 mm Wide Lip Screw Caps: 8-425 threads. Specially designed for Shimadzu, Hitachi and Jasco autosamplers. It fits standard 12 x 32 mm vials, but is made with a wider outer lip.

10 mm Screw Caps: 10-425 threads. Fits wide mouth 12 x 32 mm vials.

12 mm Screw Caps: 13-425 threads. Fits standard 15 x 45 mm (4 mL WISP) vials.

Seals

- 8 mm Seals - fit 8 mm, 8-425 thread screw caps
- 9 mm Seals - fit 10 mm, 10-425 thread screw caps
- 12 mm Seals - fit 12 mm, 13-425 thread screw caps

Silicone ST (Red): Standard seal for screw vials, offering good performance at low cost. White silicone layered with 0.08 mm of red PTFE 1.5 mm thick.

Silicone Seal (Cream): Similar to our red silicone seal, except the PTFE is 0.13 mm thick for added protection. Cream colored PTFE on white silicone.

Seal TT: Pure silicone rubber coated on both sides with a 0.08 mm layer of PTFE. Preferred by many because it minimizes coring and inlet plugging.

TruSeal™: Quality silicone septum faced with a 0.08 mm layer of PTFE. Features reduced permeability and lower bleed than rubber. Total thickness is 1.1 mm.

Slit Seal: Designed for Shimadzu, Hitachi and Jasco autosamplers. Prescored for easy sampling needle penetration; it is made from PTFE layered on pure silicone. This seal can also be used with other autosamplers for a lower sampling pressure.

Seal PTFE: Disks of pure PTFE, 0.25 mm thick. Easy to penetrate, but cannot be resealed. The 7.5 mm size fits 8 mm crimp caps.

Description	Qty	Item No.
Caps		
8 mm Black Screw Cap	100/pk	AUC308115
8 mm Wide Lip Screw Cap	100/pk	AUC309115
10 mm Black Screw Cap	100/pk	AUC310115
12 mm Black Screw Cap	100/pk	AUC312115
12 mm White Screw Cap	100/pk	AUC312415
Seals		
8 mm Silicone Seal ST (Red)	100/pk	AUC308515
8 mm Cream Silicone Seal	100/pk	AUC308915
8 mm Seal TT	100/pk	AUC308715
8 mm TruSeal	100/pk	AUC308565
8 mm Slit Seal	100/pk	AUC309715
7.5 mm Seal PTFE	100/pk	AUC307001
9 mm Seal ST (Red)	100/pk	AUC310515
9 mm Seal TT	100/pk	AUC310615
9 mm Slit Seal	100/pk	AUC310815
9 mm Seal PTFE	100/pk	AUC310005
12 mm Silicone Seal ST (Red)	100/pk	AUC312515
12 mm Cream Silicone Seal	100/pk	AUC312915
12 mm Seal TT	100/pk	AUC311715
12 mm TruSeal	100/pk	AUC312565
12 mm Seal PTFE	100/pk	AUC312005



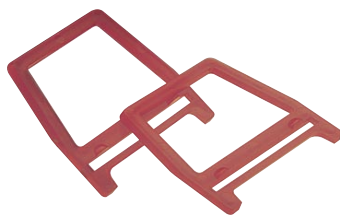
ACCESSORIES

Autosampler Vial Racks



Vial Rack

- Holds up to 80 1.5 and 2 mL vials
- Flip the rack over and it holds up to 60 PCR or microcentrifuge tubes from 0.2 - 0.5 mL
- Made of autoclavable polypropylene, allowing great chemical resistance
- Racks can be anchored to one another with special pins supplied with each rack
- Supplied with two removable handles
- Frosted area on both sides for bar coding, labeling or writing
- Dimensions: 9 3/4" x 2 5/8" x 1 1/16" (232 mm x 67 mm x 27 mm)
- Transparent lid is optional



Removable Handles

Description	Qty	Item No
Vial Rack, 80 Places, Blue	10	AUC868880B
Vial Rack, 80 Places, Green	10	AUC868880G
Vial Rack, 80 Places, Orange	10	AUC868880O
Vial Rack, 80 Places, Pink	10	AUC868880P
Vial Rack, 80 Places, Red	10	AUC868880R
Vial Rack, 80 Places, Yellow	10	AUC868880Y
Vial Rack, 80 Places, Assorted*	10	AUC868880AS
Lid, Transparent	10	AUC868880

*Assorted colors: Blue, green, orange, pink and yellow.

Headspace Vial Racks

- Plastic racks, available in 36 or 50 positions
- 36 position holds 6, 10 or 20 mL headspace vials
- 50 position holds 1.8 mL vials
- Polypropylene racks are autoclavable (polyethylene are not)
- Dimensions: 36 position, 3 5/8" x 12 3/4" x 1 1/8"; 50 position (for EPA) 6 3/4" x 13" x 1 1/4"; 50 position (for 1.8 mL) 4" x 7 5/8" x 1 1/8"



AUC868850

Description	Material	Qty	Item No.
36 Position for Headspace Vials	Polypropylene	5/pk	AUC868805
50 Position for 1.8 mL Vials	Polyethylene	5/pk	AUC868850
50 Position for EPA Vials	Polypropylene	5/pk	AUC868806

Vial Holders

- Provide a convenient and accessible way to store samples
- Clear polystyrene cases with hinged lids; alpha-numeric indexing
- Holds 40 - 60 vials in individual partitions
- Foam inserts are included



Vial Holder

Description	Qty	Item No.
Holder for 60 Vials up to 13 x 15 mm	1/pk	AUC228778
6-Pack of Above Holder	6/pk	AUC228779
Holder for 40 Vials up to 16 x 50 mm	1/pk	AUC228780
6-Pack of Above Holder	6/pk	AUC228781

6-Port Mini-Vap

This concentrator/evaporator handles up to six miniature vials or containers simultaneously. It comes with six stainless steel needles, a nickel plated needle valve, and 3 feet of plastic tubing. The needle valve allows fine control of nitrogen or dry air flow for the evaporator. Instructions included.

Description

6-Port Mini-Vap

Single, Adjustable Mini-Vap

Item No.

AUC201006

AUC201001



AUC868850

Vibrograver

The Vibrograver permanently engraves all hard and semi-hard surfaces. Recommended for marking column tags and tools. Just write on the item to be engraved as with a pencil. The etched information cannot be erased, wiped off or rubbed out.

Description

Vibrograver, 120 V

Vibrograver, 220 V

Spare Diamond Tip

Spare Carbide Tip

Item No.

AUC486211

AUC486212

AUC486213

AUC486214



Vibrograver

Manual Crimpers and Decappers

Manual Crimpers: precision crafted hand operated crimpers are used to secure aluminum caps to autosampler vials. Easy to use and durable. Crimper jaws are made from steel. Adjustable stop in the handle can be set to give the same sealing tightness every time. Available in four sizes 8, 11, 13 and 20 mm.

Manual Decappers: Removes caps quickly and easily; avoids broken vials and sharp aluminum. Made with steel jaws. Simple to use; hold the decapper, squeeze and cap pulls off. Available in four sizes 8, 11, 13 and 20 mm.

Description

Manual Crimper

8 mm Manual Crimper

11 mm Manual Crimper

20 mm Manual Crimper

Item No.

AUC308000

AUC311990

AUC320990

Manual Decapper

8 mm Manual Decapper

11 mm Manual Decapper

20 mm Manual Decapper

AUC308040

AUC311991

AUC320991



AUC311990



AUC320990



K-LCUV-SE **KONIK**
CF-2575 **KROM+MASS**
7/31/2011 10 mL
Interference Detector PQ Solution
...te(s) at various concentrations
...th St, No Kingstown, RI 02852

K

USA

12 · *Standards & Reagents*



TEST KITS

Use Konik Test Solutions to perform the quality checking of your HRGC, HPLC or MS systems.

HRGC System Test Solutions

Description	Item n°	Package	Analytes	Concentration	Matrix
HRGC FID Detector MDL Standard	KNK-FID-STD	1x1 mL ampule	n-pentadecane n-tetradecane n-hexadecane n-tridecane	30.0 µg/mL 3.0 µg/mL 30.0 µg/mL 3.0 µg/mL	Isooctane
HRGC FPD Detector MDL Standard	KNK-FPD-STD	1x1 mL ampule	Dodecanethiol Tributyl phosphate	10.0 µg/mL 10.0 µg/mL	Isooctane
HRGC TCD Detector MDL Standard	KNK-TCD-STD	1x1 mL ampule	n-pentadecane n-tetradecane n-hexadecane	0,002 % (w/w) 0,002 % (w/w) 0,002 % (w/w)	Hexane
HRGC ECD Detector MDL Standard	KNK-ECD-STD	1x1 mL ampule	Gamma-BHC Aldrin	0,0002 µg/mL 0,0002 µg/mL	Isooctane
HRGC MS Detector MDL Standard	KNK-GMS-STD	1x1 mL ampule	Decafluorotriphenylphosphine Endrin 4,4'-DDT	2000.0 µg/mL 2000.0 µg/mL 2000.0 µg/mL	Acetone

HPLC System Test Solutions

Description	Item n°	Package	Analytes	Concentration	Matrix
Absorbance Detector 10mm - Cell Performance	KNK-LCUV-STD1	1x10 mL ampule	Erbium perchlorate	10.0 g/L	HPLC grade water
Qualification - (PQ) Solution					
UV-Visible Absorbance - Detector Wavelength Accuracy- Calibration Solution	KNK-LCUV-STD2	1x10 mL ampule	Acetone Acetophenone Propiophenone Butyrophenone	3170.0 mg/L 10.28 mg/L 10.09 mg/L 10.21 mg/L	Methanol / water (60:40 V/V)
Absorbance Detector - Linearity Calibration Kit	KNK-LCUV-STD3	Ampule 1 Ampule 2 Ampule 3 Ampule 4 Ampule 5 Ampule 6 Ampule 7	Methanol Propyl paraben Propyl paraben Propyl paraben Propyl paraben Propyl paraben Propyl paraben	100% 5.00 mg/L 10.00 mg/L 15.00 mg/L 20.00 mg/L 25.00 mg/L 30.00 mg/L	Methanol Methanol Methanol Methanol Methanol Methanol
UV Absorbance Detector - Wavelength Accuracy - Calibration Solution	KNK-LCUV-STD4	1x10 mL ampule	Uracil	15.0 mg/L	Methanol
Fluorescence Detector - OQ Solution	KNK-LCFL-STD	1x1 mL ampule	Quinine sulfate Dihydrate	99 %	Phosphoric Acid 85% by Weight (specific gravity 1.7)
Refractive Index Detector - OQ Solution	KNK-LCRI-STD	1x10 mL ampule	Caffeine	2.0 g/L	Water / Methanol (9:1 v/v)
Electrochemical Detector - PQ Solution	KNK-LCEC-STD	1x1 mL ampule	Acetaminophen (4-acetamidophenol)	1.0 µg	Water / Methanol (9:1 V/V)
Conductivity Detector - OQ/PQ Test Solutions Kit	KNK-LCCD-STD	1x1 mL ampule 1x1 mL ampule	Potassium chloride Potassium bromide Sodium chloride	0.07455mg/mL 1.489 mg/mL 0.8425 mg/mL	18-megohm ASTM Type I Reagent Water 18-megohm ASTM Type I Reagent Water
Evaporative Light Scattering - Detector Test Solution	KNK-LCLS-STD	1x1 mL ampule	Acetaminophen	250 mg/L	10% HPLC Grade Methanol / 90% ASTM Type I Water (V/V)

MS System Test Solutions

Description	Item n°	Package	Analytes	Concentration	Matrix
MS Chemical Test Kit	KNK-LMS-STD1	Vial 1	Daidzein	250 µg/L	Acetonitrile/Water 30/70
		Vial 2	Reserpine	2 ng/µL	Acetonitrile/Water 50/50
			PPG 1000	25 ng/µL	(4mM Ammonium Acetate)
			Triacetyl-β-cyclodextrin	50 ng/µL	
		Vial 3	Sodium Iodide	2 µg/µL	IPA/Water 50/50
	Cesium Iodide	50 ng/µL			
Vial 4	Daidzein	1 mg/L	Acetonitrile/Water 30/70		
Vial 5	Formic Acid	ACS Reagent Grade(96 %)			
MS 10ml Solution, 1mg/L Daidzein	KNK-LMS-STD2	1x1 mL ampule	Daidzein	1 mg/L	Acetonitrile/Water 30/70
MS 10ml Solution, Formic Acid	KNK-LMS-STD3	1x1 mL ampule	Formic Acid	ACS Reagent Grade (96 %)	
MS Leucine Enkephalin Test Solution Kit	KNK-LMS-STD4	Ampule 1	Leucine enkephalin	2 ng/µL	Acetonitrile/Water (1:1) V/V
		Ampule 2	Acetic acid	1 %	Acetonitrile/Water (1:1) V/V
MS Detector OQ/PQ Solution	KNK-LMS-STD5	Ampule	Daidzein	10.0 mg/mL	Acetonitrile/Water 30/70
Integrity System Standard - Caffeine	KNK-LMS-STD6	Vial	Caffeine	10.0 mg/L	Methanol /Water (1:1)
Integrity System Standard - Alkylphenones	KNK-LMS-STD7	Vial	Acetone	2373.0 mg/L	Methanol
			Decanophenone	40.0 mg/L	
			Dodecanophenone	60.2 mg/L	
			Octadecanophenone	40.1 mg/L	



Test Solutions

GC DERIVATIZATION REAGENTS

Derivatization

Derivatization is the process of chemically modifying a compound to produce a new compound which has properties that are suitable for analysis using a GC. Derivatization is a useful tool allowing the use of GC and GC/MS to be done on samples that would otherwise not be possible in various areas of chemistry such as medical, forensic, and environmental. Derivatization process can increase sample volatility, increase detectability, increase stability, improve selectivity or improve chromatographic efficiency.

KONIK Robokrom Autosampler allows automatic derivatization of your sample previous GC injection with complete control of all parameters (temperature, time, agitation,...).

Main types of derivatization:

A. Silylation

Silylation is the most widely used derivatization procedure. Silylation produces silyl derivatives which are more volatile, less stable, and more thermally stable. Silylation replaces active hydrogens with a TMS (trimethylsilyl group) and enables the GC-MS analysis of many compounds.

General Reaction Mechanism: Derivatization mechanism for Alcohols, Amides, Amines, Steroids, and carboxylic acids.

B. Acylation

Acylation reduces the polarity of amino, hydroxyl, and thiol groups and adds halogenated functionalities for ECD. In comparison to silylating reagents, the acylating reagents target highly polar, multifunctional compounds, such as carbohydrates and amino acids.

Acylation converts these compounds with active hydrogens into esters, thioesters, and amides. They are formed with acyl anhydride, acyl halide, and activated acyl amide reagents. The anhydrides and acyl halide reagents form acid by-products, which must be removed before GC analysis. Acylations are normally carried out in pyridine, tetrahydrofuran or another solvent capable of accepting the acid by-product.

The presence of a carbonyl group next to the halogenated carbons enhances the electron capture detector. Acyl derivatives tend to direct the fragmentation patterns of compounds in MS applications, and so provide helpful information on the structure of these materials.

C. Alkylation and Esterification

Alkylation reduces molecular polarity by replacing active hydrogens with an alkyl group. These reagents are used to modify compounds with acidic hydrogens, such as carboxylic acids and phenols. These reagents make esters, ethers, alkyl amines and alkyl amides. Reagents containing fluorinated benzoyl groups can be used for ECD.

It is generally used to convert organic acids into esters (esterification). Alkyl esters have excellent stability and can be isolated and stored for long periods of time.



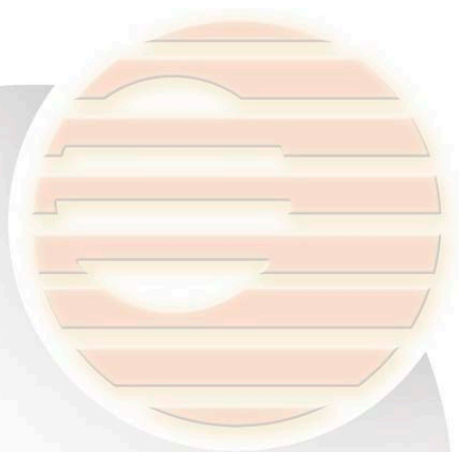
Derivatization reagent 20 x 1 mL

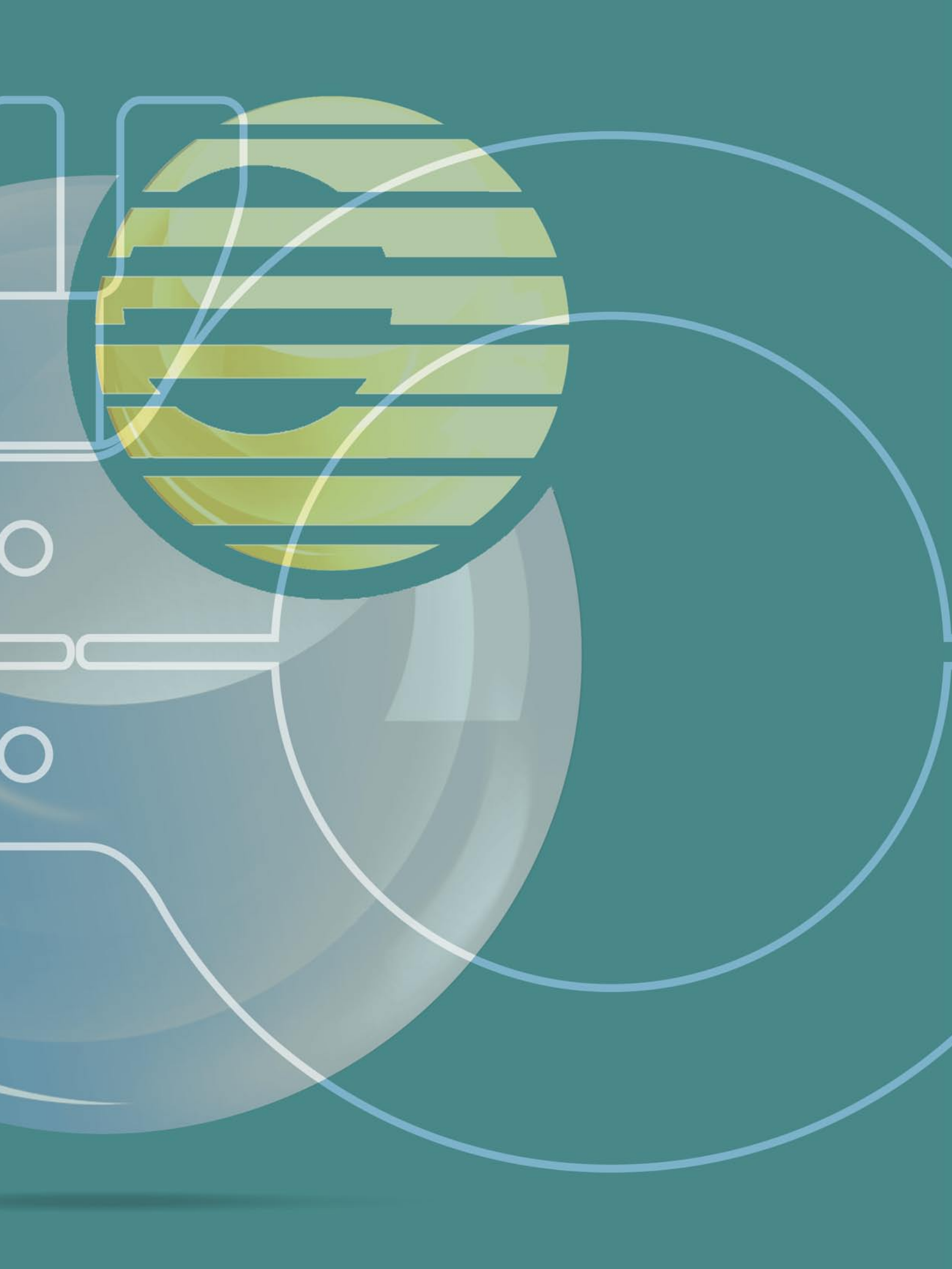


Derivatization reagent 1 x 10 mL

STANDARD & REAGENTS

Mechanism	Description	Name	Item n°	Package	
Sylation Reagents	n-Methyl-trimethylsilyltrifluoroacetamide	MSTFA	355587.0922T 355587.1905T	20 x 1 mL 1 x 10 mL	
	Bistrimethylsilylacetamide	BSA	355788.0922T 355788.1905T	20 x 1 mL 1 x 10 mL	
	Bistrimethylsilyltrifluoroacetamide	BSTFA	355588.0922T 355588.1905T	20 x 1 mL 1 x 10 mL	
	Hexamethyldisilzane	HDMS	355599.0922T 355599.1905T 355599.1606T	20 x 1 mL 1 x 10 mL 1 x 25 mL	
	Trimethylchlorosilane	TMCS	352776.0922T 352779.1905T 352779.0207T	20 x 1 mL 1 x 10 mL 1 x 50 mL	
	Trimethylsilylimidazole	TMSI	352616.0922T 352616.1905T	20 x 1 mL 1 x 10 mL	
	931 – Pyridine-HDMS-TMCS	Pyr-HDMS-TMCS (9:3:1)	355650.0922T 355650.1905T	20 x 1 mL 1 x 10 mL	
	Acylation Reagents	Trifluoroacetic Anhydride	TFAA	353316.0922T 353316.1905T	20 x 1 mL 1 x 10 mL
		Heptafluorobutyric Anhydride	HFBA	355584.0922T 355584.1905T	20 x 1 mL 1 x 10 mL
		Acetic Anhydride	AA	131147.0922T 131147.1905T 131147.1611T	20 x 1 mL 1 x 10 mL 1 x 1000 mL
		Pentafluoropropionic Anhydride	PFFA	355790.0922T 355790.1905T	20 x 1 mL 1 x 10 mL
		Esterification Reagents	BF3 in Methanol		15A734.0922T 15A734.1905T 15A734.1608T
	GC Derivatization Solvents		Pyridina	Pyr	481457.1611T
DMF – N,N-Dimethylformamide			DMF	481785.1611T	1 x 1000 mL







VACUUM PUMPS

Rough Vacuum, High Vacuum and Ultra-High Vacuum

- Rotary pumps, single-stage and multi-stage Roots pumps, diaphragm pumps, chemical dry pumps, turbomolecular pumps, ion pumps, TSP, and getter pumps.
- Complete range of KF, ISO and CF flanges and fittings
- Vacuum accessories: traps, filters, vacuum valves, etc.
- Oil & greases, including PFPE fluids.
- Chambers for high vacuum and UHV.
- Motion feedthroughs and electrical feedthroughs.
- Leak detectors.
- Gas & liquid manipulators: MFC, valves and unions, connectors, reducers, etc.
- Vacuum ovens.



VACUUM ACCESSORIES

The Konik group has worked for many years as distributors for some of the best known manufacturers of vacuum equipment. We are pleased to include in this catalogue the most common accessories for our mass spectrometer system, as well as a selection of basic vacuum components. The range of vacuum products that we offer is much greater than can be shown in this catalogue, so please don't hesitate to contact your agent if you are looking for something that isn't shown in these pages.

Oil

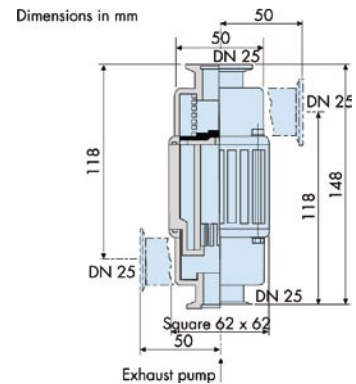
	Type	Vapor pressure	Viscosity	Density	Flash point	Applications
A120	Paraffin based mineral oil	1.3.10-6 mbar at 65°C	118 cst at 40°C 12.5 cst at 100°C	0.886	260°C	general purposes non corrosive gases

Description	Item No
Oil charge for RVP (2 L)	VRA068099

Oil Mist Eliminator

- material: body (polyamide), cartridge (epoxy/glass micro-fiber)
 - weight: 0.217 kg 0.477 lbs
 - inlet port/exhaust port: DN25 ISO-KF
- Orders must be placed for quantities multiple of 5 (5, 10, 15...).
- supplied with: 1 centering ring, 1 clamp, 1 additional angle port

Description	Item No
OME 25S Oil Mist Eliminator	VRA104200
Cartridge Filter	VRA068304



Maintenance kits for rotary vane pump

Model	Major kit	Minor kit	Shaft seal kit
2005 SD	VRA103902	VRA103911	VRA065875

- Minor kit includes all necessary seals (shaft seals, o-rings, valves...).
- Major kit includes Minor kit plus vanes, springs, plugs...
- Shaft seal kit includes all .



FITTINGS

NW Swing Clamps - Aluminium

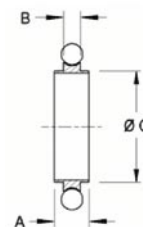
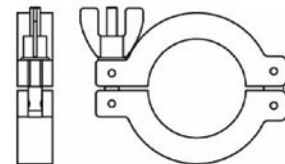
Description	Item No
NW10/16	VAKCS16-101
NW20/25	VAKCS25-101
NW32/40	VAKCS40-101
NW50	VAKCS50-101

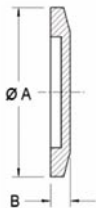
Pressure range 10⁻⁷ mbar to 10 bar. Temperature range -10 to +200°C

NW Centering Ring. Viton® / Stainless Steel

Description	A	B	C	Item No
NW16	8	3.9	17	VAKCR16-104
NW25	8	3.9	26	VAKCR25-104
NW40	8	3.9	41	VAKCR40-104
NW50	8	3.9	52	VAKCR50-104

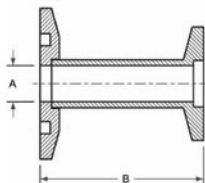
Pressure range 10⁻⁷ mbar to 1 bar. Nitrile rings available on request. Temperature range -10 to +200°C (Sustained 150°C).





NW Blank Flange. Aluminium

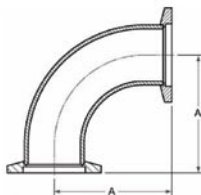
Description	A	B	Item No
NW16	30	6	VAKBFA16-130
NW25	40	6	VAKBFA25-130
NW40	55	6	VAKBFA40-130
NW50	75	6	VAKBFA50-130



NW Reducing Adaptor. Stainless Steel

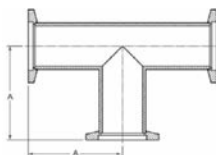
Description	A	B	Item No
NW25/16	20	28	VAKRA2516-138
NW40/16	20	28	VAKRA4016-138
NW40/25	28	28	VAKRA4025-138
NW50/16	20	28	VAKRA5016-138
NW50/25	28	28	VAKRA5025-138
NW50/40	44.5	28	VAKRA5040-138

Special lengths available on request



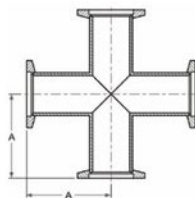
NW Elbow 90°. Aluminium

Description	A	Item No
NW16	40	VAKELB16A-140
NW25	50	VAKELB25A-140
NW40	65	VAKELB40A-140



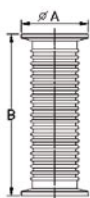
NW T-piece. Aluminium

Description	A	Item No
NW16	80	VAKTEE16A-143
NW25	100	VAKTEE25A-143
NW40	130	VAKTEE40A-143



NW Cross. Aluminium

Description	A	Item No
NW16	40	VAKX16A-146
NW25	50	VAKX25A-146
NW40	65	VAKX40A-146



NW Flexible Hose. Stainless Steel

	Description	Hose ID	A	B	Item No
NW16	NW16	16	30	500	VAKKFF-16-500
	NW16	16	30	750	VAKKFF-16-750
	NW16	16	30	1000	VAKKFF-16-1000
NW25	NW25	25	40	500	VAKKFF-25-500
	NW25	25	40	750	VAKKFF-25-750
	NW25	25	40	1000	VAKKFF-25-1000
NW40	NW40	40	55	500	VAKKFF-40-500
	NW40	40	55	750	VAKKFF-40-750
	NW40	40	55	1000	VAKKFF-40-1000
NW50	NW50	50	75	500	VAKKFF-50-500
	NW50	50	75	750	VAKKFF-50-750
	NW50	50	75	1000	VAKKFF-50-1000

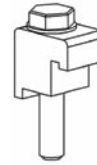
ISO Double Claw Clamps. Stainless Steel

Description	A	Item No
ISO63 to 250	M10	VAKDC63/250



ISO Single Claw Clamps. Stainless Steel

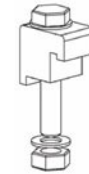
Description	A	Item No
ISO63 to 100	M8	VAKWC63/100
ISO160 to 250	M10	VAKWC160/250



Used with blind tapped holes & centring ring.

ISO Single Claw Clamp, Nut & Washer. Stainless Steel

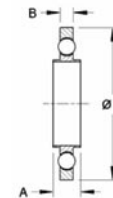
Description	A	B	C	Item No
ISO63 to 160	22.5	M8	45	VAKWCN63/100
ISO160 to 250	23	M10	50	VAKWCN160/250



Used with through bolt holes & centring ring.

ISO Trapped Centering Ring. Viton. Stainless Steel

Description	A	B	C	Item No
ISO63	8	3.9	94	VAKTCR63
ISO100	8	3.9	128	VAKTCR100
ISO160	8	3.9	179	VAKTCR160

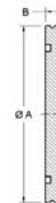


Additional sizes available on request.

NOTE: Aluminium Outer.

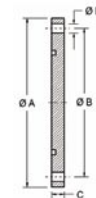
ISO-K Blank Claw Clamp Flange

Description	A	B	C	D	Item No
ISO63	95	90	12	70	VAKBF63
ISO100	130	125	12	102	VAKBF100
ISO160	180	175	12	153	VAKBF160



ISO-F Bolted Blank Flange

Description	A	B	C	D	Item No
ISO63	130	110	12	Ø9x4	VAKBFB63
ISO100	165	145	12	Ø9x8	VAKBFB100
ISO160	225	200	16	Ø11x8	VAKBFB160





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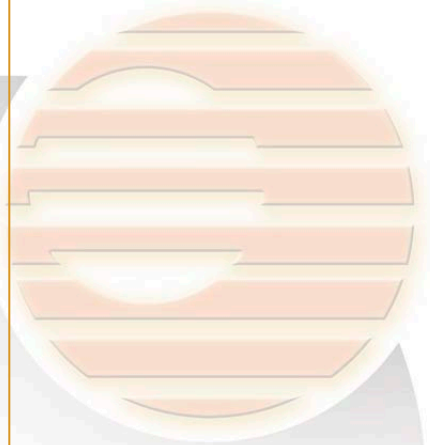
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