

# **SPECIAL OFFERS 2017** **CHROMATOGRAPHY &** **SAMPLE PREPARATION**

Valid until 31.12.2017

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# 1. Syringe filter units

MEMBRANE	PORE SIZE	MEMBRANE DIAMETER		
		3 mm	15 mm	25 mm
CA	0,2 µm	-	CA2015-100	CA2025-100
	0,45 µm	-	CA4515-100	CA4525-100
PA	0,2 µm	PA2003-100	PA2015-100	PA2025-100
	0,45 µm	PA4503-100	PA4515-100	PA4525-100
PES	0,2 µm	-	-	PES2025-100
	0,45 µm	-	-	PES4525-100
PET	0,2 µm	-	PET2015-100	PET2025-100
	0,45 µm	-	PET4515-100	PET4525-100
GF/PET	1,0/0,2 µm	-	-	PETGF2025-100
	1,0/0,45 µm	-	-	PETGF4525-100
PTFE	0,2 µm	PTFE2003-100	PTFE2015-100	PTFE2025-100
	0,45 µm	PTFE4503-100	PTFE4515-100	PTFE4525-100
PVDF	0,2 µm	-	PVDF2015-100	PVDF2025-100
	0,45 µm	-	PVDF4515-100	PVDF4525-100
GF/PVDF	1,0/0,45 µm	-	-	PVDFGF4525-100
RC	0,2 µm	-	RC2015-100	RC2025-100
	0,45 µm	-	RC4515-100	RC4525-100
GF/RC	1,0/0,2 µm	-	-	RCGF2025-100
	1,0/0,45 µm	-	-	RCGF4525-100
GF	1,0 µm	-	GF10015-100	GF10025-100

## Very simple price structure

QUANTITY	LIST PRICE	YOUR PRICE
Price per 100 filter	<del>122,00€</del>	79,00€

# Selection of the appropriate filter

## FILTER SIZE:

SAMPLE VOLUME	5-100 ML	1-5 ML	<1 ML
Filter size	25 mm Diameter	13-15 mm Diameter	3 mm Diameter

## PORE SIZE:

GENERAL APPLICATIONS, HPLC COLUMNS WITH >3 µm PARTICLES	UHPLC, CORE-SHELL AND HPLC COLUMNS WITH <3 µm PARTICLES
0,45 µm	0,2 µm

## TYPE OF MEMBRANE:

PROPERTIES OF THE SAMPLES	MEMBRANE TYPE I	MEMBRANE TYPE II	MEMBRANE TYPE III
Aqueous, polar, hydrophilic with low particle load	PET	RC	
Aqueous, polar, hydrophilic with high particle load	GF/PET	GF/RC	
Semi-polar, e.g. HPLC eluents	PET	PA	RC
Sample contains proteins (low bonding capacity of the proteins)	CA	PVDF	PES
Sample contains proteins (high bonding capacity of the proteins)	GF	GF/PET	GF/PVDF
Strongly acidic or alkaline	PTFE		
Organic, non-polar, hydrophobic with low particle load	PTFE	PET	
Organic, non-polar, hydrophobic with high particle load	GF/PET	GF/PVDF	



## 2. Solid phase extraction (SPE) by Macherey-Nagel

Solid-phase extraction (SPE) is a powerful method for sample preparation that is used today in most laboratories. The SPE shows its performance in a wide range of applications: environmental analysis, pharmaceutical analysis, organic chemistry and food analysis. SPE is used for three important tasks: enrichment of the analyte, removal of interfering components and change of the matrix of the analyte.

Advantages of the SPE in comparison to classical liquid-liquid extraction:

1. Reduced consumption of solvents
2. Great time-saving
3. Possibility of automation
4. High continuity in individual sample handling



### CHROMABOND VACCUM CHAMBER AND ACCESSORIES:

ARTICLE	ART.NO.	DESCRIPTION	QUANTITY	LIST PRICE	YOUR PRICE
<b>Complete vacuum chamber for up to 12 columns or cartridges</b>	MN730150	Glass	1	<del>784,00€</del>	627,20€
<b>Stainless steel connectors</b>	MN730106	to avoid cross contamination	12/PAK	<del>197,00€</del>	157,60€
<b>PTFE-connectors</b>	MN730564	to avoid cross contamination	12/PAK	<del>108,00€</del>	87,00€

### CHROMABOND C18 EC POLYPROPYLENECOLUMNS:

Base material silica gel, pore diameter 60 angström, particle size 45 µm, pH stability 2-8. Recommended use: aflatoxins, amphetamines, antibiotics, antiepileptics, barbiturates, caffeine, drugs, preservatives, fatty acids, nicotine, PAHs, pesticides, PCBsa, heavy metals, vitamins.

VOLUME	FILLING QUANTITY					PACKAGING UNIT
	100 mg	200 mg	500 mg	1 g	2 g	
<b>1 ml</b>	MN730011					<b>100</b>
<b>3 ml</b>		MN730012	MN730013			<b>50</b>
<b>6 ml</b>			MN730014	MN730015	MN730141	<b>30</b>
<b>15 ml</b>					MN730404	<b>20</b>

## SOLID PHASE EXTRACTION (SPE) BY MACHEREY NAGEL

ART.NO.	DESCRIPTION	MANUFACTURER	LIST PRICE	YOUR PRICE
<b>MN730011</b>	C18 ec Propylene column, SPE	Macherey Nagel	<del>168,00 €</del>	<b>126,00 €</b>
<b>MN730012</b>	C18 ec Propylene column, SPE	Macherey Nagel	<del>129,00 €</del>	<b>96,75 €</b>
<b>MN730013</b>	C18 ec Propylene column, SPE	Macherey Nagel	<del>143,00 €</del>	<b>107,25 €</b>
<b>MN730014</b>	C18 ec Propylene column, SPE	Macherey Nagel	<del>96,00 €</del>	<b>72,00 €</b>
<b>MN730015</b>	C18 ec Propylene column, SPE	Macherey Nagel	<del>125,00 €</del>	<b>93,75 €</b>
<b>MN730141</b>	C18 ec Propylene column, SPE	Macherey Nagel	<del>196,00 €</del>	<b>147,00 €</b>
<b>MN730404</b>	C18 ec Propylene column, SPE	Macherey Nagel	<del>157,00 €</del>	<b>117,75 €</b>

## KIESELGUHR PHASE FOR LIQUID-LIQUID EXTRACTION

Basic material coarse-grained kieselguhr, large pore width, high pore volume, pH range 1-13. Liquid-liquid extraction of highly viscous and aqueous solutions such as, for example, dyes in textiles or in environmental and food analysis without the use of a separation funnel. Fast, reproducible and cost-saving, high recovery rates.

ART.NO.	ARTICLE	DESCRIPTION	QUANTITY	LIST PRICE	YOUR PRICE
<b>MN730487</b>	Chromabond XTR	PP, 6 ml, 1000 mg, 1 ml	30/PAK	<del>62,00 €</del>	<b>46,50 €</b>
<b>MN730489</b>	Chromabond XTR	PP, 15 ml, 3000 mg, 3 ml	30/PAK	<del>72,00 €</del>	<b>54,00 €</b>
<b>MN730505</b>	Chromabond XTR	PP, 30 ml, 4500 mg, 5 ml	30/PAK	<del>79,00 €</del>	<b>59,25 €</b>
<b>MN730506</b>	Chromabond XTR	PP, 45 ml, 8300 mg, 10 ml	30/PAK	<del>86,00 €</del>	<b>64,50 €</b>
<b>MN730507</b>	Chromabond XTR	PP, 70 ml, 14500 mg, 20 ml	30/PAK	<del>162,00 €</del>	<b>121,50 €</b>



## 3. Thin layer chromatography (TLC)

The principle of TLC is known for over 100 years. TLC is still a popular technique in the laboratory for reaction, quality and identity control.

Advantages of TLC are:

- High sample throughput possible in a short time
- No complex sample preparation required
- Simple method without expensive instruments



### IMPLEMENTATION OF A TLC SEPARATION

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#### SELECTION OF THE SOLVENT:

The solvent is selected by elution strength. The most appropriate solvent can be determined very easily.

#### SAMPLE APPLICATION:

A common method uses a glass capillary as a point or short line. Areas of the substance in the coating that are too wide lead to a poor separation, since the zones become even broader when separated. After application, the solvent is allowed to evaporate, this can be accelerated by the use of a heat gun.

#### DEVELOPMENT:

A common method is to use a developing chamber. The eluent is filled into the bottom of the chamber. For a reproducible running distance, the saturation of the chamber with the running medium vapor is necessary. Then the TLC plate with the sample is positioned in the chamber. The separation is completed when the eluent has ascended to the upper end of the TLC plate. The TLC plate can now be removed and dried accordingly.

#### EVALUATION:

The evaluation depends on the aim of the chromatographic analysis. In the case of qualitative determinations, it must be allowed to run alongside the simplest comparative substances. Quantitative evaluations are possible via appropriate calibration measurements. In this case, the area of the substance spots is used or a photometric evaluation is carried out on the layer. In the case of the latter, however, the complexity of the apparatus is greater.

## THIN LAYER CHROMATOGRAPHY (TLC)

# MERCK

ART.NO.	DESCRIPTION	LIST PRICE	YOUR PRICE
<b>MC105530001</b>	TLC silica gel 60 25 Alu foil 20 x 20 cm	<del>126,00 €</del>	113,40 €
<b>MC105540001</b>	TLC silica gel 60 F254 25 Alu foil 20 x 20 cm	<del>139,00 €</del>	125,10 €
<b>MC1055700001</b>	TLC silica gel 60 F254 25 Alu foil 10 x 20 cm	<del>77,00 €</del>	69,30 €
<b>MC1057160001</b>	TLC cellulose 25 glass plate 20 x 20 cm	<del>189,00 €</del>	170,10 €
<b>MC1125370001</b>	UV-lamp 254 nm for thin layer chromatography	<del>101,00 €</del>	90,90 €



ART.NO.	DESCRIPTION	LIST PRICE	YOUR PRICE
<b>MN814018</b>	TLC-developing chamber 10 x 10 cm	<del>131,00 €</del>	111,35 €
<b>MN814019</b>	TLC-developing chamber 20 x 20 cm	<del>289,00 €</del>	245,65 €
<b>MN814022</b>	Glas capillary, 1 µl	<del>69,00 €</del>	58,65 €
<b>MN814102</b>	Small rubber hats for capillaries	<del>13,70 €</del>	11,65 €
<b>MN814023</b>	Application template	<del>21,60 €</del>	18,36 €
<b>MN814030</b>	Chromatography-paper MN 260, 7,5x17 cm	<del>21,60 €</del>	18,36 €
<b>MN818030.20</b>	TLC plates ALUGRAM SIL G, 5x7,5 cm	<del>20,80 €</del>	17,68 €
<b>MN818161</b>	TLC plates ALUGRAM SIL G, 5x10 cm	<del>48,30 €</del>	38,64 €
<b>MN818131</b>	TLC plates ALUGRAM SIL G/UV254, 4x8 cm	<del>31,90 €</del>	25,52 €
<b>MN818160</b>	TLC plates ALUGRAM SIL G/UV254, 5x10 cm	<del>48,30 €</del>	38,64 €
<b>MN821050</b>	TLC plates ADAMANT, 0,25 mm, 10x10	<del>63,00 €</del>	53,55 €
<b>MN821020</b>	TLC plates ADAMANT UV254, 0,25 mm, 10x10 cm	<del>63,00 €</del>	53,55 €
<b>MN818261</b>	TLC plates ALUGRAM Xtra SIL G, 5x10 cm	<del>48,30 €</del>	38,64 €
<b>MN818360</b>	TLC plates ALUGRAM Xtra SIL G/UV254, 5x10 cm	<del>48,30 €</del>	38,64 €
<b>MN818233</b>	TLC plates ALUGRAM Xtra SIL G, 20x20 cm	<del>115,00 €</del>	92,00 €
<b>MN818333</b>	TLC plates ALUGRAM Xtra SIL G/UV254, 20x20 cm	<del>115,00 €</del>	92,00 €
<b>MN818331</b>	TLC plates ALUGRAM Xtra SIL G/UV254, 4x8 cm	<del>31,90 €</del>	25,52 €



## 4. Sample bottles, micro inserts and closures for HPLC



### THREAD BOTTLES ND8, NARROW APERTURE

1. hydrolytic class, 1.5 ml, standard bottles for HPLC/GC are preferably used on instruments of the following manufacturers: VWR (Merck)/Hitachi, Beckman, CTC, Gilson, Knauer, Shimadzu, Spark, Varian etc.



### MICRO INSERTS



ART.NO.	AAV22201321	AAV22201370	AAV22201530	AAV22201493	AAV16201240	AAV16201380	AAV16202785	AAV16202079
DESCRIPTION	1,5 ml 32x11, 6 mm Clear glass	1,5 ml 32x11, 6 mm Brown glass	1,5 ml 32x11, 6 mm Clear glass Text box	1,5 ml 32x11, 6 mm Brown glass Text box	0,1 ml Micro insert 31x5 mm, 15 mm tip	0,1 ml Micro insert 31x5 mm, Clear glass 9 mm tip	0,2 ml Micro insert 31x6 mm Clear glass with flat bottom	0,1 ml Micro insert 29x5,7 mm Clear glass with polymer stand
LIST PRICE	<del>96,20€</del>	<del>101,70€</del>	<del>108,20€</del>	<del>111,80€</del>	<del>237,30€</del>	<del>197,90€</del>	<del>151,90€</del>	<del>489,50€</del>
YOUR PRICE PER 1000 PIECES	72,15€	76,28€	81,15€	83,85€	177,96€	148,43€	113,93€	367,13€

### POLYPROPYLENE SCREW CAPS ND8



ART.NO.	AAV19261571	AAV19263076	AAV19262748	AAV19261404	AAV19261538	AAV19261997	AAV19261405	AAV19262560
SEPTUM	Natural rubber red-orange/TEF transparent	Red Rubber/PTFE beige	Butyl red/PTFE grey	Silicone white/PTFE red Ultra Clean	Silicone creme/PTFE red Ultra Clean	Silicone blue/PTFE white	PTFE red/Silicone white/PTFE red	Silicone white/PTFE red, slitted
DUROMETER	60°shore A	45° shore A	55° shore A	45°shore A	55° shore A	45° shore A	45° shore A	45° shore A
THICKNESS	1,3 mm	1,0 mm	1,3 mm	1,3 mm	1,5 mm	1,3 mm	1,0 mm	1,3 mm
LIST PRICE	<del>134,10€</del>	<del>146,50€</del>	<del>145,20€</del>	<del>226,10€</del>	<del>226,10€</del>	<del>261,30€</del>	<del>308,10€</del>	<del>401,80€</del>
YOUR PRICE PER 1000	100,58€	109,88€	108,90€	169,58€	166,65€	195,98€	231,08€	301,35€

## SAMPLE BOTTLES, MICRO INSERTS AND CLOSURES FOR HPLC

### SHORT THREAD VIALS ND9, WIDE OPENING

1. hydrolytic class, ND9 bottles are preferably used on instruments of the following manufactures: Agilent, Shimadzu, Thermo Scientific, Varian, Waters etc.



### MICRO INSERTS



ART.NO.	AAV22201611	AAV22201630	AAV22201631	AAV17201468	AAV17201780	AAV17201977	AAV17201976
DESCRIPTION	32x11,6 mm, Clear glass	32x11,6 mm, Clear glass labelling field and filling mark	32x11,6 mm, Brown glass labelling field and filling mark	0,1 ml Micro insert 31x6 mm Clear glass 15 mm Tip	0,1 ml Micro insert 31x6 mm 12 mm Tip	0,2 ml Micro insert 31x6 mm Clear glass Flat bottom	0,1 ml Micro insert 29x5,7 mm Clear glass assembled pastic spring
LIST PRICE	<del>103,60€</del>	<del>110,20€</del>	<del>121,10€</del>	<del>212,10€</del>	<del>212,10€</del>	<del>167,80€</del>	<del>532,80€</del>
YOUR PRICE PER 1000 PIECES	77,70€	82,65€	90,82€	159,08€	159,08€	125,85€	399,60€

### POLYPROPYLENE SHORT THREAD VIAL CAPS ND9



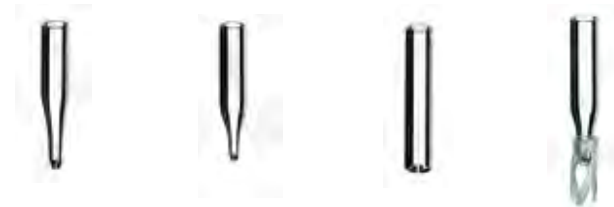
ART.NO.	AAV20262779	AAV20262681	AAV20263124	AAV20262683	AAV20262682	AAV20262780
SEPTUM	PTFE virginal	Natural rubber red-orange/TEF transparent	Red Rubber/ PTFE beige IH-quality	Silicone white/ PTFE red Ultra clean	PTFE red/ Silicone white/ PTFE red	Silicone white/ PTFE blue, slitted
DUROMETER	53° shore D	60° shore A	45° shore A	55° shore A	45° shore A	55° shore A
THICKNESS	0,2 mm	1,0 mm	1,0 mm	1,0 mm	1,0 mm	1,0 mm
LIST PRICE	<del>115,00€</del>	<del>146,40€</del>	<del>152,70€</del>	<del>222,90€</del>	<del>293,30€</del>	<del>334,10€</del>
YOUR PRICE PER 1000 PIECES	86,79€	109,80€	114,53€	167,18€	219,98€	250,58€

**SHORT THREAD VIALS ND10, WIDE OPENING**

1. hydrolytic class, ND10 bottles are preferably used on instruments of the following manufacturers: Jasco, Perkin Elmer, Shimadzu, Varian, Waters etc.



**MICRO INSERTS**



ART.NO.	AAV21201854	AAV21202307	AAV21202308	AAV17201468	AAV17201780	AAV17201977	AAV17201976
DESCRIPTION	32x11,6 mm Clear glass wide opening	32x11,6 mm Clear glass wide opening, with labelling box and filling mark	32x11,6 mm Brown glass wide opening, with labelling box and filling mark	0,1 ml Micro insert 31x6 mm Clear glass 15 mm Tip	0,1 ml Micro insert 31x6 mm 12 mm Tip	0,2 ml Micro insert 31x6 mm Clear glass Flat bottom	1.1 ml Micro insert 29x5,7 mm Clear glass with polymer stand
LIST PRICE	<del>117,70€</del>	<del>124,20€</del>	<del>137,40€</del>	<del>212,10€</del>	<del>212,10€</del>	<del>167,80€</del>	<del>532,80€</del>
YOUR PRICE PER 1000 PIECES	88,28€	93,15€	103,05€	159,08€	159,08€	125,85€	399,60€

**POLYPROPYLENE SCREW CAPS ND10, BLACK**



ART.NO.	AAV21262367	AAV21262368	AAV21261855	AAV21262369	AAV21262439
SEPTUM	Natural Rubber red-orange/TEF transparent	Silicone white/ PTFE red Ultra clean	Silicone white/ PTFE beige	PTFE red/Silicone white/PTFE red	Silicone white/ PTFE blue slitted
DUROMETER	60° shore A	45°shore A	45° shore A	45° shore A	55° shore A
THICKNESS	1,3 mm	1,3 mm	1,5 mm	1,0 mm	1,5 mm
LIST PRICE	<del>168,90€</del>	<del>266,60€</del>	<del>266,60€</del>	<del>355,20€</del>	<del>449,40€</del>
YOUR PRICE PER 1000 PIECES	126,68€	199,95€	199,95€	266,40€	337,05€

## SAMPLE BOTTLES, MICRO INSERTS AND CLOSURES FOR HPLC

### CRIMP TOP VIALS ND11

1. hydrolytic class, ND11 bottles are preferably used on instruments of the following manufacturers:

Agilent, CTC, Gerstel, Jasco, Perkin Elmer, Shimadzu, Spark, Thermo Scientific, Varian etc.



### MICRO INSERTS



ART.NO.	AAV22201467	AAV22201587	AAV22201588	AAV17201468	AAV17201780	AAV17201977	AAV17201976
DESCRIPTION	1,5ml crimp top vial, 32x11mm, clear glass, wide opening	1,5ml crimp top vial, 32x11mm, clear glass, wide opening with labeling box and filling mark	1,5ml crimp top vial, 32x11mm, brown glass, wide opening with labeling box and filling mark	0,1 ml micro insert 31x6 mm Clear glass 15mm Tip	0,1 ml micro insert 31x6 mm 12mm Tip	0,2ml micro insert 31x6 mm Clear glass Flat bottom	0.1 ml micro insert 29x5, 7 mm Clear glass With polymer stand
LIST PRICE	<del>87,30€</del>	<del>94,40€</del>	<del>103,70€</del>	<del>212,10€</del>	<del>212,10€</del>	<del>167,80€</del>	<del>532,80€</del>
YOUR PRICE PER 1000 PIECES	65,48€	70,80€	77,78€	159,08€	159,08€	125,85€	399,60€

### ALUMINUM ROLL CRIMP ND11




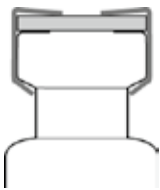

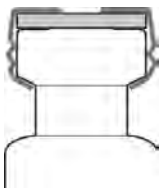

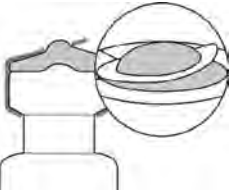
ART.NO.	AAV22141411	AAV22142986	AAV22141358	AAV22141473	AAV22141307	AAV22141575
SEPTUM	Natural Rubber red-orange/ Butyl red/TEF transparent	Red Rubber/PTFE beige	Silicon white/ PTFE red Ultra clean	Silicon creme/ PTFE red	PTFE red/ Silicone white/ PTFE red	Silicon white/ PTFE blue, cross slitted
DUROMETER	45°shoreA	45°shoreA	45°shoreA	55°shoreA	45°shoreA	55° shore A
THICKNESS	1,0 mm	1,0 mm	1,3 mm	1,5 mm	1,0 mm	1,5 mm
LIST PRICE	<del>79,60€</del>	<del>102,50€</del>	<del>256,50€</del>	<del>256,50€</del>	<del>324,30€</del>	<del>467,60€</del>
YOUR PRICE PER 1000 PIECES	59,70€	76,88€	192,38€	192,38€	249,28€	350,70€

## 5. Crimping tools

We offer a wide range of pliers for opening and sealing sample bottles. Our range includes both manual, electronic and pneumatic crimpers and decappers for all standard flanging caps.

For more information on the correct and easy flanging, please visit:

<http://www.analytics-shop.com/gb/sample-preparation/vials-and-caps/crimpers.html>

<p><b>Correct crimping</b></p> <p>Flat cap surface</p> <p>Flat septum surface</p>  <p>Tight fit of the aluminium crimp</p> <p>Planar and intact cap side</p>					
	<b>Not fitting aluminium circular edges</b>	<b>Bulging of the cap</b>	<b>Deformation of the cap sides</b>	<b>Convex looking sealing disc</b>	<b>Rounded cap sides/Upwards bulging of the cap/disc</b>
	Adjust the crimping pressure by the adjusting screw in the handlebar  + Adjust the crimping height with an Allen key (see below)	Adjust the crimping pressure by the adjusting screw in the handlebar  + Adjust the crimping height with an Allen key (see below)	Adjust the crimping height with an Allen key (see below)	Adjust the crimping height with an Allen key (see below)	Especially in the case of headspace caps, it is important not to over-crimp these. If the aluminum is pulled too far under the rolling edge, the stops of the breaking lines suffer from too much pressure and break even at a low internal pressure of the cylinder (less than 3 bar). In the worst case, they tear apart even next to the breaking lines.

### MANUAL FLANGING PLIERS:

- Easy Handling
- Chemically resistant surface finish

- Also available stainless steel flanging pliers for clean room work
- Adjustable by the use of the adjustment screw

### ELECTRONIC FLANGING PLIERS:

- Safe and especially reproducible crimping
- Fast and easy removal of the caps

- Ergonomic design and the possibility to process big sample quantities fast and easy

## CRIMPING TOOLS



### MANUAL CRIMPING TOOLS



ARTICLE	ART.NO.	LIST PRICE	YOUR PRICE
Crimping tool, 8 mm Caps	AAV19171116	<del>180,00€</del>	144,00€
Crimping tool, 11 mm Caps	AAV22171117	<del>180,00€</del>	144,00€
Crimping tool, 13 mm Caps	AAV24171118	<del>180,00€</del>	144,00€
Crimping tool, 20 mm Caps	AAV31171119	<del>180,00€</del>	144,00€

### MANUAL DECAPPERS

ARTICLE	ART.NO.	LIST PRICE	YOUR PRICE
Decapper, 8 mm Caps	AAV19181112	<del>180,00€</del>	144,00€
Decapper, 11 mm Caps	AAV22181113	<del>180,00€</del>	144,00€
Decapper, 13 mm Caps	AAV24181114	<del>180,00€</del>	144,00€
Decapper, 20 mm Caps	AAV31181115	<del>180,00€</del>	144,00€

### ELECTRONIC CRIMPING TOOLS



ARTICLE	ART.NO.	LIST PRICE	YOUR PRICE
11mm electronic crimping tool with 6.4 V battery and 7.5 V-DC- power supply, 1 piece	MN735511	<del>725,00 €</del>	601,75 €
20 mm electronic crimping tool with 6.4 V battery and 7.5 V-DC- power supply, 1 piece	MN735520	<del>725,00 €</del>	601,75 €
11mm electronic Decapper with 6.4 V battery and 7.5 V-DC- power supply, 1 piece	MN735611	<del>725,00 €</del>	601,75 €
20mm electronic Decapper with 6.4 V battery and 7.5 V-DC-power supply, 1 piece	MN735620	<del>725,00 €</del>	601,75 €
Tripod for electronic flanging tools	MN735501	<del>185,00 €</del>	153,55 €

## 6. Storage system for HPLC columns

This column cabinet is a cost-effective solution for storing your HPLC columns safely and well organized.

- Storage of up to 30 HPLC-columns in safe foam pits
- Stackable and thus optionally extendable
- For HPLC-Columns of up to 30 cm length - also suitable for 5 cm, 12,5 cm, 15 cm and 25 cm
- Suitable for all types of End-Fitting
- Robust and firm casing made from 100 % steel with chromium plated drawer handles
- Highly versatile - store up to 12 different 12,5 cm columns in one single drawer, or a combination of short, analytical or pre-columns



ART.NO.	ARTICLE DESCRIPTION	MANUFACTURER	LIST PRICE	YOUR PRICE
<b>AAColStore30</b>	Storage shelf for 30 HPLC columns	Altmann Analytik	<del>390,00€</del>	<b>370,00€</b>
<b>AAColToolTray</b>	Insert for small parts of the column Storage cabinet	Altmann Analytik	<del>25,00€</del>	<b>22,50€</b>
<b>AAMountingKit</b>	Metal clip to connect two storage cabinets for HPLC columns	Altmann Analytik	<del>66,00€</del>	<b>59,40€</b>



### COLUMN-CABINET KIT:

When buying a column storage cabinet together with one or more HPLC columns, we can grant you the following special prices for the storage system:

STORAGE SYSTEM + 1 HPLC-COLUMN = 350,00 €

STORAGE SYSTEM + 2 HPLC-COLUMNS = 310,00 €

STORAGE SYSTEM + 3 HPLC-COLUMNS = 270,00 €



## 7. Guard columns by Altmann Analytik



If you would like to protect your column by adding a guard column cartridge, you also always need a guard column holder. The following diagrams show the connection possibilities for a guard column to an HPLC column (column connectors have to be ordered separately):

### a) Direct coupling

in case you use a guard column by Altmann and a HPLC-column by Altmann

### b) Indirect coupling

in case you use a guard column by Altmann and a HPLC-column by another manufacturer



Guard column holder, direct (and fitting adapter, included)



Guard column holder, indirect (and fitting adapter, included)



Guard column holder, fitting adapter, pre-column and column



Guard column holder, guard column



Guard column holder screwed to column  
Column without guard column (front)



Guard column holder, column connector (Not included),  
column

Please pay attention to the fact that you need to order the appropriate guard column holder (see following page)!



Here, we list all available guard column holders for connecting Altmann guard columns with Altmann columns (direct coupling) or columns from other manufacturers (indirect coupling). For the indirect guard column holders, you need a column connector (see following page), as an intermediate piece between column and guard column holder.

Make sure that the length (5, 10, 20 mm) matches length of the guard column. In principle, the guard column should not be more than 10% compared to the column.

### FOR COLUMNS WE THEREFORE RECOMMEND

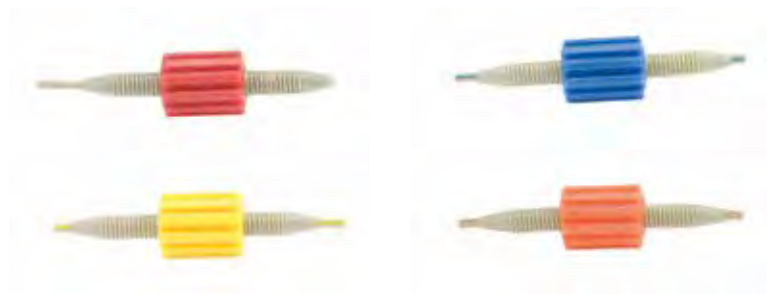
- with a length of 50 mm: guard columns with a length of 5 mm
- with a length of 60 mm up to 199 mm: guard columns with a length of 10 mm
- with a length of 200 mm and longer: guard columns with a length of 20 mm



LENGTH	GUARD COLUMN HOLDER FOR DIRECT COUPLING	LIST PRICE	YOUR PRICE
5x4,6 mm	HD-0546	<del>72,00 €</del>	68,40 €
10x4,6 mm	HD-01046	<del>84,00 €</del>	79,80 €
20x4,6 mm	HD-02046	<del>108,00 €</del>	102,60 €
5x4 mm	HD-0540	<del>120,00 €</del>	114,00 €
10x4 mm	HD-01040	<del>132,00 €</del>	125,40 €
20x4 mm	HD-02040	<del>108,00 €</del>	102,60 €
5x2 mm	HD-0520	<del>108,00 €</del>	102,60 €
10x2 mm	HD-01020	<del>126,00 €</del>	119,70 €

LENGTH	GUARD COLUMN HOLDER FOR INDIRECT COUPLING	LIST PRICE	YOUR PRICE
5x4,6 mm	HI-0546	<del>120,00 €</del>	108,00 €
10x4,6 mm	HI-01046	<del>132,00 €</del>	125,40 €
20x4,6 mm	HI-02046	<del>144,00 €</del>	136,80 €
5x4 mm	HI-0540	<del>120,00 €</del>	114,00 €
10x4 mm	HI-01040	<del>132,00 €</del>	125,40 €
20x4 mm	HI-02040	<del>144,00 €</del>	136,80 €
10x3 mm	HI-01030	<del>132,00 €</del>	125,40 €
5x2 mm	HI-0520	<del>108,00 €</del>	102,60 €
10x2 mm	HI-01020	<del>126,00 €</del>	119,70 €
20x2 mm	HI-02020	<del>132,00 €</del>	125,40 €

COLUMN CONNECTORS, ONE-PIECE FINGERTIGHT (FOR INDIRECT COUPLING)



ARTICLE	ART.NO.	VPE	LIST PRICE	YOUR PRICE
Column connector, PEEK, universal 0,13 mm Inner diameter, red	JR-26501	1 Stück	<del>23,35 €</del>	22,18 €
Column connector, PEEK, universal 0,17 mm Inner diameter, yellow	JR-26502	1 Stück	<del>23,35 €</del>	22,18 €
Column connector, PEEK, universal 0,25 mm Inner diameter, blue	JR-26503	1 Stück	<del>23,35 €</del>	22,18 €
Column connector, PEEK, universal 0,50 mm Inner diameter, orange	JR-26504	1 Stück	<del>23,35 €</del>	22,18 €

COLUMN PLUGS

ART.NO.	COLOUR	PU	LIST PRICE	YOUR PRICE
JR-4071-10	White	10	<del>7,36 €</del>	6,99 €
JR-4072-10	Black	10	<del>7,36 €</del>	6,99 €
JR-4073-10	Red	10	<del>7,36 €</del>	6,99 €
JR-4074-10	Green	10	<del>7,36 €</del>	6,99 €
JR-4075-10	Blue	10	<del>7,36 €</del>	6,99 €





## 8. HPLC columns by Altmann Analytik

We supply HPLC columns of our own brand with all common filling materials (Hypersil, Nucleosil, Inertsil etc.) in all sizes in the highest quality. Other columns with different dimensions can be found in our column configurator at [www.analytischop.com](http://www.analytischop.com). If you are unsure about the HPLC column, please contact our customer service.

### HYPERSIL BDS C18:

ART.NO.	COLUMN	LENGTH (MM)	DIAMETER (MM)	PARTICLE SIZE (µM)	LIST PRICE	YOUR PRICE
<b>NHSBC9-3010040</b>	HPLC Column Hypersil BDS C18 3µm 100x4	100	4	3	<del>440,00€</del>	<b>374,00€</b>
<b>NHSBC9-3010046</b>	HPLC Column Hypersil BDS C18 3µm 100x4,6	100	4,6	3	<del>484,00€</del>	<b>411,40€</b>
<b>NHSBC9-3015046</b>	HPLC Column Hypersil BDS C18 3µm 150x4,6	150	4,6	3	<del>616,00€</del>	<b>523,60€</b>
<b>NHSBC9-5015046</b>	HPLC Column Hypersil BDS C18 5µm 150x4,6	150	4,6	5	<del>451,00€</del>	<b>383,35€</b>
<b>NHSBC9-5025030</b>	HPLC Column Hypersil BDS C18 5µm 250x3	250	3	5	<del>440,00€</del>	<b>374,00€</b>
<b>NHSBC9-5025046</b>	HPLC Column Hypersil BDS C18 5µm 250x4,6	250	4,6	5	<del>495,00€</del>	<b>420,75€</b>

### HYPERSIL ODS:

ART.NO.	COLUMN	LENGTH (MM)	DIAMETER (MM)	PARTICLE SIZE (µM)	LIST PRICE	YOUR PRICE
<b>NHSO-3012540</b>	HPLC Column Hypersil ODS 3µm 125x4	125	4	3	<del>473,00€</del>	<b>402,05€</b>
<b>NHSO-3012546</b>	HPLC Column Hypersil ODS 3µm 125x4,6	125	4,6	3	<del>495,00€</del>	<b>420,75€</b>
<b>NHSO-5012540</b>	HPLC Column Hypersil ODS 5µm 125x4	125	4	5	<del>374,00€</del>	<b>317,90€</b>
<b>NHSO-5012546</b>	HPLC Column Hypersil ODS 5µm 125x4,6	125	4,6	5	<del>396,00€</del>	<b>336,60€</b>



## HPLC COLUMNS BY ALTMANN ANALYTIK

### LICHROSPHER:

ART.NO.	COLUMN	LENGTH (MM)	DIAMETER (MM)	PARTICLE SIZE (µM)	LIST PRICE	YOUR PRICE
<b>NLI1D-5015040</b>	HPLC Column Lichrospher 100 Diol 5µm 150x4	150	4	5	<del>331,50 €</del>	<b>281,78 €</b>
<b>NLI1D-5025046</b>	HPLC Column Lichrospher 100 Diol 5µm 250x4,6	250	4,6	5	<del>422,50 €</del>	<b>359,13 €</b>
<b>NLI1R9-5012540</b>	HPLC Column Lichrospher 100 RP18 5µm 125x4	125	4	5	<del>318,50 €</del>	<b>270,73 €</b>
<b>NLI1R9-5025040</b>	HPLC Column Lichrospher 100 RP18 5µm 250x4	250	4	5	<del>396,50 €</del>	<b>337,03 €</b>
<b>NLI1R9-5025046</b>	HPLC Column Lichrospher 100 RP18 5µm 250x4,6	250	4,6	5	<del>422,50 €</del>	<b>359,13 €</b>
<b>NLI6RS-5012540</b>	HPLC Column Lichrospher 60 RP-Select-B 5µm 125x4	125	4	5	<del>318,50 €</del>	<b>270,73 €</b>
<b>NLI6RS-5012546</b>	HPLC Column Lichrospher 60 RP-Select-B 5µm 125x4,6	125	4,6	5	<del>344,50 €</del>	<b>292,83 €</b>
<b>NLI6RS-5025040</b>	HPLC Column Lichrospher 60 RP-Select-B 5µm 250x4	250	4	5	<del>396,50 €</del>	<b>337,03 €</b>
<b>NLI6RS-5025046</b>	HPLC Column Lichrospher 60 RP-Select-B 5µm 250x4,6	250	4,6	5	<del>422,50 €</del>	<b>359,13 €</b>

### LICHROSORB:

ART.NO.	COLUMN	LENGTH (MM)	DIAMETER (MM)	PARTICLE SIZE (µM)	LIST PRICE	YOUR PRICE
<b>NLS1R9-5025040</b>	HPLC Column Lichrosorb 100 RP18 5µm 250x4	250	4	5	<del>360,00 €</del>	<b>306,00 €</b>
<b>NLS1R9-5025046</b>	HPLC Column Lichrosorb 100 RP18 5µm 250x4,6	250	4,6	5	<del>384,00 €</del>	<b>326,40 €</b>
<b>NLS6S-5010046</b>	HPLC Column Lichrosorb 60 Si 5µm 100x4,6	100	4,6	5	<del>468,00 €</del>	<b>397,80 €</b>
<b>NLS6S-5012540</b>	HPLC Column Lichrosorb 60 Si 5µm 125x4	125	2	5	<del>468,00 €</del>	<b>397,80 €</b>
<b>NLS6S-5025040</b>	HPLC Column Lichrosorb 60 Si 5µm 250x4	250	4	5	<del>552,00 €</del>	<b>469,20 €</b>

### NUCLEOSIL C18:

ART.NO.	COLUMN	LENGTH (MM)	DIAMETER (MM)	PARTICLE SIZE (µM)	LIST PRICE	YOUR PRICE
<b>NNS1C9-5012540</b>	HPLC Column Nucleosil 100 C18 5µm 125x4	125	4	5	<del>269,50 €</del>	<b>229,08 €</b>
<b>NNS1C9-5012546</b>	HPLC Column Nucleosil 100 C18 5µm 125x4,6	125	4,6	5	<del>291,50 €</del>	<b>247,78 €</b>
<b>NNS1C9-5015046</b>	HPLC Column Nucleosil 100 C18 5µm 150x4,6	150	4,6	5	<del>302,50 €</del>	<b>257,13 €</b>
<b>NNS1C9-5025046</b>	HPLC Column Nucleosil 100 C18 5µm 250x4,6	250	4,6	5	<del>357,50 €</del>	<b>303,88 €</b>
<b>NNS9C9-3010020</b>	HPLC Column Nucleosil 120 C18 3µm 100x2	100	2	3	<del>385,00 €</del>	<b>327,25 €</b>
<b>NNS9C9-3015040</b>	HPLC Column Nucleosil 120 C18 3µm 150x4	150	4	3	<del>473,00 €</del>	<b>402,05 €</b>

## 9. HPLC columns by Grace



Previously these HPLC columns were supplied by Grace. The column division of Grace has been taken over by different manufacturers. With Altmann Analytik, you can get all the columns from one source as usual.

Vydac TP columns are used as standard for the analysis of peptides and proteins. A pore size of 300 angstroms ensures that the polypeptides can be taken up unrestrictedly by the pores of the silica gel.

### GENERAL CHARACTERISTICS OF VYDAC COLUMNS:

- Long lifetime
- Reliable protein purification, easy upscaling from analytical to preparative scale

VYDAC TP PHASE	FUNCTIONAL GROUP	PARTICLE SIZE	CHROMATOGRAPHIC PROPERTIES	APPLICATION	USP CODE
<b>Vydac 218TP</b>	C18	3, 5, 10	First generation of polymer C18 phase with unique selectivity	Small polypeptides 4-5K MW, enzymatic digestion, synthetic peptide	L1
<b>Vydac 238TP</b>	C18	5	First generation of monomeric C18 phase	Same application as 218 TP, different selectivity	L1
<b>Vydac 208TP</b>	C8	5	Phase with lower hydrophobicity compared to C18TP	Polypeptides 10-20K MW	L7
<b>Vydac 214TP</b>	C4	5,10	First generation C4 phase	Glycoproteins, histons, insuline, membrane proteins	L26
<b>Vydac 214ATP</b>	C4	5	C4 phase with less endcapping	Ideal for the analysis of Human Growth Hormones	L26
<b>Vydac 219TP</b>	Diphenyl	5,10	First generation diphenyl phase	Polyketides with aromatic side-chains, big hydrophobic proteins, lipid peptides, fusionproteins	L11
<b>Vydac 201TP</b>	C18	5, 10	Not endcapped C18 phase	Separation of PAHs	L1
<b>Vydac 202TP</b>	C18	5	Higher carbon content than 201 TP	Separation of PAHs	L1

ART.NO.	DESCRIPTION	LIST PRICE	YOUR PRICE
<b>GR5103821</b>	Vydac 201TP C18 Column 250x4.6mm 5µm	<del>750,59 €</del>	<b>675,53 €</b>
<b>GR5103822</b>	Vydac 201TP C18 Column 150x4.6mm 5µm	<del>700,00 €</del>	<b>630,00 €</b>
<b>GR5103864</b>	Vydac 208TP C8 Column 250x4.6mm 5µm	<del>750,59 €</del>	<b>675,53 €</b>
<b>GR5103866</b>	Vydac 208TP C8 Column 150x4.6mm 5µm	<del>700,00 €</del>	<b>630,00 €</b>
<b>GR5103899</b>	Vydac 214MS C4 Column 250x4.6mm 5µm	<del>718,82 €</del>	<b>646,94 €</b>
<b>GR5103900</b>	Vydac 214MS C4 Column 150x4.6mm 5µm	<del>681,18 €</del>	<b>613,06 €</b>
<b>GR5103926</b>	Vydac 214TP C4 Column 250x4.6mm 5µm	<del>740,00 €</del>	<b>666,00 €</b>
<b>GR5103929</b>	Vydac 214TP C4 Column 150x4.6mm 5µm	<del>700,00 €</del>	<b>630,00 €</b>
<b>GR5103965</b>	Vydac 218MS C18 Column 250x4.6mm 5µm	<del>718,82 €</del>	<b>646,94 €</b>
<b>GR5103966</b>	Vydac 218MS C18 Column 150x4.6mm 5µm	<del>700,00 €</del>	<b>630,00 €</b>

## HPLC COLUMNS BY GRACE

ART.NO.	DESCRIPTION	LIST PRICE	YOUR PRICE
GR5103994	Vydac 218TP C18 Column 250x4.6mm 5µ	<del>754,12 €</del>	678,71 €
GR5103996	Vydac 218TP C18 Column 150x4.6mm 5µ	<del>710,07 €</del>	639,06 €
GR5104021	Vydac 219TP Diphenyl Column 250x4.6mm 5µ old no. 219TP54	<del>745,88 €</del>	671,29 €
GR5104023	Vydac 219TP Diphenyl Column 150x4.6mm 5µ old no. 219TP5415	<del>701,18 €</del>	631,06 €
GR5104064	Vydac 238TP C18 Column 150x4.6mm 5µ old no. 238TP5415	<del>694,12 €</del>	624,71 €
GR5104061	Vydac 238TP C18 Column 250x4.6mm 5µ old no. 238TP54	<del>750,59 €</del>	675,53 €

## ALLTIMA HP

Alltima HP columns offer a superior product range of low-flow, low-metal, and specific selectivity variants of reverse-phase packing materials.

ART.NO.	DESCRIPTION	LIST PRICE	YOUR PRICE
GR5129556	AlltimaHP C18 Column 250x4.6mm 5µ	<del>714,12 €</del>	642,71 €
GR5129555	AlltimaHP C18 Column 150x4.6mm 5µ	<del>695,29 €</del>	625,76 €
GR5129607	AlltimaHP C8 Column 250x4.6mm 5µ	<del>716,47 €</del>	644,82 €
GR5129606	AlltimaHP C8 Column 150x4.6mm 5µ	<del>688,24 €</del>	619,42 €
GR5129652	AlltimaHP C18-AQ Column 250x4.6mm 5µ	<del>721,18 €</del>	649,06 €
GR5129651	AlltimaHP C18-AQ Column 150x4.6mm 5µ	<del>695,29 €</del>	625,76 €

## ALLTIMA COLUMNS

Alltima columns offer a wide range of column formats, which are high-quality all-purpose columns.

ART.NO.	DESCRIPTION	LIST PRICE	YOUR PRICE
GR5129675	Alltima C18 Column 150x4.6mm 5µ old no. 88052	<del>663,53 €</del>	597,18 €
GR5129678	Alltima C18 Column 250x4.6mm 5µ old no. 88056	<del>694,12 €</del>	624,71 €
GR5129684	Alltima C8 Column 150x4.6mm 5µ old no. 88072	<del>680,00 €</del>	612,00 €
GR5129686	Alltima C8 Column 250x4.6mm 5µ old no. 88076	<del>703,53 €</del>	633,18 €
GR5129690	Alltima Phenyl Column 150x4.6mm 5µ old no. 88087	<del>682,35 €</del>	614,12 €
GR5129692	Alltima Phenyl Column 250x4.6mm 5µ old no. 88092	<del>703,53 €</del>	633,18 €

## VISION

ART.NO.	DESCRIPTION	LIST PRICE	YOUR PRICE
GR5152060	VisionHT C18 Polar 250x4.6mm 5µ	<del>603,00 €</del>	542,70 €
GR5152061	VisionHT C18 Polar 150x4.6mm 5µ	<del>422,00 €</del>	379,80 €

## ECONOSPHERE

Econosphere columns are used for simple, general chromatographic applications and offer a cost-effective alternative to other columns.

ART.NO.	DESCRIPTION	LIST PRICE	YOUR PRICE
GR5128639	Econosphere C18 Column 250x4.6mm 5µ	<del>442,00 €</del>	397,80 €
GR5128638	Econosphere C18 Column 150x4.6mm 5µ	<del>353,00 €</del>	317,70 €
GR5128643	Econosphere C8 Column 250x4.6mm 5µ	<del>438,00 €</del>	394,20 €
GR5128642	Econosphere C8 Column 150x4.6mm 5µ	<del>353,00 €</del>	317,70 €

## 10. HPLC columns by Macherey-Nagel



## GUARD COLUMN NUCLEODUR PI 2

ART.-NO.	DESCRIPTION	LIST PRICE	YOUR PRICE
<b>MN761810.20</b>	EC 4/2 NUCLEODUR Pi2, 5 µm	<del>108,00 €</del>	97,20 €
<b>MN761810.30</b>	EC 4/3 NUCLEODUR Pi2, 5 µm	<del>108,00 €</del>	97,20 €
<b>MN718966</b>	Column-Protection-System guard column holder	<del>122,00 €</del>	109,80 €

## NUCLEODUR PI 2

- Biphenylpropyl modification with multi-end capping
- Hydrophobic phase with alternative selectivities to classical C18 phases
- Separation is based on 2 mechanisms:  $\pi$ - $\pi$  and hydrophobic interactions
- Better retention of aromatic molecules
- Good performance even at 100% aqueous conditions

ART.-NO.	DESCRIPTION	LIST PRICE	YOUR PRICE
<b>MN760620.20</b>	EC 50/2 NUCLEODUR Pi2, 5 µm	<del>392,00 €</del>	313,60 €
<b>MN760620.30</b>	EC 50/3 NUCLEODUR Pi2, 5 µm	<del>394,00 €</del>	315,20 €
<b>MN760620.40</b>	EC 50/4 NUCLEODUR Pi2, 5 µm	<del>394,00 €</del>	315,20 €
<b>MN760620.46</b>	EC 50/4.6 NUCLEODUR Pi2, 5 µm	<del>430,00 €</del>	344,00 €
<b>MN760621.20</b>	EC 75/2 NUCLEODUR Pi2, 5 µm	<del>392,00 €</del>	313,60 €
<b>MN760621.30</b>	EC 75/3 NUCLEODUR Pi2, 5 µm	<del>394,00 €</del>	315,20 €
<b>MN760621.40</b>	EC 75/4 NUCLEODUR Pi2, 5 µm	<del>394,00 €</del>	315,20 €
<b>MN760621.46</b>	EC 75/4.6 NUCLEODUR Pi2, 5 µm	<del>430,00 €</del>	344,00 €
<b>MN760622.20</b>	EC 100/2 NUCLEODUR Pi2, 5 µm	<del>451,00 €</del>	360,80 €
<b>MN760622.30</b>	EC 100/3 NUCLEODUR Pi2, 5 µm	<del>459,00 €</del>	367,20 €
<b>MN760622.40</b>	EC 100/4 NUCLEODUR Pi2, 5 µm	<del>459,00 €</del>	367,20 €
<b>MN760622.46</b>	EC 100/4.6 NUCLEODUR Pi2, 5 µm	<del>496,00 €</del>	396,80 €
<b>MN760623.20</b>	EC 125/2 NUCLEODUR Pi2, 5 µm	<del>451,00 €</del>	360,80 €
<b>MN760623.30</b>	EC 125/3 NUCLEODUR Pi2, 5 µm	<del>459,00 €</del>	367,20 €
<b>MN760623.40</b>	EC 125/4 NUCLEODUR Pi2, 5 µm	<del>459,00 €</del>	367,20 €
<b>MN760623.46</b>	EC 125/4.6 NUCLEODUR Pi2, 5 µm	<del>496,00 €</del>	396,80 €



## HPLC COLUMNS BY MACHEREY-NAGEL

ART.-NO.	DESCRIPTION	LIST PRICE	YOUR PRICE
<b>MN760624.20</b>	EC 150/2 NUCLEODUR Pi2, 5 µm	<del>451,00 €</del>	<b>360,80 €</b>
<b>MN760624.30</b>	EC 150/3 NUCLEODUR Pi2, 5 µm	<del>459,00 €</del>	<b>367,20 €</b>
<b>MN760624.40</b>	EC 150/4 NUCLEODUR Pi2, 5 µm	<del>459,00 €</del>	<b>367,20 €</b>
<b>MN760624.46</b>	EC 150/4.6 NUCLEODUR Pi2, 5 µm	<del>496,00 €</del>	<b>396,80 €</b>
<b>MN760625.20</b>	EC 250/2 NUCLEODUR Pi2, 5 µm	<del>520,00 €</del>	<b>416,00 €</b>
<b>MN760625.30</b>	EC 250/3 NUCLEODUR Pi2, 5 µm	<del>517,00 €</del>	<b>413,60 €</b>
<b>MN760625.40</b>	EC 250/4 NUCLEODUR Pi2, 5 µm	<del>517,00 €</del>	<b>413,60 €</b>
<b>MN760625.46</b>	EC 250/4.6 NUCLEODUR Pi2, 5 µm	<del>548,00 €</del>	<b>438,40 €</b>

## NUCLEODUR 100-5

- High-purity silica phase for HPLC
- Suitable for routine analysis or upscaling
- available in pore sizes of 100 and 300 angstroms



ART.-NO.	DESCRIPTION	LIST PRICE	YOUR PRICE
<b>MN760004.20</b>	EC 50/2 NUCLEODUR 100-5 C18 ec	<del>252,00 €</del>	<b>201,60 €</b>
<b>MN760004.30</b>	EC 50/3 NUCLEODUR 100-5 C18 ec	<del>192,00 €</del>	<b>153,60 €</b>
<b>MN760004.40</b>	EC 50/4 NUCLEODUR 100-5 C18 ec	<del>192,00 €</del>	<b>153,60 €</b>
<b>MN760004.46</b>	EC 50/4.6 NUCLEODUR 100-5 C18 ec	<del>204,00 €</del>	<b>163,20 €</b>
<b>MN760035.46</b>	EC 75/4.6 NUCLEODUR 100-5 C18 ec	<del>204,00 €</del>	<b>163,20 €</b>
<b>MN760013.20</b>	EC 100/2 NUCLEODUR 100-5 C18 ec	<del>313,00 €</del>	<b>250,40 €</b>
<b>MN760013.30</b>	EC 100/3 NUCLEODUR 100-5 C18 ec	<del>267,00 €</del>	<b>213,60 €</b>
<b>MN760013.40</b>	EC 100/4 NUCLEODUR 100-5 C18 ec	<del>267,00 €</del>	<b>213,60 €</b>
<b>MN760013.46</b>	EC 100/4.6 NUCLEODUR 100-5 C18 ec	<del>282,00 €</del>	<b>225,60 €</b>
<b>MN760001.20</b>	EC 125/2 NUCLEODUR 100-5 C18 ec	<del>313,00 €</del>	<b>250,40 €</b>
<b>MN760001.30</b>	EC 125/3 NUCLEODUR 100-5 C18 ec	<del>267,00 €</del>	<b>213,60 €</b>
<b>MN760001.40</b>	EC 125/4 NUCLEODUR 100-5 C18 ec	<del>267,00 €</del>	<b>213,60 €</b>
<b>MN760001.46</b>	EC 125/4.6 NUCLEODUR 100-5 C18 ec	<del>282,00 €</del>	<b>225,60 €</b>
<b>MN760008.20</b>	EC 150/2 NUCLEODUR 100-5 C18 ec	<del>313,00 €</del>	<b>250,40 €</b>
<b>MN760008.30</b>	EC 150/3 NUCLEODUR 100-5 C18 ec	<del>267,00 €</del>	<b>213,60 €</b>
<b>MN760008.40</b>	EC 150/4 NUCLEODUR 100-5 C18 ec	<del>267,00 €</del>	<b>213,60 €</b>
<b>MN760008.46</b>	EC 150/4.6 NUCLEODUR 100-5 C18 ec	<del>282,00 €</del>	<b>225,60 €</b>
<b>MN760002.20</b>	EC 250/2 NUCLEODUR 100-5 C18 ec	<del>390,00 €</del>	<b>312,00 €</b>
<b>MN760002.30</b>	EC 250/3 NUCLEODUR 100-5 C18 ec	<del>326,00 €</del>	<b>260,80 €</b>
<b>MN760002.40</b>	EC 250/4 NUCLEODUR 100-5 C18 ec	<del>326,00 €</del>	<b>260,80 €</b>
<b>MN760002.46</b>	EC 250/4.6 NUCLEODUR 100-5 C18 ec	<del>345,00 €</del>	<b>276,00 €</b>



# 11. Chiral columns by YMC



## CHIRAL SELECTOR: POLYSACCHARIDE

- various applications
- high stability
- attractive prices

	CHIRAL ART AMYLOSE-C	CHIRAL ART CELLULOSE-C
<b>Particle size</b>	3, 5, 10, 20 µm	3, 5, 10, 20 µm
<b>Chiral Selector</b>	Amylose tris (3,5-dimethylphenylcarbamate)	Cellulose tris (3,5-dimethylphenylcarbamate)
<b>USP</b>	L51	L40
<b>Type</b>	Coated Type	Coated Type
<b>Mode of separation</b>	Normal phase/SFC	Normal phase/SFC
<b>Shipping solvent</b>	n-Hexane/2-Propanol (90/10)	n-Hexane/2-Propanol (90/10)
<b>Temperature range</b>	0-40°C	0-40°C
<b>Pressure limit</b>	30 MPa (4350 psi)	30 MPa (4350 psi)
<b>Recommended flow rate</b>	4.6mm ID: 0.5-1.0 ml/min, 10mm ID: 2.5-5ml/min	4.6mm ID: 0.5-1.0 ml/min, 10mm ID: 2.5-5ml/min
<b>Comparable products</b>	ChiralPAK AD, AD-H, AD3	Chiralcel OD, OD-H, OD-3

### CHIRAL ART AMYLOSE-C:

ART.-NO.	LENGTH (MM)	DIAMETER (MM)	PARTICLE SIZE (µM)	LIST PRICE	YOUR PRICE
YMKAN99S03-1046WT	100	4,6	3	<del>1.100,00€</del>	990,00€
YMKAN99S03-1503WT YMKAN99S03-1546WT	150	3,0/4,6	3	<del>1.200,00€</del>	1.080,00€
YMKAN99S05-1546WT	150	4,6	5	<del>956,00€</del>	860,40€
YMKAN99S05-2546WT	250	4,6	5	<del>1.050,00€</del>	945,00€

### CHIRAL ART CELLULOSE-C:

ART.-NO.	LENGTH (MM)	DIAMETER (MM)	PARTICLE SIZE (µM)	LIST PRICE	YOUR PRICE
YMKCN99S03-1046WT	100	4,6	3	<del>1.100,00€</del>	990,00€
YMKCN99S03-1503WT YMKCN99S03-1546WT	150	3,0/4,6	3	<del>1.200,00€</del>	1.080,00€
YMKCN99S05-1546WT	150	4,6	5	<del>956,00€</del>	860,40€
YMKCN99S05-2546WT	250	4,6	5	<del>1.050,00€</del>	945,00€

## CHIRAL SELECTOR: IMMOBILISED POLYSACCHARIDE

- Can be applied in normal and reverse phase
- high flexibility
- very robust
- attractive price

	CHIRAL ART AMYLOSE-SA	CHIRAL ART CELLULOSE-SC
<b>Particle size</b>	3, 5, 10, 20 µm	3, 5, 10, 20 µm
<b>Chiral Selector</b>	Amylose tris (3,5-dimethylphenylcarbamate)	Cellulose tris (3,5-dichlorophenylcarbamate)
<b>Type</b>	Immobilised	Immobilised
<b>Mode of separation</b>	NP/RP	NP/RP
<b>Shipping solvent</b>	n-Hexane/2-Propanol (90/10)	n-Hexane/2-Propanol (90/10)
<b>Pressure limit</b>	30 MPa (4350 psi)	30 MPa (4350 psi)
<b>Recommended flow rate</b>	4.6mm ID: 0.5-1.0 ml/min 10mm ID: 2.5-5ml/min	4.6mm ID: 0.5-1.0 ml/min 10mm ID: 2.5-5ml/min
<b>Comparable product</b>	CHIRALPAK IA, IA-3	CHIRALPAK IC, IC-3



### CHIRAL ART AMYLOSE-SA:

ART.-NO.	LENGTH (MM)	DIAMETER (MM)	PARTICLE SIZE (µM)	LIST PRICE	YOUR PRICE
YMKSA99S03-1046WT	100	4,6	3	<del>1.100,00€</del>	990,00€
YMKSA99S03-1503WT YMKSA99S03-1546WT	150	3,0/4,6	3	<del>1.200,00€</del>	1.080,00€
YMKSA99S05-1546WT	150	4,6	5	<del>956,00€</del>	860,40€
YMKSA99S05-2546WT	250	4,6	5	<del>1.050,00€</del>	945,00€

### CHIRAL ART CELLULOSE-SC:

ART.-NO.	LENGTH (MM)	DIAMETER (MM)	PARTICLE SIZE (µM)	LIST PRICE	YOUR PRICE
YMKSC99S03-1046WT	100	4,6	3	<del>1.100,00€</del>	990,00€
YMKSC99S03-1503WT YMKSC99S03-1546WT	150	3,0/4,6	3	<del>1.200,00€</del>	1.080,00€
YMKSC99S05-1546WT	150	4,6	5	<del>956,00€</del>	860,40€
YMKSC99S05-2546WT	250	4,6	5	<del>1.050,00€</del>	945,00€

# 12. Tubing and Fitting by Upchurch



## PEEK TUBING:

ART.-NO.	DESCRIPTION	LIST PRICE	YOUR PRICE
UP1531	PEEK Tubing Natural 1/16" OD x .010" ID x 5ft	<del>30,75 €</del>	27,06 €
UP1531L	PEEK Tubing 1/16" OD x .010" ID Natural 50ft	<del>182,13 €</del>	160,27 €
UP1531XL	PEEK Tubing 1/16" OD x .010" ID Natural 100ft	<del>310,20 €</del>	272,98 €
UP1536	PEEK Tubing Yellow 1/16" OD x .007" ID x 5ft	<del>30,61 €</del>	26,94 €
UP1536L	PEEK Tubing 1/16" OD x .007" ID Yellow 50ft	<del>182,13 €</del>	160,27 €
UP1536XL	PEEK Tubing 1/16" OD x .007" ID Yellow 100ft	<del>310,20 €</del>	272,98 €
UP1577	PEEK Tubing Yellow 1/32" OD x .007" ID x 5ft	<del>52,48 €</del>	46,18 €
UP1577L	PEEK Tubing 1/32" OD x .007" ID Yellow 50ft	<del>471,63 €</del>	415,03 €
UP1577XL	PEEK Tubing 1/32" OD x .007" ID Yellow 100ft	<del>1.064,77 €</del>	937,00 €
UP1581	PEEK Tubing Blue 1/32" OD x .010" ID x 5ft	<del>52,48 €</del>	46,18 €
UP1581L	PEEK Tubing Blue 1/32" OD x .010" ID x 50ft Blue 50ft	<del>316,81 €</del>	278,79 €
UP1581XL	PEEK Tubing Blue 1/32" OD x .010" ID x 50ft Blue 100ft	<del>540,90 €</del>	475,99 €



**STAINLESS STEEL TUBING:**

ART.-NO.	DESCRIPTION	LIST PRICE	YOUR PRICE
<b>UPU-115</b>	Stainless Steel Tubing 1/16" OD x .030 ID 5cm White Band	<del>4,02 €</del>	<b>3,54 €</b>
<b>UPU-116</b>	Stainless Steel Tubing 1/16" OD x .030 ID 10cm White Band	<del>6,39 €</del>	<b>5,62 €</b>
<b>UPU-117</b>	Stainless Steel Tubing 1/16" OD x .030 ID 20cm White Band	<del>7,42 €</del>	<b>6,53 €</b>
<b>UPU-138</b>	Stainless Steel Tubing 1/16" OD x .040 ID 5cm	<del>5,79 €</del>	<b>5,10 €</b>
<b>UPU-139</b>	Stainless Steel Tubing 1/16" OD x .040 ID 10cm	<del>8,62 €</del>	<b>7,59 €</b>
<b>UPU-140</b>	Stainless Steel Tubing 1/16" OD x .040 ID 20cm	<del>14,31 €</del>	<b>12,59 €</b>
<b>UPA-350</b>	Tube Cutter Capillary Polymer	<del>125,85 €</del>	<b>110,75 €</b>

**CAPILLARY POLYMER TUBING CUTTER:**

ART.-NO.	DESCRIPTION	LIST PRICE	YOUR PRICE
<b>UPA-327</b>	Plastic Tubing Cutter	<del>24,44 €</del>	<b>21,51 €</b>
<b>UPA-329</b>	Polymer Tubing Cutter Large Bore	<del>24,67 €</del>	<b>21,71 €</b>
<b>UPA-328</b>	Tubing Cutter Blade 5/pk	<del>6,36 €</del>	<b>5,60 €</b>

**ONE PIECE FINGERTIGHT FITTING:**

ART.-NO.	DESCRIPTION	LIST PRICE	YOUR PRICE
<b>UPF-100x</b>	One-Piece Fingertight Male Nut, 10-32 Coned, for 1/16" OD Red 10/pk	<del>197,59 €</del>	<b>173,88 €</b>
<b>UPF-120x</b>	One-Piece Fingertight 10-32 Coned, for 1/16" OD Natural - 10/pk	<del>64,79 €</del>	<b>57,02 €</b>

**STAINLESS STEEL FITTINGS:**

ART.-NO.	DESCRIPTION	LIST PRICE	YOUR PRICE
<b>RY6000-082</b>	Fittings,Set,SS,1/8,1/Pkg	<del>19,42 €</del>	<b>17,09 €</b>
<b>RY6000-083</b>	Ferrule,SS,1/8,5/Pkg	<del>40,15 €</del>	<b>35,33 €</b>
<b>RY6000-209</b>	Fittings,Set,SS,1/16,10/Pkg	<del>76,32 €</del>	<b>67,16 €</b>
<b>RY6000-210</b>	Ferrule,SS,1/16,10/Pkg	<del>28,29 €</del>	<b>24,90 €</b>

**TWO-PIECE FINGERTIGHT FITTINGS:**

ART.-NO.	DESCRIPTION	LIST PRICE	YOUR PRICE
<b>UPF-300x</b>	Two-Piece Fingertight Fitting 10-32 Coned, for 1/16" OD Natural - 10/pk	<del>64,79 €</del>	<b>57,02 €</b>
<b>UPF-330x</b>	Two-Piece Fingertight PEEK, Long 10-32 Coned, for 1/16" OD Natural - 10/pk	<del>64,79 €</del>	<b>57,02 €</b>
<b>UPF-331x</b>	Short FngTt 2pc PEEK/10pk	<del>62,99 €</del>	<b>55,43 €</b>

**MARVELX:**

ART.-NO.	DESCRIPTION	LIST PRICE	YOUR PRICE
<b>UPUPFP-6025150</b>	MarvelX PEEK-Lined Stainless Steel Kit 25µm ID x 150mm Length	<del>153,03 €</del>	<b>134,67 €</b>
<b>UPUPFP-6050150</b>	MarvelX PLS 50µmx150mm Kit	<del>153,03 €</del>	<b>134,67 €</b>
<b>UPUPFP-6075150</b>	MarvelX PLS 75µmx150mm Kit	<del>153,03 €</del>	<b>134,67 €</b>
<b>UPUPFP-6100150</b>	MarvelX PEEK-Lined Stainless Steel Kit 100µm ID x 150mm Length	<del>153,03 €</del>	<b>134,67 €</b>
<b>UPUPFP-6150150</b>	MarvelX PEEK-Lined Stainless Steel Kit 100µm ID x 150mm Length	<del>153,03 €</del>	<b>134,67 €</b>
<b>UPUPFP-6025250</b>	MarvelX PLS 25µmx250mm Kit	<del>154,09 €</del>	<b>135,60 €</b>
<b>UPUPFP-6050250</b>	MarvelX PLS 50µmx250mm Kit	<del>154,09 €</del>	<b>135,60 €</b>
<b>UPUPFP-6075250</b>	MarvelX PLS 75µmx250mm Kit	<del>154,09 €</del>	<b>135,60 €</b>
<b>UPUPFP-6100250</b>	MarvelX PLS 100µmx250mm Kit	<del>154,09 €</del>	<b>135,60 €</b>

**UNIONS:**

ART.-NO.	DESCRIPTION	LIST PRICE	YOUR PRICE
<b>UPP-704</b>	PEEK ZDV Union Assembly 10-32 Coned	<del>34,27 €</del>	<b>30,16 €</b>
<b>UPP-742</b>	Union Assembly PEEK .010 10-32	<del>34,27 €</del>	<b>30,16 €</b>
<b>UPP-760</b>	Union Assembly PEEK 10-32 .050 Fittings	<del>34,27 €</del>	<b>30,16 €</b>
<b>UPP-779</b>	NanoTight Union, PEEK Natural	<del>54,79 €</del>	<b>48,22 €</b>

**LOW PRESSURE UNION:**

ART.-NO.	DESCRIPTION	LIST PRICE	YOUR PRICE
<b>UPP-702</b>	Union Assembly PEEK .020 thru hole, for 1/16" OD"	<del>22,15 €</del>	<b>19,49 €</b>
<b>UPP-703</b>	Union Assembly PEEK .050 thru hole, for 1/8" OD	<del>22,15 €</del>	<b>19,49 €</b>

**TIGHTENING TOOLS:**

ART.-NO.	DESCRIPTION	LIST PRICE	YOUR PRICE
<b>UPP-347</b>	Metric Flangeless Nut Short PEEK, M6 Flat-Bottom, 1.8mm-1/8" OD Black	<del>3,32 €</del>	<b>2,92 €</b>
<b>UPP-1000</b>	Standard Knurl Torque Tool 4in-lbs	<del>558,59 €</del>	<b>491,56 €</b>
<b>UPVHP-1000</b>	VHP Wrench 1/4in Hex 10in-lbs	<del>359,94 €</del>	<b>316,75 €</b>
<b>UPVHP-2000</b>	VHP Wrench 1/4in Hex 14inlbs	<del>359,94 €</del>	<b>316,75 €</b>
<b>UPVHP-4000</b>	Adjust Torque Driver 2-12in-lbs	<del>329,97 €</del>	<b>290,37 €</b>
<b>UPVHP-9000</b>	Wrench 4mm Hex	<del>41,38 €</del>	<b>36,41 €</b>

**EXTENDER TOOLS:**

ART.-NO.	DESCRIPTION	LIST PRICE	YOUR PRICE
<b>UPP-291</b>	Extender Tool Standard 1/4" Head Hex Drive	<del>53,54 €</del>	<b>47,12 €</b>
<b>UPP-298</b>	Extender Tool Delrin-Flangeless Nut	<del>8,09 €</del>	<b>7,12 €</b>
<b>UPP-299</b>	Extender Tool-Flangeless Nut	<del>16,20 €</del>	<b>14,26 €</b>
<b>UPP-399</b>	Extender Tool Short-Flangeless Nut	<del>16,20 €</del>	<b>14,26 €</b>
<b>UPP-297</b>	Extender Tool-Headless Nut	<del>12,23 €</del>	<b>10,76 €</b>
<b>UPP-292</b>	Extender Headless for Torque Wrench	<del>55,73 €</del>	<b>49,04 €</b>
<b>UPP-277</b>	Extender Tool-MicroNut	<del>56,91 €</del>	<b>50,08 €</b>
<b>UPN-290</b>	Extender Tool-Micro Headless Nut	<del>29,75 €</del>	<b>26,18 €</b>
<b>UPP-278</b>	Extender Tool for Micro Female Nut	<del>53,54 €</del>	<b>47,12 €</b>
<b>UPP-279</b>	Extender Tool-MicroNut	<del>56,91 €</del>	<b>50,08 €</b>
<b>UPP-268</b>	Extender Tool for 1/4in Hex	<del>132,82 €</del>	<b>116,88 €</b>

# 13. Degasser



## INSTRUMENTAL ANALYTICS AND GENERAL CHROMATOGRAPHY

Due to the high permeability Systec AF membrane the internal volume is excellent for degassing efficiency for flow rates up to 3 ml/min.

- High degassing efficiency
- Suitable for all systems
- Long Lifetime
- Biocompatible



ART.-NO.	DESCRIPTION	CHANNELS	VOLUME	LIST PRICE	YOUR PRICE
<b>BT0001-6352-A</b>	2-channel Biotech DEGASi Classic Degasser, 480 µl Systec AF	2	480 µl	<del>1.828,64 €</del>	<b>1.737,21 €</b>
<b>BT0001-6353-A</b>	3-channel Biotech DEGASi Classic Degasser, 480 µl Systec AF	3	480 µl	<del>2.035,91 €</del>	<b>1.934,11 €</b>
<b>BT0001-6354-A</b>	4-channel Biotech DEGASi Classic Degasser, 480 µl Systec AF	4	480 µl	<del>2.253,90 €</del>	<b>2.141,21 €</b>
<b>BT0001-6355-A</b>	5-channel Biotech DEGASi Classic Degasser, 480 µl Systec AF	5	480 µl	<del>2.360,45 €</del>	<b>2.242,43 €</b>

## FITTINGS AND TUBINGS

ART.-NO.	DESCRIPTION	LIST PRICE	YOUR PRICE
<b>BT0704</b>	FEP Tubing 1/8 OD x 1/16 ID, 5 meter	<del>39,55 €</del>	<b>37,57 €</b>
<b>BT1608</b>	One-piece Superflangeless Fittings, 10 pcs PEEK Nuts 1/4-28 with integrated PEEK ferrules 1/8 ID	<del>69,55 €</del>	<b>66,07 €</b>

## GPC AND NORMAL PHASE CHROMATOGRAPHY

ART.-NO.	CHANNELS	VOLUME	LIST PRICE	YOUR PRICE
<b>BT0001-6622</b>	2	480 µl	<del>1.883,18 €</del>	<b>1.789,02 €</b>
<b>BT0001-6623</b>	3	480 µl	<del>2.097,27 €</del>	<b>1.992,41 €</b>
<b>BT0001-6624</b>	4	480 µl	<del>2.274,55 €</del>	<b>2.160,82 €</b>
<b>BT0001-6625</b>	5	480 µl	<del>2.430,00 €</del>	<b>2.308,50 €</b>

## 14. Safety caps/waste cap accessories

The release of solvents is prevented, and no contamination of the mobile phase from the room air is possible. GL45 thread for Schott and Duran. Smart Healthy Caps are a cost-effective alternative to SCAT-Europe products.

ARTICLE	DESCRIPTION	ART.-NO.	LIST PRICE
<b>Smart Healthy Cap1</b>	1 Port and 1 Air check ventile	AISHC-1	75,81 €
<b>Smart Healthy Cap2</b>	2 Ports Outlet and 1 Air check ventile	AISHC-2	75,81 €
<b>Smart Healthy Cap3</b>	3 Ports Outlet and 1 Air check ventile	AISHC-3	75,81 €



### Smart Healthy Cap with lock valve

Safe collection system for HPLC solvents with aeration valve and shut-off valve. More flexibility and no air bubbles in the tubing. GL45 thread for Schott and Duran.

ARTICLE	DESCRIPTION	ART.-NO.	LIST PRICE
<b>Smart Healthy Cap V1</b>	1 connection with shut-off valve and 1 air check valve	AISHC-V1	113,97 €
<b>Smart Healthy Cap V2</b>	2 connections with shut-off valve and 1 air check valve	AISHC-V2	121,65 €
<b>Smart Healthy Cap3</b>	3 connections with shut-off valve and 1 air check valve	AISHC-V3	131,95 €

### Spare Air Check Valve

ARTICLE	DESCRIPTION	ART.-NO.	LIST PRICE
Air Check valve	10 Air Check valves	AISHC-SV10	86,00 €
Air Check valve	50 Air Check valves	AISHC-SV50	430,00 €

### Smart Healthy Cap Adapter for other thread sizes

ARTICLE	DESCRIPTION	ART.-NO.	LIST PRICE
<b>GL40 PTFE</b>	Adapter for GL40 thread	AIAD-40-T	39,65€
<b>GL38 PTFE</b>	Adapter for GL38 thread	AIAD-38-T	39,65€
<b>GL32 PTFE</b>	Adapter for GL32 thread	AIAD-32-T	39,65€

### Activated carbon filter cartridge for Smart Waste Caps

Each cartridge is supplied with a label for the date and change date of the filter. The shelf life of the filter depends on the size.

ARTICLE	DESCRIPTION	ART.-NO.	LIST PRICE
<b>Charcoal cartridge filter</b>	25 Gramm	AIFC-25	66,22 €
<b>Charcoal cartridge filter</b>	50 Gramm	AIFC-50	94,84 €
<b>Charcoal cartridge filter</b>	100 Gramm	AIFC-100	118,71 €





## 15. Deuterium lamps for the HPLC laboratory



Deuterium lamps provide an almost continuous light spectrum from the UV wavelength range (185-400 nm) to the visible spectral range (400-800 nm) and burn very stably, which is why they are particularly suitable for spectroscopic investigations. The high-quality deuterium lamps we offer have a lifetime of 1000 to 2000 hours. All lamps also have quartz glass or UV glass flasks. We offer lamps (e.g. D<sub>2</sub> deuterium lamps) for the devices of all current manufacturers. For example: Agilent lamps, Perkin Elmer lamps, Varian lamps, Waters lamps and much more.



ART.-NO.	DESCRIPTION	FOR DEVICES OF	LIST PRICE	YOUR PRICE
<b>KILD-AGI-104LL</b>	Deuterium (D <sub>2</sub> ) lamp long life for Agilent 1100, 1200, 1260 VWD	Agilent	<del>498,00 €</del>	<b>373,50 €</b>
<b>KILD-AGI-108LL</b>	Deuterium (D <sub>2</sub> ) lamp long life for Agilent 1260, 1290 Infinity DAD (8 Pin)	Agilent	<del>558,00 €</del>	<b>418,50 €</b>
<b>KILD-AGI-105LL</b>	Deuterium (D <sub>2</sub> ) lamp long life for Agilent 1100, 1200, 1260 DAD	Agilent	<del>555,00 €</del>	<b>416,25 €</b>
<b>HN80055378</b>	Deuterium lamp (D <sub>2</sub> ) for Waters 486	Waters	<del>533,00 €</del>	<b>399,00 €</b>
<b>KILD-WAT-105LL</b>	Deuterium (D <sub>2</sub> ) lamp long life for Waters 2487, 2488	Waters	<del>478,00 €</del>	<b>358,50 €</b>
<b>KILD-WAT-104LL</b>	Deuterium (D <sub>2</sub> ) lamp long life for Waters 996, 2996 PDA	Waters	<del>458,00 €</del>	<b>343,50 €</b>
<b>HN80006575</b>	Deuterium lamp (D <sub>2</sub> ) for Waters 2996/996	Waters	<del>588,00 €</del>	<b>441,00 €</b>
<b>HN80119133</b>	Deuterium lamp (D <sub>2</sub> ) for Waters 2487 dual wavelength, 2488 dual wavelength, Acquity UPLC TUV	Waters	<del>547,00 €</del>	<b>410,25 €</b>
<b>HN80087874</b>	Deuterium lamp (D <sub>2</sub> ) for Dionex AD-25/ PDA-100/UltiMate PDA-3000	Dionex	<del>545,00 €</del>	<b>408,75 €</b>
<b>HN80078578</b>	Deuterium lampe (D <sub>2</sub> ) for Alpkem, Biorad, Biotronic, Dionex, GAT, Spectra, ...	Dionex	<del>530,00 €</del>	<b>397,00 €</b>
<b>HN80117195</b>	Deuterium lamp (D <sub>2</sub> ) for Dionex UltiMate DAD/MWD/VWD	Dionex	<del>545,00 €</del>	<b>408,75 €</b>
<b>HN80127318</b>	Deuterium lamp (D <sub>2</sub> ) for Dionex UltiMate UVD-3000	Dionex	<del>456,00 €</del>	<b>342,00 €</b>
<b>HN80007875</b>	Deuterium lamp (D <sub>2</sub> ) for Dionex UV-Vis Spectrometer UVD	Dionex	<del>563,00 €</del>	<b>422,00 €</b>
<b>HN80056072</b>	Deuterium lamp (D <sub>2</sub> ) for Hitachi	Hitachi	<del>476,00 €</del>	<b>353,25 €</b>
<b>HN80003115</b>	Deuterium lamp (D <sub>2</sub> ) for Shimadzu SPD	Shimadzu	<del>472,00 €</del>	<b>354,00 €</b>
<b>HN80004249</b>	Deuterium lamp (D <sub>2</sub> ) for Shimadzu SPD-M10x	Shimadzu	<del>669,00 €</del>	<b>501,75 €</b>
<b>HN80006631</b>	Deuterium lamp (D <sub>2</sub> ) for Shimadzu SPD-6/7	Shimadzu	<del>512,00 €</del>	<b>384,00 €</b>
<b>HN80034820</b>	Deuterium lamp (D <sub>2</sub> ) for Shimadzu LC 2010x	Shimadzu	<del>441,00 €</del>	<b>330,75 €</b>
<b>HN80003865</b>	Deuterium Lampe (D <sub>2</sub> ) for Varian	Varian	<del>688,00 €</del>	<b>516,00 €</b>
<b>HN80056123</b>	Deuterium lamp (D <sub>2</sub> ) for Perkin Elmer, Hitachi	Perkin Elmer, Hitachi	<del>544,00 €</del>	<b>408,00 €</b>

## 16. Tungsten lamps for the HPLC laboratory



ART.-NO.	DESCRIPTION	FOR DEVICES OF	LIST PRICE	YOUR PRICE
HN80017353	Tungsten (VIS) Lamp for Beckman, Pharmacia, Shimadzu	Shimadzu	<del>31,56 €</del>	26,83 €
HN80085823	Tungsten (VIS) Lamp for Shimadzu SPD-10x/20x	Shimadzu	<del>155,16 €</del>	131,89 €
HN80017360	Tungsten (VIS) Lamp for PerkinElmer	Perkin Elmer	<del>45,36 €</del>	38,56 €
HN80017361	Tungsten (VIS) Lamp for PerkinElmer Lambda series	Perkin Elmer	<del>100,80 €</del>	85,68 €
HN80085821	Tungsten (VIS) Lamp for Dionex AD-25/PDA-100/UltiMate PDA-3000	Dionex	<del>211,80 €</del>	180,03 €
HN80085822	Tungsten (VIS) Lamp for Dionex UltiMate DAD/MWD/UVD/VWD	Dionex	<del>211,80 €</del>	180,03 €
HN80085824	Tungsten (VIS) Lamp for Thermo Spectronic, Unicam Helios	Thermo, Unicam	<del>77,80 €</del>	66,13 €

## 17. Lamps for atom absorption spectroscopy (AAS):

### 37 MM STANDARD

ART.-NO.	DESCRIPTION	LIST PRICE	YOUR PRICE
HN80082101	Hollow cathode lamp 1-Element Aluminium Al 37mm Standard	<del>208,00 €</del>	170,00 €
HN80079715	Hollow cathode lamp 1-Element Cobalt Co 37mm Standard	<del>273,00 €</del>	232,05 €
HN80079706	Hollow cathode lamp 1-Element Iron Fe 37mm Standard	<del>224,00 €</del>	190,40 €
HN80079139	Hollow cathode lamp 1-Element Lead Pb 37mm Standard	<del>237,00 €</del>	201,45 €
HN80079282	Hollow cathode lamp 1-Element Magnesium Mg 37mm	<del>237,00 €</del>	201,45 €
HN80081768	Hollow cathode lamp 1-Element Mercury Hg 37mm Standard	<del>292,00 €</del>	248,20 €
HN80079629	Hollow cathode lamp 1-Element Nickel Ni 37mm Standard	<del>237,00 €</del>	201,45 €

### 50 MM STANDARD

ART.-NO.	DESCRIPTION	LIST PRICE	YOUR PRICE
HN80013896	Hollow cathode lamp 1-Element Aluminium Al 50mm Standard	<del>255,00 €</del>	216,75 €
HN80013996	Hollow cathode lamp 1-Element Cobalt Co 50mm Standard	<del>346,00 €</del>	294,10 €
HN80079240	Hollow cathode lamp 1-Element Iron Fe 50mm Standard	<del>292,00 €</del>	248,20 €
HN80014091	Hollow cathode lamp 1-Element Lead Pb 50mm Standard	<del>328,00 €</del>	278,80 €
HN80014110	Hollow cathode lamp 1-Element Magnesium Mg 50mm Standard	<del>310,00 €</del>	263,50 €
HN80014121	Hollow cathode lamp 1-Element Mercury Hg 50mm Standard	<del>328,00 €</del>	278,80 €
HN80014138	Hollow cathode lamp 1-Element Nickel Ni 50mm Standard	<del>310,00 €</del>	263,50 €

**AGILENT/VARIAN:**

ART.-NO.	DESCRIPTION	LIST PRICE	YOUR PRICE
<b>HN80079414</b>	Hollow cathode lamp 1-Element Aluminium Al 37mm Varian/Agilent Coded	<del>237,00 €</del>	<b>201,45 €</b>
<b>HN80013993</b>	Hollow cathode lamp 1-Element Cobalt Co 37mm Varian/Agilent Coded	<del>310,00 €</del>	<b>263,50 €</b>
<b>HN80014064</b>	Hollow cathode lamp 1-Element Iron Fe 37mm Varian/Agilent Coded	<del>255,00 €</del>	<b>216,75 €</b>
<b>HN80079403</b>	Hollow cathode lamp 1-Element Lead Pb 37mm Varian/Agilent Coded	<del>273,00 €</del>	<b>232,05 €</b>
<b>HN80014107</b>	Hollow cathode lamp 1-Element Magnesium Mg 37mm Varian/Agilent Coded	<del>273,00 €</del>	<b>232,05 €</b>
<b>HN80087775</b>	Hollow cathode lamp 1-Element Mercury Hg 37mm Varian/Agilent Coded	<del>328,00 €</del>	<b>278,80 €</b>
<b>HN80083653</b>	Hollow cathode lamp 1-Element Nickel Ni 37mm Varian/Agilent Coded	<del>273,00 €</del>	<b>232,05 €</b>

**PE/AANALYST:**

ART.-NO.	DESCRIPTION	LIST PRICE	YOUR PRICE
<b>HN80079714</b>	Hollow cathode lamp 1-Element Aluminium Al 50mm PE coded AAnalyst (Lumina)	<del>346,00 €</del>	<b>294,10 €</b>
<b>HN80014413</b>	Hollow cathode lamp 1-Element Cobalt Co 50mm PE coded AAnalyst (Lumina)	<del>437,00 €</del>	<b>371,45 €</b>
<b>HN80079573</b>	Hollow cathode lamp 1-Element Iron Fe 50mm PE coded AAnalyst (Lumina)	<del>383,00 €</del>	<b>325,55 €</b>
<b>HN80014489</b>	Hollow cathode lamp 1-Element Lead Pb 50mm PE coded AAnalyst (Lumina)	<del>419,00 €</del>	<b>356,15 €</b>
<b>HN80078755</b>	Hollow cathode lamp 1-Element Magnesium Mg 50mm PE coded AAnalyst (Lumina)	<del>401,00 €</del>	<b>340,85 €</b>
<b>HN80014513</b>	Hollow cathode lamp 1-Element Mercury Hg 50mm PE coded AAnalyst (Lumina)	<del>419,00 €</del>	<b>356,15 €</b>
<b>HN80014521</b>	Hollow cathode lamp 1-Element Nickel Ni 50mm PE coded AAnalyst (Lumina)	<del>401,00 €</del>	<b>340,85 €</b>

**UNICAM/THERMO:**

ART.-NO.	DESCRIPTION	LIST PRICE	YOUR PRICE
<b>HN80013894</b>	Hollow cathode lamp 1-Element Aluminium Al 37mm Unicam / Thermo Coded	<del>237,00 €</del>	<b>201,45 €</b>
<b>HN80120227</b>	Hollow cathode lamp 1-Element Cobalt Co 37mm Unicam / Thermo Coded	<del>310,00 €</del>	<b>263,50 €</b>
<b>HN80083524</b>	Hollow cathode lamp 1-Element Iron Fe 37mm Unicam / Thermo Coded	<del>255,00 €</del>	<b>216,75 €</b>
<b>HN80079261</b>	Hollow cathode lamp 1-Element Lead Pb 37mm Unicam / Thermo Coded	<del>273,00 €</del>	<b>232,05 €</b>
<b>HN80014108</b>	Hollow cathode lamp 1-Element Magnesium Mg 37mm Unicam / Thermo Coded	<del>273,00 €</del>	<b>232,05 €</b>
<b>HN80014120</b>	Hollow cathode lamp 1-Element Mercury Hg 37mm Unicam / Thermo Coded	<del>328,00 €</del>	<b>278,80 €</b>
<b>HN80079286</b>	Hollow cathode lamp 1-Element Nickel Ni 37mm Unicam / Thermo Coded	<del>273,00 €</del>	<b>232,05 €</b>

# 18. Cuvettes

It is particularly important for a problem-free operation with cuvettes that the light can only penetrate the interior. Therefore, the light beam cross-section should always be selected appropriately and the cuvette must be exactly aligned in the holder. The light beam cross-section must be selected to be smaller than the inner width. This ensures that neither the side walls nor the ground are touched by the light beam.

In photometry, the macrocuvette has largely established itself as a standard. It is defined as follows:

- The designation macro cuvette applies according to DIN58963, if the inner space is wider than 5 mm in a stretch cuvette.
- For a cylinder cuvette, the inside diameter must be over 8mm, so that it can be counted in this category.



## MAKRO CUVETTES

ART.NO.	OPTICAL SPECIAL GLASS / 2 WINDOWS	LIST PRICE	YOUR PRICE
<b>HL100-5-20</b>	Macro cuvette 100-OS, 5mm layer thickness, with folding lid	<del>43,80 €</del>	<b>39,42 €</b>
<b>HL100-10-20</b>	Macro cuvette 100-OS, 10mm layer thickness, with folding lid	<del>35,10 €</del>	<b>31,59 €</b>
<b>HL100-20-20</b>	Macro cuvette 100-OS, 20mm layer thickness, with folding lid	<del>53,70 €</del>	<b>48,33 €</b>

ART.NO.	OPTICAL SPECIAL GLASS / 2 WINDOWS	LIST PRICE	YOUR PRICE
<b>HL100-5-40</b>	Macro cuvette 100-OS, 5mm layer thickness, with folding lid	<del>87,00 €</del>	<b>78,30 €</b>
<b>HL100-10-40</b>	Macro cuvette 100-OS, 10mm layer thickness, with folding lid	<del>69,90 €</del>	<b>62,91 €</b>
<b>HL100-20-40</b>	Macro cuvette 100-OS, 20mm layer thickness, with folding lid	<del>95,20 €</del>	<b>82,98 €</b>

The micro cuvette has a smaller volume. It is either a rectangle cuvette with an inside space up to 2mm or a cylinder cuvette with an inner diameter up to 5mm.

## MICRO CUVETTES

ART.NO.	OPTICAL SPECIAL GLASS / 2 WINDOWS	LIST PRICE	YOUR PRICE
<b>HL104-002-10-20</b>	Micro-Cuvette 104.002-OS, 10mm Layer Thickness, with folding lid	<del>52,90 €</del>	<b>47,61 €</b>

ART.NO.	OPTICAL SPECIAL GLASS / 2 WINDOWS	LIST PRICE	YOUR PRICE
<b>HL104-002-10-40</b>	Micro-Cuvette 104.002-OS, 10mm Layer Thickness, with folding lid	<del>97,30 €</del>	<b>87,57 €</b>

# 19. Agilent alternative replacement parts



## PUMP

Model 1260/1200/1100

ART.-NO.	ART.-NO. ORIGINAL	DESCRIPTION	MODEL	LIST PRICE ORIGINAL	YOUR PRICE
<b>5063-6586ASP</b>	5063-6586	Plunger	Pump Model 1260/1200/1000	<del>149,00 €</del>	<b>104,30 €</b>
<b>5063-6589ASP</b>	5063-6589	Black Piston Seals	Pump Model 1260/1200/1000	<del>110,00 €</del>	<b>77,00 €</b>
<b>0905-1420ASP</b>	0905-1420	Gold Piston Seals	Pump Model 1260/1200/1000	<del>150,00 €</del>	<b>105,00 €</b>
<b>0905-1175ASP</b>	0905-1175	Wash Seal	Pump Model 1260/1200/1000	<del>58,00 €</del>	<b>42,00 €</b>
<b>5067-4728ASP</b>	5067-4728	Seal Cap Assembly	Pump Model 1260/1200/1000	<del>32,00 €</del>	<b>25,00 €</b>
<b>5041-2168ASP</b>	5041-2168	Glass Solvent Filter	Pump Model 1260/1200/1000	<del>51,00 €</del>	<b>35,70 €</b>
<b>5062-8562ASP</b>	5062-8562	Active Inlet Valve	Pump Model 1100/1200	<del>214,00 €</del>	<b>164,00 €</b>
<b>G1311-60012ASP</b>	G1311-60012	Outlet Ball Valve	Pump Model 1100/1200	<del>314,00 €</del>	<b>269,26 €</b>

## AUTOSAMPLER

Model 1260/1200/1100

ART.-NO.	ART.-NO. ORIGINAL	DESCRIPTION	MODEL	LIST PRICE ORIGINAL	YOUR PRICE
<b>G1313-87201ASP</b>	G1313-87201	Needle Assembly	Autosampler Model 1260/1200/1100	<del>74,00 €</del>	<b>51,80 €</b>
<b>G1329-87017ASP</b>	G1329-87017	Needle Seat, std	Autosampler Model 1260/1200/1100	<del>175,00 €</del>	<b>130,00 €</b>
<b>G1313-87201ASP</b>	G1313-87201	Needle Assembly	Autosampler Model 1100/1200	<del>74,00 €</del>	<b>51,80 €</b>
<b>G1329-87017ASP</b>	G1329-87017	Needle Seat, Std.,	Autosampler Model 1100/1200	<del>175,00 €</del>	<b>130,00 €</b>
<b>0100-1853ASP</b>	0100-1853	Rotor Seal, Vespel®	Autosampler Model 1100/1200	<del>128,00 €</del>	<b>69,00 €</b>
<b>0100-1851ASP</b>	0100-1851	Stator Face Assembly	Autosampler Model 1100/1200	<del>262,00 €</del>	<b>183,60 €</b>
<b>0101-0623ASP</b>	0101-0623	Manual Injection Valve	Autosampler Model 1100/1200	<del>159,00 €</del>	<b>71,66 €</b>
<b>0100-1859ASP</b>	0100-1859	Stator Face Assembly	Autosampler Model 1100/1200	<del>299,00 €</del>	<b>146,76 €</b>



## 20. Shimadzu alternative replacement parts



## PUMP

ART.-NO.	ART.-NO. ORIGINAL	DESCRIPTION	LIST PRICE ORIGINAL	YOUR PRICE
<b>228-35602-91ASP</b>	228-35602-91	Plunger Holder	<del>168,00 €</del>	120,00 €
<b>228-35146-00ASP</b>	228-35146-00	Plunger Seal	<del>66,00 €</del>	53,04 €
<b>228-11999-00ASP</b>	228-11999-00	Plunger Seal	<del>47,40 €</del>	30,00 €
<b>228-35145-00ASP</b>	228-35145-00	Plunger Seal	<del>80,00 €</del>	63,24 €
<b>228-48249-91ASP</b>	228-48249-91	Inlet Check Valve	<del>301,00 €</del>	204,00 €
<b>228-45705-91ASP</b>	228-45705-91	Outlet Check Valve	<del>241,00 €</del>	221,14 €
<b>228-48249-42ASP</b>	228-45704-92	Inlet Check Valve, Primary	<del>220,00 €</del>	205,00 €
<b>228-25237-04ASP</b>	228-25237-04	Syringe 500 µl	<del>194,00 €</del>	81,47 €

## 21. Waters alternative replacement parts

## INLET

ART.-NO.	ART.-NO. ORIGINAL	DESCRIPTION		LIST PRICE ORIGINAL	YOUR PRICE
<b>WATo33325ASP</b>	WATo33325	Inlet Check Valve, #4, #5 Heads	Model M45, 501, 510, 515, 1515, 1525, 590, 600	<del>452,00 €</del>	316,00 €
<b>WATo25203ASP</b>	WATo25203	Inlet Check Valve Housing	M6KA, 510, 515, 600, 610, LC Module 1	<del>152,00 €</del>	106,40 €
<b>WATo60307ASP</b>	WATo60307	Inlet Check Valve Assembly - Extended Flow, 225µL	510, 515, 600, 610, 1525EF, LC Module 1, Prep LC-4000	<del>301,00 €</del>	210,70 €
<b>WATo33679ASP</b>	WATo33679	Inlet Check Valve Assembly (Ball and Seat)	M6KA, 510, 515, 600, 610, LC Module 1	<del>291,00 €</del>	203,70 €

OUTLET

ART.-NO.	ART.-NO. ORIGINAL	DESCRIPTION	MODEL	LIST PRICE ORIGINAL	YOUR PRICE
<b>WATo33326ASP</b>	WATo33326	Outlet Check Valve	Model M45, 501, 510, 515, 1515, 1525, 590, 600	<del>430,00 €</del>	<b>301,00 €</b>
<b>700000254ASP</b>	700000254	Check Valve Cartridge, 2/pk	510, 515, 600, 610, 1515, 1525, 2690, 2690D, 2695, 2695D, 2795	<del>243,00 €</del>	<b>170,10 €</b>
<b>WATo25028ASP</b>	WATo25028	Outlet Check Valve Assembly - Actuator Style	M6KA, 510	<del>301,00 €</del>	<b>270,70 €</b>
<b>WATo25212ASP</b>	WATo25212	Outlet Housing - Actuator Style	M6KA, 510	<del>130,00 €</del>	<b>91,00 €</b>
<b>WATo26016ASP</b>	WATo26016	Outlet Check Valve Re-build Kit - Actuator Style (rebuilds 2 valves)	M6KA, 510	<del>120,00 €</del>	<b>84,00 €</b>
<b>WATo25216ASP</b>	WATo25216	Outlet Check Valve Assembly - Ball & Seat	510, 515, 600, 610, 1525EF, LC Module 1	<del>312,00 €</del>	<b>218,40 €</b>
<b>WATo25207ASP</b>	WATo25207	Outlet Check Valve Housing - Ball & Seat	510, 515, 600, 610, 1525EF, LC Module 1	<del>120,00 €</del>	<b>84,00 €</b>

PLUNGER

ART.-NO.	ART.-NO. ORIGINAL	DESCRIPTION	MODEL	LIST PRICE ORIGINAL	YOUR PRICE
<b>WATo22934ASP</b>	WATo22934	Plunger Seal	M6KA, 510, 515, 600, 610, 1515, 1525, LC Module 1	<del>93,00 €</del>	<b>65,10 €</b>
<b>WATo26613ASP</b>	WATo26613	Black GFP Plunger Seal	510, 515, 600, 610, 1515, 1525, LC Module 1	<del>103,00 €</del>	<b>72,10 €</b>
<b>WATo26644ASP</b>	WATo26644	Black Plunger Seal, EF Heads	510, 515, 590, 600, 610, LC Module 1	<del>120,00 €</del>	<b>84,00 €</b>
<b>WATo60304ASP</b>	WATo60304	Sapphire Plunger, Extended Flow	510, 515, 590, 600, 610, 1525EF, LC Module 1	<del>505,00 €</del>	<b>353,50 €</b>
<b>WATo25656ASP; WATo69511ASP</b>	WATo25656, WATo69511	Sapphire Plunger / Performance Plus Oriented Plunger	M6KA, 510, 590, 600, 610, LC Module 1	<del>398,00 €</del>	<b>278,60 €</b>
<b>WAS207069, ASP</b>	WAS207069	Sapphire Plunger Assembly	515, 1515, 1525	<del>441,00 €</del>	<b>308,70 €</b>

## WATERS REPLACEMENT PARTS

### PUMP/AUTOSAMPLER ACQUITY H-CLASS

ART.-NO.	ART.-NO. ORIGINAL	DESCRIPTION	MODEL	LIST PRICE ORIGINAL	YOUR PRICE
<b>405011492ASP</b>	405011492	Needle Seat	ACQUITY H-Class SM-FTN, ACQUITY I-Class SM-FTN	<del>216,00€</del>	151,20 €
<b>405008854ASP</b>	405008854	Needle Guide	ACQUITY H-Class SM-FTN, ACQUITY I-Class SM-FTN	<del>25,00€</del>	17,50 €
<b>700005215ASP</b>	700005215	Sample Needle Kit, 15µL	ACQUITY H-Class SM-FTN	<del>676,00€</del>	575,00 €
<b>WAT076152ASP</b>	WAT076152	O-Ring, PTFE	ACQUITY H-Class QSM, ACQUITY I-Class BSM, ACQUITY UPLC I2V BSM, ACQUITY UPLC BSM, Prep LC-2000, nanoACQUITY UPLC BSM/ASM	<del>25,00€</del>	17,50 €
<b>700002600ASP</b>	700002600	Plunger, 2/pk	ACQUITY H-Class Bio QSM; ACQUITY H-Class QSM; ACQUITY I-Class BSM; ACQUITY UPLC I2V BSM; ACQUITY UPLC BSM; nano-ACQUITY UPLC BSM/ASM	<del>398,00€</del>	278,60 €
<b>700002599ASP</b>	700002599	Head Plunger Seal, 2/pk	ACQUITY H-Class QSM, ACQUITY UPLC I2V BSM, ACQUITY UPLC BSM, nanoACQUITY UPLC BSM/ASM	<del>153,00€</del>	105,00 €
<b>700002598ASP</b>	700002598	Wash Seal, 2/pk	ACQUITY H-Class QSM; ACQUITY UPLC I2V BSM; ACQUITY UPLC BSM; nanoACQUITY UPLC BSM/ASM	<del>127,00€</del>	99,00 €
<b>201000233ASP</b>	201000233	Acquity H-Class QSM Performance Maintenance Kit	ACQUITY H-Class QSM	<del>1.625,00€</del>	1.137,50 €
<b>700005167ASP</b>	700005167	Filter, Air, Door	ACQUITY H-Class Bio QSM, ACQUITY H-Class QSM	<del>36,00€</del>	25,20 €
<b>700005164ASP</b>	700005164	Check Valve, Double Ball & Seat	ACQUITY H-Class QSM	<del>184,00€</del>	149,00 €
<b>700002570ASP</b>	700002570	100µL Sample Metering Syringe, HP	ACQUITY H-Class SM-FTN, ACQUITY I-Class SM-FTN, ACQUITY UPLC Sample Mgr, nano-ACQUITY UPLC Sample Mgr	<del>258,00€</del>	190,00 €
<b>700005165ASP</b>	700005165	Cartridge, Intelligent Valve	ACQUITY H-Class QSM	<del>184,00€</del>	149,00 €
<b>430002357ASP</b>	430002357	Tube Assembly, Transducer to Check Valve	ACQUITY H-Class QSM	<del>60,00€</del>	49,00 €
<b>700005173ASP</b>	700005173	Filter, GPV, 4/pk	ACQUITY H-Class QSM	<del>103,00€</del>	79,00 €



**PUMP/AUTOSAMPLER ACQUITY I-CLASS BSM**

ART.-NO.	ART.-NO. ORIGINAL	DESCRIPTION	MODEL	LIST PRICE ORIGINAL	YOUR PRICE
<b>700002913ASP</b>	700002913	SS Filter Frit Replacement Cartridge, 2/pk	ACQUITY I-Class BSM	<del>122,00€</del>	<b>95,00 €</b>
<b>700003616ASP</b>	700003616	Solvent Bottle Filter, 7/pk	ACQUITY I-Class BSM	<del>688,00€</del>	<b>481,60 €</b>
<b>700002596ASP</b>	700002596	UPLC Primary Check Valve Assy, 2/pk	ACQUITY I-Class BSM	<del>644,00€</del>	<b>450,80 €</b>
<b>700002968ASP</b>	700002968	UPLC Check Valve, Double Ball & Seat, 2/pk	ACQUITY I-Class BSM	<del>365,00€</del>	<b>299,00 €</b>
<b>700002912ASP</b>	700002912	SS Primary Inlet Check Valve Filter Kit, 2/pk	ACQUITY I-Class BSM	<del>269,00€</del>	<b>188,30 €</b>
<b>700003563ASP</b>	700003563	Cartridge, Intelligent Valve, 2/pk	ACQUITY I-Class BSM	<del>365,00€</del>	<b>269,00 €</b>



## 22. GC syringes by SGE



### MANUAL OR AUTOSAMPLER SYRINGES:

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If the syringe is used manually, then a manual syringe is sufficient if it is to be installed in an instrument. Make sure that the selected syringe matches the instrument. **Syringe size:** For good reproducibility and accuracy, no more than 10% of total injection capacity should be injected.

### PERMANENT OR REPLACABLE NEEDLES:

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Fixed needles are the first choice for experienced users or analyzes in the trace area. Fixed needles are suitable for autosamplers where there is little risk that the needle will bend. Solid needles are very easy to handle. Interchangeable needles can save costs over time because, with bent needles, the needles can be replaced separately. The needles can also be exchanged for different applications.

### DIFFERENT TYPES OF NEEDLES:

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#### Beveled:

Is the first choice when manually inserted into a septum. Beveled tips are also known as Point Style 2.

#### Cone:

This type of tip is specifically designed for multiple injections or when the lifetime of the septum in the autosampler is to be extended. The conical shape effectively perforates the septum during the piercing process without cutting it in. Conical needles are also known as Point Style AS.

#### HPLC:

These straight needles are used in HPLC and are also known as Point Style 3.

#### Side Hole:

The samples are injected through the side hole to prevent clogging of the needle. This shape is ideal for large-volume gas injections and is also known as Point Style 5 needles.

#### Sheathed bevelled needle:

This needle corresponds to the chamfered needle, except that the needle is still strengthened by a sheath. These needles are also known as Point Style 4 needles.

### KINDS OF PLUNGERS:

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#### Metal Plunger:

These plungers can not be exchanged, stainless steel plungers with special fitting into the injection body. Standard for chromatographic applications. Used for injection volume between 5 and 500 µl.

#### Plunger with PTFE Tip:

Can be used for gaseous and liquid injections. The plunger is interchangeable, easy to remove. Used for injection volumes between 10 µl and 100 ml. Conical needles are also known as Point Style AS.

#### Flexibler Plunger:

Very robust plunger, ideal for student use. Used for injection volumes between 5 and 10 µl.



### MANUAL SYRINGES:

ART.-NO.	DESCRIPTION	TYPE	VOLUME	ALTERNATIVE HAMILTON	LIST PRICE	YOUR PRICE
<b>SG001050</b>	5 µL Removable Needle Syringe with 5 cm 0.47 mm OD Bevel Tipped Needle	Removable Needle Syringe	5 µl	HT87930	<del>58,00 €</del>	<b>49,30 €</b>
<b>SG001000</b>	5 µL Fixed Needle Syringe with 5 cm 0.47 mm OD Bevel Tipped Needle	Cemented Needle Syringe	5 µl	HT87900	<del>45,00 €</del>	<b>38,25 €</b>



ART.-NO.	DESCRIPTION	TYPE	VOLUME	ALTERNATIVE HAMILTON	LIST PRICE	YOUR PRICE
<b>SG002000</b>	10 µL Fixed Needle Syringe with 5 cm 0.47 mm OD Bevel Tipped Needle	Cemented Needle Syringe	10 µl	HT80300	<del>32,00 €</del>	<b>27,20 €</b>
<b>SG002030</b>	10 µL Fixed Needle Syringe with 5 cm 0.47 mm OD Bevel Tipped Needle PK6	Cemented Needle Syringe	10 µl	HT80366	<del>160,00 €</del>	<b>136,00 €</b>
<b>SG002050</b>	10 µL Removable Needle Syringe with 5 cm 0.47 mm OD Bevel Tipped Needle	Removable Needle Syringe	10 µl	HT80330	<del>55,00 €</del>	<b>46,75 €</b>



ART.-NO.	DESCRIPTION	TYPE	VOLUME	ALTERNATIVE HAMILTON	LIST PRICE	YOUR PRICE
<b>SG003000</b>	25 µL Fixed Needle Syringe with 5 cm 0.5 mm OD Bevel Tipped Needle	Cemented Needle Syringe	25 µl	HT80400	<del>40,00 €</del>	<b>34,00 €</b>
<b>SG003200</b>	25 µL Fixed Needle Syringe with GT Plunger & 5 cm 0.5 mm OD Bevel Tipped Needle	Cemented Needle Syringe	25 µl	HT80200	<del>51,00 €</del>	<b>43,35 €</b>
<b>SG003250</b>	25 µL Removable Needle Syringe with GT Plunger & 5 cm 0.5 mm OD Bevel Tipped Needle	Removable Needle Syringe	25 µl	HT80230	<del>60,00 €</del>	<b>51,00 €</b>

## GC SYRINGES BY SGE



ART.-NO.	DESCRIPTION	TYPE	VOLUME	ALTERNATIVE HAMILTON	LIST PRICE	YOUR PRICE
<b>SG004000</b>	50 µL Fixed Needle Syringe with 5 cm 0.5 mm OD, Bevel Tipped Needle	Cemented Needle Syringe	50 µl	HT80500	<del>47,00 €</del>	<b>39,95 €</b>
<b>SG004200</b>	50 µL Fixed Needle Syringe with GT Plunger & 5 cm 0.5 mm, OD Bevel Tipped Needle	Cemented Needle Syringe	50 µl	HT80900	<del>51,00 €</del>	<b>43,35 €</b>
<b>SG004250</b>	50 µL Removable Needle Syringe with GT Plunger & 5 cm 0.5 mm OD Bevel Tipped Needle	Removable Needle Syringe	50 µl	HT80930	<del>61,00 €</del>	<b>51,85 €</b>



ART.-NO.	DESCRIPTION	TYPE	VOLUME	ALTERNATIVE HAMILTON	LIST PRICE	YOUR PRICE
<b>SG005000</b>	100 µL Fixed Needle Syringe with 5 cm 0.5 mm OD, Bevel Tipped Needle	Cemented Needle Syringe	100 µl	HT80600	<del>47,00 €</del>	<b>39,95 €</b>
<b>SG005200</b>	100 µL Fixed Needle Syringe with GT Plunger & 5 cm 0.5 mm OD Bevel Tipped Needle	Cemented Needle Syringe	100 µl	HT81000	<del>56,00 €</del>	<b>47,60 €</b>
<b>SG005250</b>	100 µL Removable Needle Syringe with GT Plunger & 5 cm 0.5 mm OD Bevel Tipped Needle	Removable Needle Syringe	100 µl	HT81030	<del>66,00 €</del>	<b>56,10 €</b>



ART.-NO.	DESCRIPTION	TYPE	VOLUME	ALTERNATIVE HAMILTON	LIST PRICE	YOUR PRICE
<b>SG006000</b>	250 µL Fixed Needle Syringe with 5 cm 0.5 mm OD, Bevel Tipped Needle	Cemented Needle Syringe	250 µl	HT80700	<del>56,00 €</del>	<b>47,60 €</b>
<b>SG006050</b>	250 µL Removable Needle Syringe with 5 cm 0.5 mm OD, Bevel Tipped Needle	Removable Needle Syringe	250 µl	HT80730	<del>78,00 €</del>	<b>66,33 €</b>

SYRINGES FOR AGILENT-DEVICES:

ART.-NO.	DESCRIPTION	TYPE	VOLUME	ALTERNATIVE HAMILTON	LIST PRICE	YOUR PRICE
<b>SG000610</b>	1.0 µL NanoVolume Agilent Syringe with 4.2 cm 0.63 mm OD Cone Tipped Needle	Needle: Replaceable, 23 gauge, Length 42 mm, Tip style: AS, conical	1 µl	HT80176	<del>101,00 €</del>	<b>85,85 €</b>
<b>SG002812</b>	10 µL Fixed Needle Agilent Syringe with GT Plunger & 4.2 cm 0.63 mm OD Cone Tipped Needle	Needle: Fixed, 23 gauge, Length 42 mm, Style of tip: AS, conical	10 µl	HT80176	<del>66,00 €</del>	<b>56,10 €</b>
<b>SG001821</b>	5 µL Fixed Needle Agilent Syringe with 4.2 cm 0.63/0.47 mm OD Cone Tipped Dual Gauge Needle	Fixed Tapered Needle Syringe	5 µl	HT87959	<del>72,00 €</del>	<b>61,20 €</b>
<b>SG002821</b>	10 µL Fixed Needle Agilent Syringe with 4.2 cm 0.63/0.47 mm OD Cone Tipped Dual Gauge Needle	Fixed Tapered Needle Syringe	10 µl	HT80393	<del>47,00 €</del>	<b>39,95 €</b>
<b>SG002810</b>	10 µL Fixed Needle Agilent Syringe with 4.2 cm 0.63 mm OD Cone Tipped Needle	Fixed Straight Needle	10 µl	HT80393	<del>47,00 €</del>	<b>39,95 €</b>
<b>SG002814</b>	10 µL Fixed Needle Agilent Syringe with 4.2 cm 0.63 mm OD Cone Tipped Needle PK6	Needle: Fixed, 23 gauge, Length 42 mm, Style of tip: AS, conical	10 µl	HT80390	<del>247,00 €</del>	<b>209,95 €</b>
<b>SG002924</b>	10 µL Removable Needle Varian (8035, 8100, 8200) Syringe with GT Plunger & 5.3 cm 0.5 mm OD Needle	Removable Needle Syringe	10 µl	HT202880	<del>352,00 €</del>	<b>299,20 €</b>



## SYRINGES FOR CTC/THERMO SCIENTIFIC-DEVICES

### SYRINGES FOR CTC/THERMO SCIENTIFIC-DEVICES:

ART.-NO.	DESCRIPTION	TYPE	VOLUME	ALTERNATIVE HAMILTON	LIST PRICE	YOUR PRICE
<b>SG002992</b>	Thermo Scientific Autosampler Syringes		10 µl	HT202066	<del>59,00 €</del>	50,15 €
<b>SG001982</b>	5 µL Fixed Needle CTC/Thermo Syringe with 5 cm 0.47 mm OD Cone Tipped Needle	Fixed Needle Syringe	5 µl	HT203189	<del>97,00 €</del>	82,45 €
<b>SG0019821</b>	5 µL Fixed Needle CTC/Thermo (Classic Button) Syringe with 5 cm 0.47 mm OD Cone Tipped Needle		5 µl	HT204000	<del>82,00 €</del>	69,70 €
<b>SG002985</b>	10 µL Removable Needle CTC/Thermo Syringe with GT Plunger & 5 cm 0.47 mm OD Cone Tipped Needle	Needle: Replaceable, 26 gauge, Length 50 mm, Style of tip: AS, conical	10µl		<del>98,00 €</del>	83,30 €
<b>SG002981</b>	10 µL Fixed Needle CTC/Thermo Syringe with 5 cm 0.63 mm OD Cone Tipped Needle	Needle: Fixed, 23 gauge, Length 50 mm, Style of tip: AS, conical	10 µl	HT203361	<del>67,00 €</del>	56,95 €
<b>SG0029801</b>	10 µL Fixed Needle CTC/Thermo (Classic Button) Syringe with 5 cm 0.47 mm OD Cone Tipped Needle		10 µl	HT204001	<del>49,00 €</del>	41,65 €
<b>SG002980</b>	10 µL Fixed Needle CTC/Thermo Syringe with 5 cm 0.47 mm OD Cone Tipped Needle	Needle: Fixed, 26 gauge, Length 50 mm, Style of tip: AS, conical	10 µl	HT203072	<del>49,00 €</del>	41,65 €
<b>SG002700</b>	10 µL Fixed Needle CTC Syringe with 5 cm 0.47 mm OD Cone Tipped Needle	Fixed Needle Syringe	10 µl	HT203205	<del>64,00 €</del>	54,40 €
<b>SG003700</b>	25 µL Fixed Needle CTC Syringe with GT Plunger & 5 cm 0.47 mm OD Cone Tipped Needle	Fixed Needle Syringe	25 µl	HT203043	<del>102,00 €</del>	86,70 €
<b>SG003987</b>	25 µL Fixed Needle CTC/Thermo Syringe with GT Plunger & 5 cm 0.63 mm OD Cone Tipped Needle	Needle: Fixed, 23 gauge, Length 50 mm, Style of tip: AS, conical	25µl		<del>89,00 €</del>	75,65 €
<b>SG005700</b>	100 µL Fixed Needle CTC Syringe with GT Plunger & 5 cm 0.47 mm OD Cone Tipped Needle	Fixed Needle Syringe	100 µl	HT203076	<del>102,00 €</del>	86,70 €
<b>SG006700</b>	250 µL Fixed Needle CTC Syringe with GT Plunger & 5 cm 0.47 mm OD Cone Tipped Needle	Fixed Needle Syringe	250 µl	HT203078	<del>95,00 €</del>	80,75 €

### SYRINGES FOR PERKINELMER-DEVICES:

ART.-NO.	DESCRIPTION	TYPE	VOLUME	ALTERNATIVE HAMILTON	LIST PRICE	YOUR PRICE
<b>SG000475</b>	0.5 µL NanoVolume PerkinElmer Syringe with 7 cm 0.47 mm OD Cone Tipped Needle	Needle: Replaceable, 26 gauge, Length 70 mm, Style of tip: AS, conical	0,5µl		<del>138,00 €</del>	<b>117,30 €</b>
<b>SG000478</b>	0.5 µL NanoVolume PerkinElmer Syringe with 7 cm 0.63 mm OD Cone Tipped Needle	Needle: Replaceable, 23 gauge, Length 70 mm, Style of tip: AS, conical	0,5µl		<del>138,00 €</del>	<b>117,30 €</b>
<b>SG001957</b>	5 µL Fixed Needle PerkinElmer Syringe with GT Plunger & 7 cm 0.63 mm OD Cone Tipped Needle	Needle: Replaceable, 23 gauge, Length 70 mm, Style of tip: AS, conical	5 µl		<del>98,00 €</del>	<b>83,30 €</b>
<b>SG001953</b>	5 µL Fixed Needle PerkinElmer Syringe with 7 cm 0.47 mm OD Cone Tipped Needle	Fixed Needle Syringe	5 µl	HT88040	<del>97,00 €</del>	<b>82,45 €</b>

### SYRINGES FOR SHIMADZU-DEVICES:

ART.-NO.	DESCRIPTION	TYPE	VOLUME	ALTERNATIVE HAMILTON	LIST PRICE	YOUR PRICE
SG001988	Metal Syringes AOC20i	Needle: Fixed, 23 gauge, Length 42 mm, Style of tip: AS, conical	5 µl		<del>102,00 €</del>	<b>86,70 €</b>
SG002898	10 µL Removable Needle Shimadzu Syringe with 4.2 cm 0.63 mm OD Cone Tipped Needle	Removable Needle	10 µl	HT88040	<del>83,00 €</del>	<b>70,55 €</b>





## 23. Ferrules by SGE



The ferrule is a small, sealing connector within the GC system. Often underestimated, however, the ferrule is of central importance. On the other hand, the ferrule ensures that the GC column is held securely and correctly positioned in the GC apparatus. Ferrules are available in different sizes, materials and shapes and can thus be optimally adapted to the respective GC-Column.

Which material suits best for the application?

What type of connection is desired?



MATERIAL	GRAPHITE	GRAPHIT/VESPEL	SILTITE METAL
<b>Advantages</b>	<ul style="list-style-type: none"> <li>• Simple Handling</li> <li>• High tightness</li> <li>• Soft Material</li> <li>• Reusable</li> </ul>	<ul style="list-style-type: none"> <li>• Robust</li> <li>• Hard Material, Long Lifetime</li> </ul>	<ul style="list-style-type: none"> <li>• Specially designed to avoid the disadvantages of graphite ferrules</li> <li>• Strong connection/high tightness</li> <li>• Tightness immediately after installation, no tightening required</li> </ul>
<b>Disadvantages</b>	<ul style="list-style-type: none"> <li>• Must be retightened after the first temperature cycle, otherwise air can enter the detector</li> <li>• Can leave residues in the column</li> </ul>	<ul style="list-style-type: none"> <li>• Not reusable with another capillary column</li> </ul>	<ul style="list-style-type: none"> <li>• Too strong tightening can lead to leaks</li> </ul>
<b>Application possibilities</b>	<ul style="list-style-type: none"> <li>• Connection from column to injector</li> <li>• FID/ECD/TCD/NPD Detectors</li> </ul>	<ul style="list-style-type: none"> <li>• MS Interface</li> </ul>	<ul style="list-style-type: none"> <li>• Ideal for MS Interface</li> </ul>
<b>Temperature limit</b>	450°C	325°C	No temperature limit



GRAPHITE/VESPEL:

COMPATIBLE WITH	MATERIAL	DESCRIPTION	COLUMN ID (MM)	FERRULE ID (MM)	ART.-NO.	QUANTITY	PRICE	YOUR PRICE
<b>Agilent</b>	15% Graphite/ 85% Vespel	For Injectors& Detectors at atmospheric pressure	0.1-0.25	0.4	SG073109	10	<del>62,00 €</del>	<b>52,70 €</b>
<b>Agilent</b>	15% Graphite/ 85% Vespel	For Injectors& Detectors at atmospheric pressure	0.32	0.5	SG073111	10	<del>62,00 €</del>	<b>52,70 €</b>
<b>Agilent</b>	15% Graphite/ 85% Vespel	For Injectors& Detectors at atmospheric pressure	0.53	0.8	SG073113	10	<del>62,00 €</del>	<b>52,70 €</b>
<b>Agilent</b>	15% Graphite/ 85% Vespel	For GC-MS Interface Connection	0.1-0.25	0.4	SG072663	10	<del>55,00 €</del>	<b>46,75 €</b>
<b>Agilent</b>	15% Graphite/ 85% Vespel	For GC-MS Interface Connection	0.32	0.5	SG072654	10	<del>55,00 €</del>	<b>46,75 €</b>
<b>Agilent</b>	15% Graphite/ 85% Vespel	For GC-MS Interface Connection	0.53	0.8	SG072655	10	<del>55,00 €</del>	<b>46,75 €</b>

COMPATIBLE WITH	MATERIAL	DESCRIPTION	COLUMN ID (MM)	FERRULE ID (MM)	ART.-NO.	QUANTITY	PRICE	YOUR PRICE
<b>Shimadzu</b>	15% Graphite/ 85% Vespel	QP5000/50050 Standard MS Interface	0.1-0.25		SG0726563	10	<del>87,00 €</del>	<b>73,95 €</b>
<b>Shimadzu</b>	15% Graphite/ 85% Vespel	QP5000/50050 Standard MS Interface	0.32		SG0726564	10	<del>87,00 €</del>	<b>73,95 €</b>
<b>Shimadzu</b>	15% Graphite/ 85% Vespel	QP5000-II & QP5050 MS Interface	0.53		SG0726561	10	<del>95,00 €</del>	<b>80,75 €</b>
<b>Shimadzu</b>	15% Graphite/ 85% Vespel	QP5000-II & QP5050 MS Interface	0.1-0.25		SG0726562	10	<del>95,00 €</del>	<b>80,75 €</b>
<b>Shimadzu</b>	15% Graphite/ 85% Vespel	QP5000/50050 Wide Bore MS Interface, QP2010Injector and QP2010 Standard MS Interface	0.1-0.25		SG072663	10	<del>55,00 €</del>	<b>46,75 €</b>
<b>Shimadzu</b>	15% Graphite/ 85% Vespel	QP5000/50050 Wide Bore MS Interface, QP2010Injector and QP2010 Standard MS Interface	0.32m		SG072654	10	<del>55,00 €</del>	<b>46,75 €</b>
<b>Shimadzu</b>	15% Graphite/ 85% Vespel	QP5000/50050 Wide Bore MS Interface, QP2010Injector and QP2010 Standard MS Interface	0.53		SG072655	10	<del>55,00 €</del>	<b>46,75 €</b>

## FERRULES BY SGE

COMPATIBLE WITH	MATERIAL	DESCRIPTION	COLUMN ID (MM)	FERRULE ID (MM)	ART.-NO.	QUANTITY	PRICE	YOUR PRICE
<b>Perkin Elmer</b>	15% Graphite/ 85% Vespel	For Injectors & Detectors at atmospheric pressure	0.1-0.25	0.4	SG072663	10	<del>55,00 €</del>	<b>46,75 €</b>
<b>Perkin Elmer</b>	15% Graphite/ 85% Vespel	For Injectors & Detectors at atmospheric pressure	0.32	0.5	SG072654	10	<del>55,00 €</del>	<b>46,75 €</b>
<b>Perkin Elmer</b>	15% Graphite/ 85% Vespel	For Injectors & Detectors at atmospheric pressure	0.45-0.53	0.8	SG072655	10	<del>55,00 €</del>	<b>46,75 €</b>
COMPATIBLE WITH	MATERIAL	DESCRIPTION	COLUMN ID (MM)	FERRULE ID (MM)	ART.-NO.	QUANTITY	PRICE	YOUR PRICE
<b>Thermo Scientific</b>	15% Graphite/ 85% Vespel	for all Injectors & Detectors (not for 8000 Series, Focus, Trace/ Ultra GC)	0.1-0.25	0.4	SG0726549	10	<del>108,00 €</del>	<b>91,80 €</b>
<b>Thermo Scientific</b>	15% Graphite/ 85% Vespel	for all Injectors & Detectors (not for 8000 Series, Focus, Trace/ Ultra GC)	0.32	0.5	SG0726557	10	<del>108,00 €</del>	<b>91,80 €</b>
<b>Thermo Scientific</b>	15% Graphite/ 85% Vespel	for all Injectors & Detectors (not for 8000 Series, Focus, Trace/ Ultra GC)	0.53	0.8	SG0726548	10	<del>108,00 €</del>	<b>91,80 €</b>
<b>Thermo Scientific</b>	15% Graphite/ 85% Vespel	For all Focus, Trace/ Ultra injectors and detectors at atmospheric pressure (not for GCMS)	0.1-0.25	0.4	SG072696	10	<del>75,00 €</del>	<b>63,75 €</b>
<b>Thermo Scientific</b>	15% Graphite/ 85% Vespel	For all Focus, Trace/ Ultra injectors and detectors at atmospheric pressure (not for GCMS)	0.32	0.5	SG072697	10	<del>75,00 €</del>	<b>63,75 €</b>
<b>Thermo Scientific</b>	15% Graphite/ 85% Vespel	For all Focus, Trace/ Ultra injectors and detectors at atmospheric pressure (not for GCMS)	0.53	0.8	SG072698	10	<del>75,00 €</del>	<b>63,75 €</b>

COMPATIBLE WITH	MATERIAL	DESCRIPTION	COLUMN ID (MM)	FERRULE ID (MM)	ART.-NO.	QUANTITY	PRICE	YOUR PRICE
<b>Varian/ Bruker</b>	15% Graphite/ 85% Vespel	For GCMS & Detectors at atmospheric pressure - column IDs 0.1-0.25mm	0.1-0.25	0.4	SG072663	10	<del>55,00 €</del>	<b>46,75 €</b>
<b>Varian/ Bruker</b>	15% Graphite/ 85% Vespel	For GCMS & Detectors at atmospheric pressure - column IDs 0.32mm	0.32	0.5	SG072654	10	<del>55,00 €</del>	<b>46,75 €</b>
<b>Varian/ Bruker</b>	15% Graphite/ 85% Vespel	For GCMS & Detectors at atmospheric pressure - column IDs 0.53mm	0.53	0.8	SG072655	10	<del>55,00 €</del>	<b>46,75 €</b>



**100% GRAPHITE:**

COMPATIBLE WITH	DESCRIPTION	COLUMN ID (MM)	FERRULE ID (MM)	ART.-NR.	QUANTITY	PRICE	YOUR PRICE
<b>Perkin Elmer</b>	100% Graphite Ferrules	0.12-0.32	0.5	SG072627	10	<del>45,00 €</del>	<b>38,25 €</b>
<b>Perkin Elmer</b>	100% Graphite Ferrules	0.45-0.53	0.8	SG072626	10	<del>45,00 €</del>	<b>38,25 €</b>
<b>Shimadzu</b>	100% Graphite Ferrules	0.1-0.32		SG0726080	10	<del>128,00 €</del>	<b>108,80 €</b>
<b>Shimadzu</b>	100% Graphite Ferrules	0.45-0.53		SG0726082	10	<del>128,00 €</del>	<b>108,80 €</b>
<b>Thermo Scientific</b>	100% Graphite Ferrules	0.1-0.32	0.5	SG072619	10	<del>45,00 €</del>	<b>38,25 €</b>
<b>Thermo Scientific</b>	100% Graphite Ferrules	0.45-0.53	0.8	SG072614	10	<del>45,00 €</del>	<b>38,25 €</b>
<b>Varian / Bruker</b>	100% Graphite Ferrules	0.1-0.32	0.5	SG072627	10	<del>45,00 €</del>	<b>38,25 €</b>
<b>Varian / Bruker</b>	100% Graphite Ferrules	0.45-0.53	0.8	SG072626	10	<del>45,00 €</del>	<b>38,25 €</b>

## FERRULES BY SGE

### SILTITE METAL:

COMPATIBLE WITH	DESCRIPTION	COLUMN ID (MM)	FERRULE ID (MM)	ART.-NO.	QUANTITY	PRICE	YOUR PRICE
<b>Agilent</b>	Injector/FID Starter Kit			SG073610	1	<del>203,00 €</del>	<b>172,55 €</b>
<b>Agilent</b>	Injector/FID Starter Kit			SG073612	1	<del>203,00 €</del>	<b>172,55 €</b>

COMPATIBLE WITH	DESCRIPTION	COLUMN ID (MM)	FERRULE ID (MM)	ART.-NO.	QUANTITY	PRICE	YOUR PRICE
<b>Perkin Elmer</b>	Injector/FID Starter Kit		0.4	SG073622	1	<del>199,00 €</del>	<b>169,15 €</b>
<b>Perkin Elmer</b>	Injector/MS Starter Kit		0.4	SG073623	1	<del>203,00 €</del>	<b>172,55 €</b>

COMPATIBLE WITH	DESCRIPTION	COLUMN ID (MM)	FERRULE ID (MM)	ART.-NO.	QUANTITY	PRICE	YOUR PRICE
<b>Shimadzu</b>	GC14A, GC17A, GC2010/2014 (Not for MS or QP2010 Injector) Starter kit	0.1-0.25		SG073350	1	<del>97,00 €</del>	<b>82,45 €</b>
<b>Shimadzu</b>	GC14A, GC17A, GC2010/2014 (Not for MS or QP2010 Injector) Starter kit	0.32		SG073351	1	<del>97,00 €</del>	<b>82,45 €</b>
<b>Shimadzu</b>	GC14A, GC17A, GC2014 (Not for MS or QP2010 Injector) Starter kit	0.53		SG073352	1	<del>97,00 €</del>	<b>82,45 €</b>
<b>Shimadzu</b>	2010 Injector/FID Starter Kit			SG073620	1	<del>203,00 €</del>	<b>172,55 €</b>
<b>Shimadzu</b>	2010 Injector/MS Starter Kit			SG073621	1	<del>203,00 €</del>	<b>172,55 €</b>
<b>Shimadzu</b>	QP5000/50050 Standard MS Interface Starter Kit	0.1-0.25		SG073204	1	<del>97,00 €</del>	<b>82,45 €</b>
<b>Shimadzu</b>	QP5000/50050 Standard MS Interface Starter Kit	0.32		SG073205	1	<del>97,00 €</del>	<b>82,45 €</b>
<b>Shimadzu</b>	QP5000/50050 Wide Bore MS Interface, QP2010Injector and QP2010 Standard MS Interface Starter Kit	0.1-0.25		SG073200	1	<del>97,00 €</del>	<b>82,45 €</b>
<b>Shimadzu</b>	QP5000/50050 Wide Bore MS Interface, QP2010Injector and QP2010 Standard MS Interface Starter Kit	0.32		SG073201	1	<del>97,00 €</del>	<b>82,45 €</b>
<b>Shimadzu</b>	QP5000/50050 Wide Bore MS Interface, QP2010Injector and QP2010 Standard MS Interface Starter Kit	0.53		SG073202	1	<del>97,00 €</del>	<b>82,45 €</b>

COMPATIBLE WITH	DESCRIPTION	COLUMN ID (MM)	FERRULE ID (MM)	ART.-NO.	QUANTITY	PRICE	YOUR PRICE
<b>Thermo Scientific</b>	For GC-MC Interface Connections (Starter Kit)	0.1-0.25	0.4	SG073450	10	<del>97,00 €</del>	<b>82,45 €</b>
<b>Thermo Scientific</b>	For GC-MC Interface Connections (Starter Kit)	0.32	0.5	SG073451	10	<del>97,00 €</del>	<b>82,45 €</b>
<b>Thermo Scientific</b>	For GC-MC Interface Connections (Starter Kit)	0.53	0.8	SG073452	10	<del>97,00 €</del>	<b>82,45 €</b>
<b>Thermo Scientific</b>	Injector/MS (non-ISQ) Starter Kit	0.1-0.25	0.4	SG073616	1	<del>203,00 €</del>	<b>172,55 €</b>
<b>Thermo Scientific</b>	Injector/MS ISQ Starter Kit	0.1-0.25	0.4	SG073615	1	<del>203,00 €</del>	<b>172,55 €</b>
<b>Thermo Scientific</b>	Injector/FID Starter Kit	0.1-0.25	0.4	SG073614	1	<del>203,00 €</del>	<b>172,55 €</b>

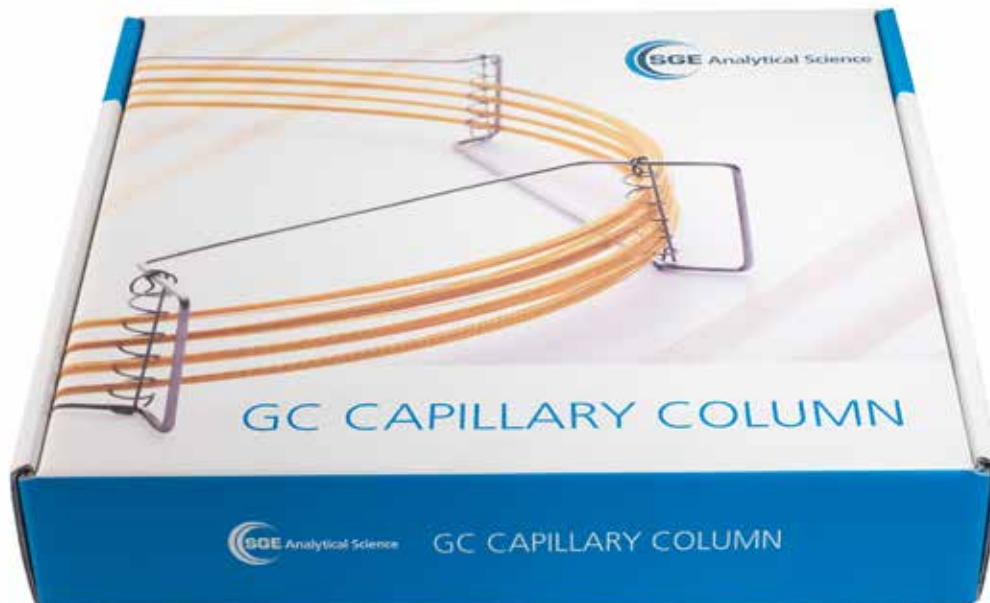
COMPATIBLE WITH	DESCRIPTION	COLUMN ID (MM)	FERRULE ID (MM)	ART.-NO.	QUANTITY	PRICE	YOUR PRICE
<b>Varian/Bruker</b>	For GCMS connections Starter Kit - column IDs 0.1-0.25mm	0.1-0.25	0.4	SG073300	1	<del>97,00 €</del>	<b>82,45 €</b>
<b>Varian/Bruker</b>	For GCMS connections Starter Kit - column IDs 0.32mm	0.32	0.5	SG073301	1	<del>97,00 €</del>	<b>82,45 €</b>
<b>Varian/Bruker</b>	For GCMS connections Starter Kit - column IDs 0.53mm	0.53	0.8	SG073302	1	<del>97,00 €</del>	<b>82,45 €</b>
<b>Varian/Bruker</b>	Injector/GCMS Starter Kit (not for 220, 1200, 2000, or 4000 MS systems)	0.1-0.25	0.4	SG073619	1	<del>203,00 €</del>	<b>172,55 €</b>
<b>Varian/Bruker</b>	Injector/FID Starter Kit	0.1-0.25	0.4	SG073618	1	<del>203,00 €</del>	<b>172,55 €</b>
<b>Varian/Bruker</b>	Injector/FID Starter Kit			SG073610	1	<del>199,00 €</del>	<b>169,15 €</b>
<b>Varian/Bruker</b>	Injector/MS Starter Kit			SG073612	1	<del>203,00 €</del>	<b>172,55 €</b>
<b>Varian/Bruker</b>	Injector/FID Starter Kit		0.4	SG073622	1	<del>199,00 €</del>	<b>169,15 €</b>



## 24. GC columns by SGE



ART.-NO.	DESCRIPTION	LIST PRICE	YOUR PRICE
SG054044	BP1 Dimethylpolysiloxane ID: 0,25 mm, FilmThickness: 0,25 µm Length: 30 m	<del>477,00 €</del>	405,45 €
SG054062	BP1 Dimethylpolysiloxane ID: 0,32 mm, FilmThickness: 0,25 µm Length: 30 m	<del>513,00 €</del>	436,05 €
SG054090	BP1 Dimethylpolysiloxane ID: 0,53 mm, FilmThickness: 1 µm Length: 30 m	<del>615,00 €</del>	522,75 €
SG054183	BP5 5% Phenyl/ 95% Dimethylpolysiloxane ID: 0,25 mm, FilmThickness: 0,25 µm Length: 30 m	<del>472,00 €</del>	401,20 €
SG054177	BP5 5% Phenyl/ 95% Dimethylpolysiloxane ID: 0,32 mm, FilmThickness: 0,25 µm Length: 30 m	<del>538,00 €</del>	457,30 €
SG054195	BP5 5% Phenyl/ 95% Dimethylpolysiloxane ID: 0,53 mm, FilmThickness: 1 µm Length: 30 m	<del>589,00 €</del>	500,65 €
SG054101	BPX5 5%Phenyl Polysilphenylenesiloxane ID: 0,25 mm, FilmThickness: 0,25 µm Length: 30m	<del>579,00 €</del>	492,15 €
SG054145	BPX5 5%Phenyl Polysilphenylenesiloxane ID: 0,32 mm, FilmThickness: 0,25 µm Length: 30 m	<del>610,00 €</del>	518,50 €
SG054148	BPX5 5%Phenyl Polysilphenylenesiloxane ID: 0,53 mm, FilmThickness: 1 µm Length: 30 m	<del>682,00 €</del>	579,70 €
SG054427	BP20 (WAX) Polyethyleneglycol ID: 0,25 mm, FilmThickness: 0,25 µm Length: 30 m	<del>513,00 €</del>	436,05 €
SG054433	BP20 (WAX) Polyethyleneglycol ID: 0,32 mm, FilmThickness: 0,25 µm Length: 30 m	<del>574,00 €</del>	487,90 €
SG054451	BP20 (WAX) Polyethyleneglycol: 0,53 mm, FilmThickness: 1,0 µm Length: 30 m	<del>641,00 €</del>	544,85 €



## 25. GC columns by Macherey-Nagel



### GUARD COLUMN:

ART.-NO.	DESCRIPTION	LIST PRICE	YOUR PRICE
MN723106.10	Pre-column: deactivated capillary column without cage Methyl-Sil deactivated ID: 0,25 mm, Length: 10 m	<del>181,00 €</del>	153,85 €
MN723346.10	Pre-column: deactivated capillary column without cage Methyl-Sil deactivated desaktiviert ID: 0,32 mm, Length: 10 m	<del>202,00 €</del>	171,70 €
MN723558.10	Pre-column: deactivated capillary column without cage Methyl-Sil deactivated desaktiviert ID: 0,53 mm, Length: 10 m	<del>241,00 €</del>	204,85 €

### COLUMN:

ART.-NO.	DESCRIPTION	LIST PRICE	YOUR PRICE
MN726050.30	Capillary Column OPTIMA-1 ID: 0,25 mm, Layer Thickness: 0,25 µm Length: 30 m	<del>548,00 €</del>	465,80 €
MN726302.30	Capillary Column OPTIMA-1 ID: 0,32 mm, Layer Thickness: 0,25 µm Length: 30 m	<del>587,00 €</del>	498,95 €
MN726529.30	Capillary Column OPTIMA-1 ID: 0,53 mm, Layer Thickness: 1 µm Length: 30 m	<del>680,00 €</del>	578,00 €
MN726205.30	Capillary Column OPTIMA-1 MS ID: 0,25 mm, Layer Thickness: 0,25 µm Length: 30 m	<del>630,00 €</del>	535,50 €
MN726202.30	Capillary Column OPTIMA-1 MS ID: 0,32 mm, Layer Thickness: 0,25 µm Length: 30 m	<del>673,00 €</del>	572,05 €
MN726056.30	Capillary Column OPTIMA-5 ID: 0,25 mm, Layer Thickness: 0,25 µm Length: 30 m	<del>548,00 €</del>	465,80 €
MN726314.30	Capillary Column OPTIMA-5 ID: 0,32 mm, Layer Thickness: 0,25 µm Length: 30 m	<del>587,00 €</del>	498,95 €
MN726541.30	Capillary Column OPTIMA-5 ID: 0,53 mm, Layer Thickness: 1 µm Length: 30 m	<del>680,00 €</del>	578,00 €
MN726600.30	Capillary Column OPTIMA WAX ID: 0,25 mm, Layer Thickness: 0,25 µm Length: 30 m	<del>548,00 €</del>	465,80 €
MN726321.30	Capillary Column OPTIMA WAX ID: 0,32 mm, Layer Thickness: 0,25 µm Length: 30 m	<del>587,00 €</del>	498,95 €
MN726549.30	Capillary Column OPTIMA WAX ID: 0,53 mm, Layer Thickness: 1,0 µm Length: 30 m	<del>680,00 €</del>	578,00 €







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