



*im*Chem

24 rue Albert Joly - 78000 Versailles - France

Tel. : +33 9 72 32 10 17 06 - Fax : +33 1 83 64 60 45 - [info@imchem.fr](mailto:info@imchem.fr) - [www.imchem.fr](http://www.imchem.fr)

# imChem Vials

## Chromatography sample Vials

### Choosing Vials

We propose a wide range of vials available and suitable for the most popular instruments currently in use.

QUALITY

BEST  
VALUE

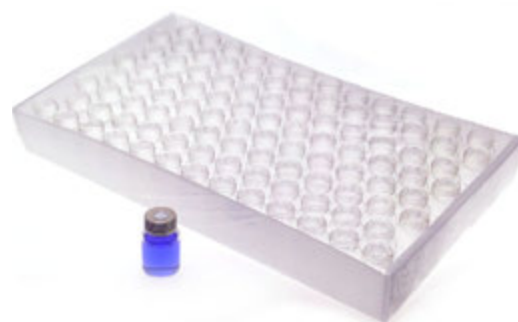


## Contents

<b>Autosampler Vials</b>	<b>6</b>
<b>Micro-Inserts &amp; Shell Vials</b>	<b>7</b>
1.5ml 8-425 Screw Thread Vials, ND8	8
<b>Screw-Thread Vials</b>	<b>9</b>
8-425 Screw Thread Caps and Septa	9
<b>Screw-Thread Vials</b>	<b>10</b>
Septa Pre-slit	10
Caps and Septa Pre-assembled	11
<b>Screw-Thread Vials</b>	<b>13</b>
1.5ml 9mm Thread Vials, ND9	13
9mm Screw Thread Caps and Septa	14
<b>Screw-Thread Vials</b>	<b>15</b>
Plastic Micro-Vials ND9 + ND11	15
<b>Screw-Thread Vials</b>	<b>16</b>
10-245 Screw Thread Caps and Septa	16
<b>Snap Caps Vials</b>	<b>17</b>
1.5ml, 11 mm Snap Ring Vials	17
<b>Crimp Neck ND11</b>	<b>18</b>
1.5ml, Crimp Neck Vials ND11	18
<b>Screw-Thread Vials</b>	<b>19</b>
4.0ml Screw Step Vials, 13-425 Thread	19
<b>Headspace Vials ND18 ND20</b>	<b>20</b>
What is GC Headspace?	20
<b>Headspace Vials</b>	<b>21</b>
Screw Thread Headspace ND18	21
<b>Headspace Vials</b>	<b>22</b>
Crimp-Top Headspace ND20	22
Headspace Vial and Septa issues	23
Headspace Vials and Closures	24
<b>Headspace Vials</b>	<b>25</b>
Crimp-Top Headspace ND20	25
EPA/Storage/VOA Vial	26

<b>Storage Vials</b>	<b>27</b>
<b>Accessories and</b>	<b>28</b>
<b>Reference Information</b>	<b>28</b>
Grimpers and Capping Systems	29
<b>Accessories and Reference Information</b>	<b>30</b>
Vial Racks	30
GC Septa	31
<b>Vials shapes and sizes synthetis</b>	<b>33</b>
<b>Compatibility chart</b>	<b>35</b>
Find the vials categories compatible with your model of autosampler	35

# Autosampler Vials



# Micro-Inserts & Shell Vials



KR150 - 150µl insert with mandrel interior & polymer feet. Suits for ND8 Vials.



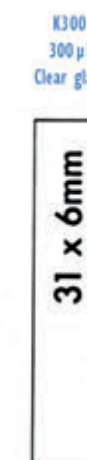
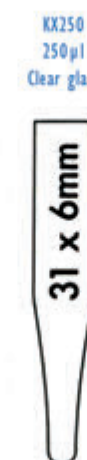
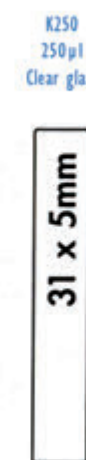
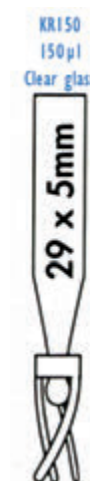
K250 - 250µl Micro-insert, flat bottom. Suits for ND8 Vials.



K300 - 300µl Micro-insert, flat bottom. Suits for ND9 Vials.



KR250 - 250µl with mandrel interior & polymer feet. Suits for ND9 Vials.



X181 - 8mm PE-Plug, soft, w/o insertion.

Shell vials are an economical choice for many routine HPLC applications. All ImChem shell vials are sold as kits including polyethylene push in cap, to assure proper fit and function. Vial selections include clear glass, amber glass.

The vials are preferentially used on instruments of the following manufacturers: Alcott, Shimadzu, Waters: (Wisp 96 respectively 48 Position Carousel).

Starburst cap eases syringe needle penetration, easy push-in & pull-out from vial. Recommended for HPLC usage.

A handy and inexpensive vial/closure combination for uncritical analyses.

Caps are made of high quality polypropylene to exact manufacturing tolerances and lined in a controlled manufacturing environment.

# Screw-Thread Vials

## 1.5ml 8-425 Screw Thread Vials, ND8

- The original, smaller opening vial with an 8-425 thread size screw cap.
- The dimensions of autosampler vials are various. They are designed to work in a variety of autosamplers requiring narrow neck vials.
- Available with black caps, and a variety of septa to meet the needs of your application.
- optimal performance w/ Shimadzu, Varian, Hitachi.
- Vials are manufactured of Clear, Type 1 Class A or Amber, Type 1 Class B borosilicate glass and include a write-on patch for sample identification.
- Fit all 1.5ml, 12x32mm, screw-thread 8-425 vial-based autosamplers.



### 1.5ml, 8mm Small Opening Screw Vials (vial only), 11.6x32mm

Description	Cat No
1.5ml clear screw vial, 8-425 thread	X817
1.5ml clear screw vial w/graduated marking spot, 8-425 thread	X827
1.5ml clear screw vial, 8-425 thread, USP type 1	X813
1.5ml clear screw vial w/graduated marking spot, 8-425 thread, USP type 1	X823
1.5ml amber screw vial, 8-4J5 thread, USP type 1	X835
1.5ml amber screw vial w/graduated marking spot, 8-425 thread. USP type 1 V845	X845

## 8-425 Screw Thread Caps and Septa

- Ready to use combination seals; no time-consuming and «tricky» assembly
- Available with black or white screw caps, with 8-425 thread.
- Available as closed top screw seals or with centre hole.
- Broad variety of different septa materials for almost all applications
- Caps are made of high quality polypropylene to exact manufacturing tolerances and lined in a controlled manufacturing environment.
- Our septa use only the highest quality materials to ensure proper function and can be pre-slit to ease needle penetration.
- Designed for multiple injections and/or longer sample cycles for both GC and LC applications.
- High quality silicone compounds are used to ensure proper re-sealing and reduced chances of coring.



### 8mm Screw-Thread Caps (cap only)

Description	Cat No
Black screw polypropylene cap, 5.5mm centre hole 8mm	E81
Black screw polypropylene cap, closed-top 8mm	E82
White screw polypropylene cap, 5.5mm centre hole 8mm	E83

### 8mm Septa (Septa only), 8x1.5mm

Description	Cat No
White PTFE/red Silicone septa	U81
Red PTFE/white Silicone septa	U82
Red PTFE/white Silicone/red PTFE septa	U83
Blue PTFE/white Silicone septa	U84

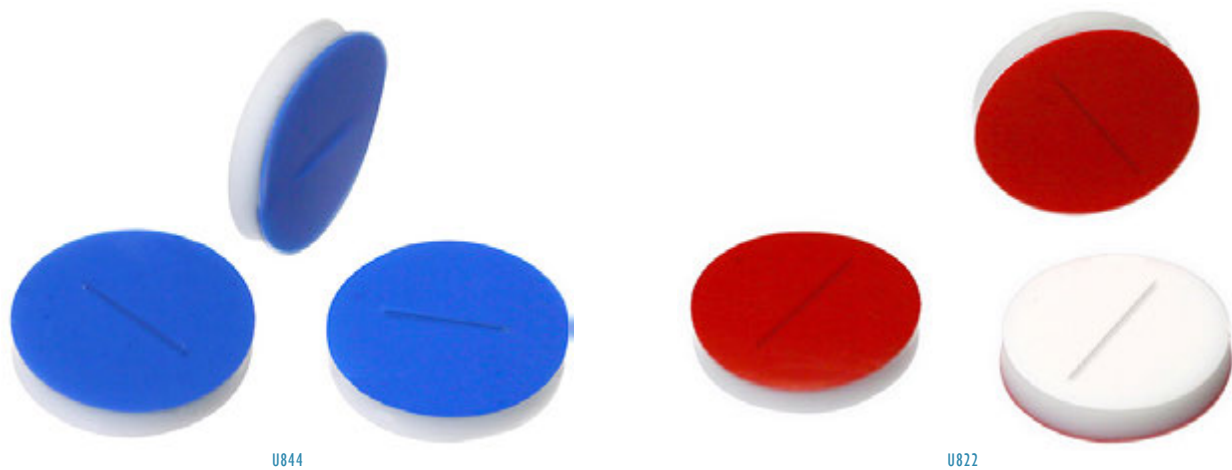


# Screw-Thread Vials

## Septa Pre-slit

- 8x1,5mm temperature resistant -60°C-200°C.
- 8-425 Thread Screw Cap, PTFE/Silicone,0.040”.
- Absence of elastomer layer reduces potential for contamination.
- Process without glue was used with PTFE membrane with silicone rubber or silicone key and keep the excellent characteristics of two kinds of materials respectively.

Description	Cat No
Pre-slit white PTFE/red Silicone septa	U811
Pre-slit red PTFE/white Silicone septa	U822
Pre-slit blue PTFE/white Silicone septa	U844



Our septa use only the highest quality materials to ensure proper function and can be pre-slit to ease needle penetration.

## Caps and Septa Pre-assembled

Caps & septa are already assembled to be ready to use without washing.

### Pre-assembled Caps and Septa



Description	Cat No
White PTFE/red silicone septa, 8mm black pp cap, 5.5mm centre hole	UE8181
Red PTFE/white silicone septa, 8mm black pp cap, 5.5mm centre hole	UE8281
Red PTFE/white silicone /red PTFE septa, 8mm black pp cap, 5.5mm centre hole	UE8381
Pre-slit white PTFE/red silicone septa, 8mm black pp cap, 5.5mm centre hole	UE81181
Pre-slit red PTFE/white silicone septa, 8mm black pp cap, 5.5mm centre hole	UE82281
Pre-slit blue PTFE/white silicone septa, 8mm black pp cap, 5.5mm centre hole	UE84481
White PTFE/red silicone septa, 8mm black pp cap, closed-top	UE8182
Red PTFE/white silicone septa, 8mm black pp cap, closed-top	UE8282
White PTFE/red silicone septa, 8mm white pp cap, 5.5mm centre hole	UE8183
Red PTFE/white silicone septa, 8mm white pp cap, 5.5mm centre hole	UE8283
Pre-slit white PTFE/red silicone septa, 8mm white pp cap, 5.5mm centre hole	UE81183
Pre-slit red PTFE/white silicone septa, 8mm white pp cap, 5.5mm centre hole	UE82283
Pre-slit blue PTFE/white silicone septa, 8mm white pp cap, 5.5mm centre hole	UE84483

# Screw-Thread Vials

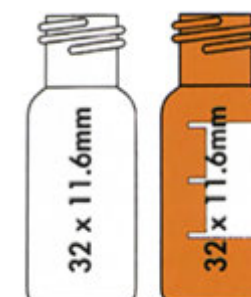
## 1.5ml 9mm Thread Vials, ND9

### The Universal Autosampler Vial

- It is dimensionally equivalent to 11mm crimp top vials and 10-425 screw vials. The 9mm screw vials can be used in any autosampler which used 11mm crimp top vials and 10-425 screw vials.
- Compared to 11mm crimp top type, the 9mm screw one can be much applied as hand removing convenient.
- The vials can be used on all common autosamplers due to their technical geometry, preferentially they are found on Agilent, HTA, Shimadzu, Thermo, Varian, Waters, etc.



- 9mm screw thread caps, septa, and vials are designed especially for use with Agilent's and other rotating or robotic arm samplers.
- 1.5ml, 12x32mm vials are manufactured of Clear, Type 1 Class A or Amber, Type 1 Class B borosilicate glass and include a write-on patch for sample identification
- Fit all 1.5ml, 12x32mm, screw-thread vial based autosamplers.
- Shorter screw cap allows the robotic autosampler to function properly.
- Wider opening prevents syringe problems.
- Variety of colors and liner material.
- Unique thread design for consistently secure seal
- Precision-formed neck for optimal robotic arm handling
- 40% larger opening than standard narrow opening vials
- Provide graduated write-on marking area, measures 0.5, 1.0 and 1.5ml



### 1.5ml, 9mm Wide Opening Screw Vials (vial only), 11.6x32mm

Description	Cat No
1.5ml clear screw vial, 9mm thread	X917
1.5ml clear screw vial w/graduated marking spot, 9mm thread	X927
1.5ml clear screw vial, 9mm thread, USP type 1	X913
1.5ml clear screw vial w/graduated marking spot, 9mm thread, USP type 1	X923
1.5ml amber screw vial, 9mm thread, USP type 1	X935
1.5ml amber screw vial w/graduated marking spot, 9mm thread, USP type 1	X945



### 9mm Thread Caps (cap only)

Description	Cat No
Blue short screw polypropylene cap, 6mm centre hole 9mm	E91
Blue short screw polypropylene cap, closed-top 9mm	E92



### 9mm Septa (septum only), 9x1 mm

Description	Cat No
White PTFE/red silicone septa	U91
Red PTFE/white silicone septa	U92
Red PTFE/white silicone/red PTFE septa	U93
Blue PTFE/white silicone septa	U94

# Screw-Thread Vials

## 9mm Screw Thread Caps and Septa



- Synthetic Rubber/PTFE material. In contrast to Natural Rubber it is not suitable for multiple injections, however softer for a safe penetration.
- Short thread seals also available as closed top version (blue cap).
- Screw cap with the design of a crimp cap; therefore suitable for robotic handling.
- Already assembled seal with slitted liner available, in order to avoid vacuum within the vial in case of multiple injections.
- With pre-cut septa only the silicone material is slitted in cross-shape while the PTFE lamination remains intact. This way concentration changes occurring with completely slitted septa can be avoided.
- Caps are made of high quality polypropylene to exact manufacturing tolerances and lined in a controlled manufacturing environment.
- Available cap colors include blue.
- Our septa use only the highest quality materials to ensure proper function and can be pre-slit to ease needle penetration.



UE9191



UE91191



UE9291



UE92291



UE9391

UE9491



UE9292

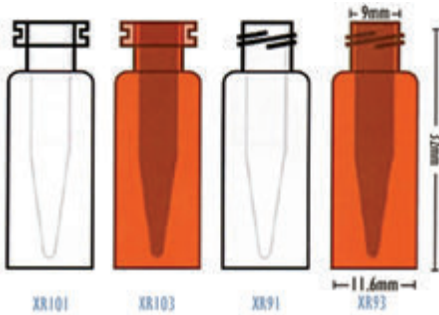
UE9492

### Pre-assembled Caps and Septa

Description	Cat No
White PTFE/red Silicone septa. 9mm blue PP cap, 6mm centre hole	UE9191
Red PTFE/white Silicone septa, 9mm blue PP cap, 6mm centre hole	UE9291
Red PTFE/white Silicone /red PTFE septa, 9mm blue PP cap, 6mm centre hole	UE9391
Blue PTFE/white Silicone septa, 9mm blue PP cap, 6mm centre hole	UE9491
Pre-slit white PTFE/red Silicone septa, 9mm blue pp cap, 6mm centre hole	UE91191
Pre-slit red PTFE/white Silicone septa, 9mm blue pp cap, 6mm centre hole	UE92291
Pre-slit blue PTFE/white Silicone septa, 9mm blue pp cap, 6mm centre hole	UE94491
White PTFE/red Silicone septa, 9mm blue pp cap, closed-top	UE9192

## Plastic Micro-Vials ND9 + ND11

- Compatible with many solvents.
- Optimal choice when working with proteins
- ideal for ic applications
- Suitable for insert-free micro sampling
- Economical to purchase
- Translucent and chemically resistant material
- Traditionally the material of choice for LC or LC/MS and CE
- For pH-sensitive samples, sodium or heavy metals analysis
- Screw and snap caps available



### ND9 Plastic Screw Micro-Vials (vial only)

Description	Cat No
300µl clear pp short ring micro-vial	XR91
300µl clear pp short ring micro-vial	XR93

- Standard:11.6 x 32mm, 9mm Screw-Thread
- Capacity:300µl
- Polypropylene-lined insert



XR91+UE9191

XR93+UE9191

### ND11 Plastic Snap Micro-Vials (vial only)

Description	Cat No
300µl clear pp snap ring micro-vial	XR101
300µl amber pp snap ring micro-vial	XR103

- standard:11.6 x 32mm,11mm snap cap
- Capacity:300µl
- Polypropylene-lined insert



XR101

UE101101

XR103

UE102101



# Screw-Thread Vials

## 10-245 Screw Thread Caps and Septa

1.5ml Big Mouth Step Design Screw-Thread Vials, 12 x 32mm, 10-425 Thread

- 40% larger opening than other vials.
- step profile automatically centers glass flange limited volume inserts.
- Preassembled caps with septa, with or without vials.
- Designed for Waters Alliance® autosamplers

The Big Mouth Step Vial System has a larger ID than conventional vials and incorporates finish that is uniquely designed to allow the insert to be precisely aligned in the center of vial. This precise alignment provides maximum sample withdrawal and eliminates any chance missed injections.

### 1.5ml, 10mm Big Mouth Screw Vials (vial only),11.6x32mm

Description	Cat No
1.5mL clear screw vial, 10-425 thread, USP type 1	XP1013
1.5mL clear screw vial w/graduated marking spot, 10-425 thread, USP type 1	XP1023
1.5mL amber screw vial, 10-425 thread, USP type 1	XP1035
1.5mL amber screw vial w/graduated marking spot, 10-425 thread, USP type 1	XP1045

- Fit all 1.5ml, 12 x 32mm, screw-thread vial based autosamplers.
- Vials are manufactured of Clear, Type 1 Class A or Amber, Type 1 Class B borosilicate glass and include write-on patch for sample identification.



XP1045



UPEP102101

### Caps and Septa

Description	Cat No
White PTFE/Red Silicone Septa. 0.060"	UP101
Red PTFE/White Silicone, 0.060"	UP102
Black caps, Pre-assembled, White PTFE/Red Silicone Septa	UPEP101101
Black caps, Pre-assembled, Red PTFE/White Silicone Septa	UPEP102101

- Designed for single injection and/or short sample cycles, particularly for LC applications
- Absence of elastomer layer reduces potential for contamination.

# Snap Caps Vials

## 1.5ml, 11 mm Snap Ring Vials



E101 - UE1022101 - U102



UE102102

UE104103

### Pre-assembled Caps and Septa

Description	Cat No
Natural Seal, White PTFE/Red Silicone Septa	UE101101
Natural Seal, Red PTFE/White Silicone Septa	UE102101
Natural Seal, Red PTFE/White Silicone/Red PTFE Septa	UE103101
Blue Seal, White PTFE/Red Silicone Septa	UE101102
Blue Seal, Red PTFE/White Silicone Septa	UE102102
Blue Seal, White PTFE/Red Silicone Septa	UE101103



- Our septa use only the highest quality materials to ensure proper function
- Caps are made of high quality polypropylene to exact manufacturing tolerances and lined in a controlled manufacturing environment.
- Designed for single injection and/or short sample cycles, particularly for LC applications.

### 1.5ml, 11mm GC snap-top Vials (vial only), 11.6x32mm

Description	Cat No
1.5ml Clear Snap-Top vial	X1017
1.5ml Clear Snap-Top vial w/ graduated marking spot	X1027
1.5ml Clear Snap-Top vial, USP type 1	X1013
1.5ml Clear Snap-Top vial w/graduated marking spot, USP type 1	X1023
1.5ml Amber Snap-Top vial, USP type 1	X1035
1.5ml Amber Snap-Top w/graduated marking spot, USP type 1	X1045



X1023 - UE10101



X1045 - UE10103

### Snap Top Vials

These vials are ideal for high throughput analyses. The polyethylene caps used with snap top vials offer a positive seal, yet are quickly and easily attached and removed without the use of crimping or decapping tools.

They are available in clear glass and amber glass, with or without marking spots. Snap top vials should not be used for long term storage.

# Crimp Neck ND11

## 1.5ml, Crimp Neck Vials ND11

The patented Crimp Seal is versatile, working as either a snap-on or crimp-top cap. Simply use a standard crimping tool to secure Seal onto any crimp-top vial. It's that easy!

The Crimp Seal offers the following advantages:

Works on any crimp style vial.

- Crimps smoothly and easily no more sharp edges from an aluminum cap.
- Easily decaps using standard decapping tools.
- Eliminates inconsistent sealing that results from improper crimping.
- Unique design holds the septum firmly in place.
- Provides better seal than snap caps.
- Meets CONEG standards. The Crimp Seal is free of heavy metals easily disposed of or incinerated..

### Pre-assembled Caps and Septa

Description	Cat No
Aluminum cap and white PTFE/red silicone septa	UE111111
Aluminum cap and red PTFE/white silicone septa	UE112111
Aluminum cap and red PTFE/white silicone/red PTFE septa	UE113111

- Crimp-top aluminum cap, 5.5mm centre hole.
- Directly compatible with autosamplers.



X1145

### 1.5ml Crimp-Top Vials (vial only), 11.6 x 32mm

Description	Cat No
1.5ml clear crimp-top vial, USP type 1	X1113
1.5ml clear crimp-top vial w/graduated marking spot, USP type 1	X1123
1.5ml amber crimp-top vial, USP type 1	X1135
1.5ml amber crimp-top vial w/graduated marking spot, USP type 1	X1145



The vials are preferentially used on instruments of the following manufacturers:

Agilent, Carlo Erba, CTC, DANI, Fisons, Gerstel, Jasco, PerkinElmer, Shimadzu, Spark, Thermo Scientific, Varian, etc.

# Screw-Thread Vials

## 4.0ml Screw Step Vials, 13-425 Thread

The vials are preferentially used on instruments of the following manufacturers: Dionex, Shimadzu, Spark, Varian, VWR (Merck)/Hitachi, Waters' (Wisp 48 Position Carousel), etc.

- Ready to use combination seals; no time-consuming and «tricky» assembly
- No contamination of the liner with sweat/fat that normally is caused by manual assembly
- Available as closed or open top screw seals with 13-425 thread
- Tamper-proof evident and recloseable zip-lock bags ensure product safety
- Broad variety of different septa materials for almost all applications

### 4.0ml WISP 48 Screw-Thread Step Vials (vial only) 15 x 45mm

Description	Cat No
4.0ml clear screw step vial, 13-425 thread	X1317
4.0ml clear screw step vial w/graduated marking spot	X1327
4.0ml amber screw step vial, USP type 1	X1335
4.0ml amber screw step vial w/graduated marking spot, USP type 1	X1345



X1345+UE131131



### Pre-Assembled, 13-425 Screw-Thread Caps and Septa

Description	Cat No
White PTFE/red Silicone septa, 13mm black PP cap, 8.5mm centre hole	UE131131
Red PTFE/white Silicone septa, 13mm black PP cap, 8.5mm centre hole	UE132131
Red PTFE/white Silicone /red PTFE septa, 13mm black PP cap, 8.5mm centre hole	UE133131
Nature PTFE/nature Silicone septa, 13mm black PP cap, 8.5mm centre hole	UE134131
Nature PTFE/nature Silicone septa, 13mm black PP cap, closed-top	UE134132
Pre-slit white PTFE/red Silicone septa, 13mm black PP cap, 8.5mm centre hole	UE1311131

- Standard: 13x1.5mm temperature resistant -60°C-200°C
- Ideal for general laboratory use and storage of samples.
- Chemically inert caps suitable for most chromatography and storage applications.

# Headspace Vials ND18 ND20

## What is GC Headspace?

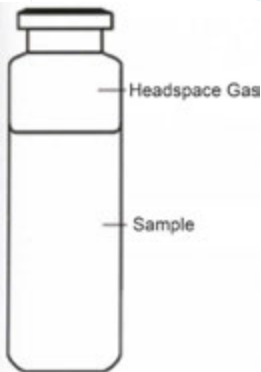
### Simple Definition

‘Headspace’ is the gas space above the sample in a chromatography vial. Volatile sample components diffuse into the gas phase, forming the headspace gas.

Headspace analysis is therefore the analysis of the components present in that gas.

### Suitability

Headspace gas chromatography is most suited to the analysis of the very light volatiles in samples that can be efficiently partitioned into the headspace gas volume from the liquid or solid matrix sample. Higher boiling volatiles and semi-volatiles are not detectable with this technique due to their low partition in the gas headspace volume. Partitioning is covered in more details later in this article.



Headspace gas analysis also lends itself to automation for quality control or sample screening. This is made possible by modern instrumentation, through which highly reproducible samples can be prepared in an efficient and accurate manner.

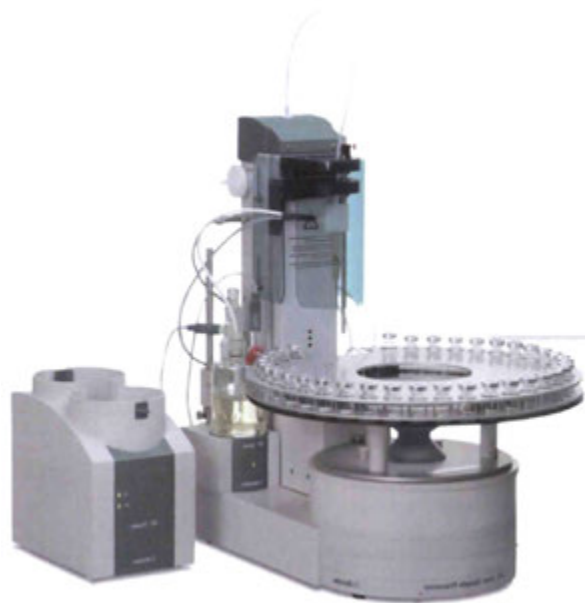
Complex sample matrices, which may be difficult to analyse directly or would otherwise require sample extraction or preparation, are ideal candidates for headspace since they can be placed directly in a vial with little or no preparation. This saves both time and money.

### Applications

Headspace GC is used for the analysis of volatile and semi-volatile organics in solid,

liquid and gas samples. The popularity of this technique has grown over recent years and has now gained worldwide acceptance for analyses of alcohols in blood and residual solvents in pharmaceutical products.

Other common applications include industrial analyses of monomers in polymers and plastic, flavour compounds in beverages and food products, and fragrances in perfumes and cosmetics.



# Headspace Vials

## Screw Thread Headspace ND18

### Work on a Variety of Instruments

- Excellent performance on all CTC Analytics Systems requiring magnet compatible closures
- Modern Agilent Headspace Samplers
- Perkin Elmer Headspace Samplers
- Tekmar and most other autosamplers that do not require transports

### 18mm - Headspace GC Vial

Description	Cat No
Clear, 10ml Screw Headspace Vial, Round Bottom 22.5x46mm	XC101
Clear, 20ml Screw Headspace Vial, Round Bottom 22.5x75.5mm	XC201



### 18mm - Headspace GC, Septa & Caps

Description	Cat No
18mm Magnetic Precision Screw Metal Cap	EC001
Blue PTFE/White Silicone septa, 17.5x1.5mm	UC001
Blue PTFE/White Silicone septa, 18mm Magnetic Precision Screw Metal Cap	UCEC001

- Screw headspace caps, septa, and vials are designed especially for use with Agilent’s and CTC rotating or robotic arm samplers.
- Certified by GC/MS to be contaminate free for VOC Analysis.
- 10 or 20ml clear precision threaded vial.
- Magnetic screw caps -8 mm centre hole.
- Septa are blue (PTFE) sample side; white (Silicone) outside.
- 10ml, 20ml, 22.5 x 46/75.5mm vial, 17.5 x 1.5mm septa, 18mm metal screw cap



# Headspace Vials

## Crimp-Top Headspace ND20

imChem high quality headspace vials have a beveled neck for a secure seal, uniform glass thickness for even heat distribution and a stable, strong design for ease of use.

They are available with rounded or flat bottom profiles for accurate instrument compatibility.

Use with 20mm headspace caps and septa and seal with 20mm crimping accessories.

### A Complete Selection of 20mm Crimp Headspace Vials Count on Microliter to deliver a clean, well manufactured headspace vial.

- Flat Bottom Vials for late model Agilent Headspace Samplers
- 10ml Flat&Beveled Crimp Seal Finish Vials for CTC Analytics PAL Systems Aluminum seals with the magnetic characteristics of metallic seals
- Improved 20ml vial for CTC Analytics Systems
- Septa designed for optimum performance in a variety of applications and heat ranges



## Headspace Vial and Septa issues

In order to achieve the best performance with headspace GC, careful attention should be paid to sample preparation and instrument setup. The vial and cap are a very important, and often overlooked, element in the headspace analysis preparation.

It is important to ensure that the correct vial and cap are used!

### Vial Size

Headspace vials are available in 6, 10 and 20ml sizes. Use a vial large enough to ensure adequate headspace or phase ratio without excessive dilution of the components of interest. Phase ratio is discussed later and should normally be at least 50% of the sample volume.

### Bottom Profile

Headspace vials may be round-bottomed or flat-bottomed. Both of types are suitable but round-bottomed vials tend to be stronger and may work more reliably when the autosampler moves the vials into and out of the incubator. Round-bottomed vials also tend to withstand higher pressures and are more suitable for elevated temperatures and applications such as derivatization.

### Correct Crimping

Headspace vials must be correctly crimped. Ensure the crimper is not worn and is adjusted correctly. The cap should not turn after application to the vial. Find out more about correct vial crimping.

### Septa Choice

Use septa suitable for the temperature of the system. Poor septa can result in bleed and so contaminate the headspace.

### Cleanliness of Vials

Vials should be clean. Not all vials are the same and dirty or re-washed vials can cause ghost peaks or erroneous results.








# Headspace Vials

## Headspace Vials and Closures

### Headspace Vials + Closures ND20 + ND18 (Headspace Compatibility Chart)

Choosing the right Headspace Vials at the bottom:

				
XC101	XC201	XJ1017	XJT2013 USP type 1	XJ2017 XJ2013 USP type 1
CIC Combi PAL (Varian, Gerstel, Atas, Shimadzu), PerkinElmer*, Agilent	CIC Combi PAL (Varian, Gerstel, Atas, Shimadzu), PerkinElmer*, Agilent	Agilent, Carlo., Erba, DANI, Fisons	CIC Combi PAL (Varian, Gerstel, Atas, Shimadzu), Thermo Scientific, PerkinElmer*, Triplus HIS ***	Agilent, Carlo., Erba, DANI, Fisons

### Headspace Vials and Closures

Beveled-neck headspace vials are available in both 10 ml and 20ml capacities, flat or rounded bottom. The 20 mm crimp caps provides a consistently secure seal.

- Choice of crimp or screw top vials
- Beveled top for maximum secure seal
- TWO neck lengths available
- Choice of a pressure safety release cap at 45 psi
- Available in flat or rounded

## Crimp-Top Headspace ND20

- Superior USP Type 1, Flat & Round bottom.
- Pre-assembled 20mm crimp seals with septa.
- Pressure release seals have bridges and score lines in the aluminum seal.
- strict tolerances ensure reliable results.
- Flat bottom headspace vials - Recommended for HP/Agilent, Shimadzu.
- Crimp headspace caps, septa, and vials are designed especially for use with Agilent's and other rotating or robotic arm samplers.
- 10ml, 20ml, 22.5 x 46/75.5mm vial, 20 x 3mm septa, 20mm aluminum crimp cap.



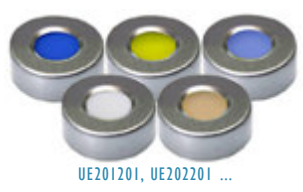
### Magnetic Crimp Caps

ImChem magnetic crimp caps are suitable autosamplers that use magnetic transportation.

The ImChem 20mm bi-metallic magnetic headspace seal (DE202) has a magnetic steel central disk making it suitable for magnetic transportation by an autosampler. It also has an aluminum skirt to allow easier crimping and decrimping.

### Crimp-Top- Headspace GC Vial ND20

Description	Cat No
Clear, 10ml Crimp Headspace Vial, Flat Bottom 22.5x46mm	XJ1013
Clear, 20ml Crimp Headspace Vial, Flat Bottom 22.5x75.5mm	XJ2013
Clear, 20ml Crimp Headspace Vial, Round Bottom 22.5x75.5mm	XJT2013



### 20mm - Headspace GC, Septa & Cap

Description	Cat No
White PTFE/White Silicone Septa, 20mm Silver Aluminum Crimp-Top Cap	UE201201
Nature PTFE/nature Silicone Septa, 20mm Silver Aluminum Crimp-Top Cap	UE202201
White PTFE/blue Silicone Septa, 20mm Silver Aluminum Crimp-Top Cap	UE203201
White PTFE/white Silicone Septa, 20mm Blue Magnetic Aluminum Crimp-Top cap	UDE201202
Nature PTFE/nature Silicone Septa, 20mm Blue Magnetic Aluminum Crimp-Top cap	UDE202202
Grey PTFE/Pharma-Fix Butyl Septa, 20mm Silver Aluminum Crimp-Top Cap	OUE207201
Grey PTFE/Pharma-Fix Butyl Septa, 20mm Blue Magnetic Aluminum Crimp-Top cap	OUE207202

# Storage Vials

## EPA/Storage/VOA Vial

- Container, liner and closure cleaned and assembled.
- Clear or amber.
- Open top caps & closed -top caps
- PTFE faced 0.125" silicone septa.
- Each case lot numbered.



### Why Choose VOA Vials?

VOA vials are specifically designed for use with volatile organic compounds. They are available in both clear and amber borosilicate glass and have a temperature range of -40° C to 125° C.

- Ready to use combination seals; no time-consuming and 'tricky' assembly.
- No contamination of the liner with sweat/fat that normally is caused by manual assembly.
- Available as closed top screw seals or with centre hole in white 24-400 caps.
- Broad variety of different septa materials for almost all applications.
- Also ultraBond Seals ND24 are offered, i.e. that the cap and the Silicone/PTFE liner of these seals form an inseparable unit avoiding the problem of liners falling out of the cap. This 100% firm fit of the liner is achieved by a patented process that requires no adhesives, but
- instead changes the molecular structure of both components to achieve the fixation.
- Also pre-sealed vials are available!

### EPA/Storage/VOA Septa and Caps

Description	Cat No
Nature PTFE/Nature Silicone Septa, 22x3mm	UE221-I
Nature PTFE/Nature Silicone Septa, 22x1.5mm	UE221-II
Nature PTFE/Nature «sFlicone Septa, 22x3mm, 24mm White Opened-Top Screw PP Cap	UE221221
Nature PTFE/Nature Silicone Septa, 22x3mm, 24mm White Closed-Top Screw PP Cap	UE221222
Nature PTFE/Nature Silicone Septa, 22x3mm, 24mm Black Opened-Top Screw PP Cap	UE221223
Nature PTFE/Nature Silicone Septa, 22x3mm, 24mm Black Closed-Top Screw PP	UE221224



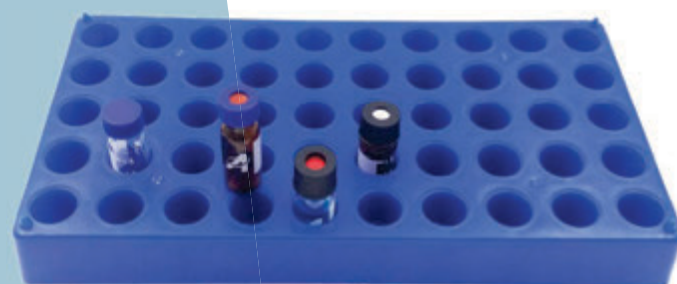
### EPA/Storage/VOA Vial

Description	Size (mm)	Screw-Thread Size	Cat No
20ml Clear Pre-Cleaned VOA Vials	27.5x57	24-400	X2017
20ml Amber Pre-Cleaned VOA Vials	27.5x57	24-400	X2027
30ml Clear Pre-Cleaned VOA Vials	27.5x75	24-400	X3017
40ml Clear Pre-Cleaned VOA Vials	27.5x95	24-400	X4017
40ml Amber Pre-Cleaned VOA Vials	27.5x95	24-400	X4027
60ml Clear Pre-Cleaned VOA Vials	27.5x140	24-400	X6017
60ml Amber Pre-Cleaned VOA Vials	27.5x140	24-400	X6027



- The vials are preferentially used on instruments of the following manufacturers:
- Agilent, Dionex, Shimadzu, Tekmar, Thermo Scientific, Varian
- Volumes of 20ml, 30ml, 40ml and 60ml available
- Pre-sealed vials are available, especially needed for EPA analysis
- 20ml-60ml, 22 x 3mm septa, 24mm pp screw cap.

# Accessories and Reference Information



## Grimpers and Capping Systems

Your selection and technique for crimping can have a significant effect on the preservation of sample integrity.

The imChem System creates a perfect seal, ensuring sample integrity.

A correctly crimped vial is neither over-crimped nor under-crimped.

Over-crimping may cause coring or poor septum resealing.

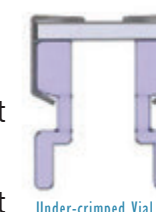
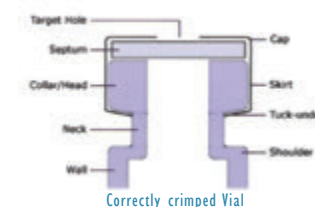
Under-crimping can cause evaporation problems.

With proper adjustment of the vial crimpers, perfect crimping can be achieved every time.

When the vial is crimped perfectly, the cap should not be able to rotate and the septum should appear smooth and level.

An inappropriate crimp cannot be recognized by trying to turn the seal, as completely PTFE-laminated liners have a very slippery surface on glass rim, which allows anyone to turn the cap, if the right torque is used.

The turning of the cap is even easier when the liner is sitting on a headspace (bevelled top) glass rim, as it then only has very small surface to rest on.



### Crimp-Top- Headspace GC Vial ND20

Description	Size	Weight	Cap size	Cat No
11mm crimp seals	41x76x210mm	450g	11X7.3-7.7mm, Thickness 0.2mm	CLTE11
20mm crimp seals	41x76x210mm	450g	20.5X7.3-7.7mm, Thickness 0.2mm	CLTE20



- Painted, plated and coated for maximum corrosion resistance
- Adjustable stop for optimal sealing performance
- Textured handles for excellent grip
- Controlled, low-effort method for removing caps, reducing both sample spillage and breakages

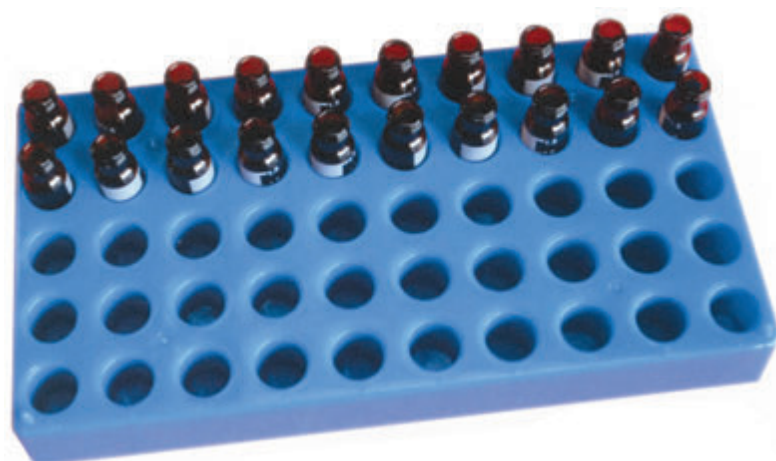


# Accessories and Reference Information

## Vial Racks

Description	Cat No
Vials Rack for 1.5ml vials, blue, 50 holes, 1 pcs/pack	TX001
Vials Rack for 4ml vials, blue, 50 holes, 1 pcs/pack	TX002

- 50 holes
- Matched with 1.5ml and 4ml vials
- Made by polypropylene
- Easy handling and transportation of sample vials.
- stable standing position because of solid construction.
- Custom-tailored vial racks can be manufactured according to customer's specification

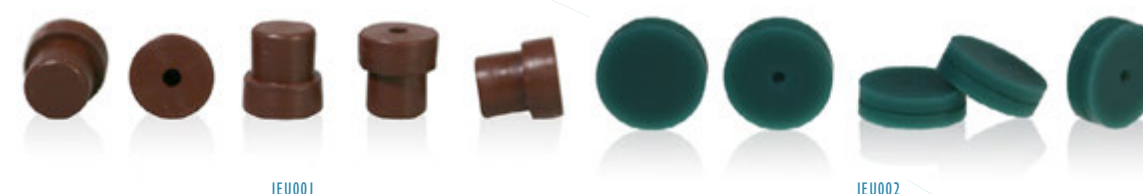


TX001

## GC Septa

These GC septa have been developed to:

- Operate at true operating temperatures up to 340 o C
- Provide better, cleaner chromatography
- Offer a longer operating life
- Be packed in a chromatographically clean container



IEU001

IEU002

### High performance GC Septa

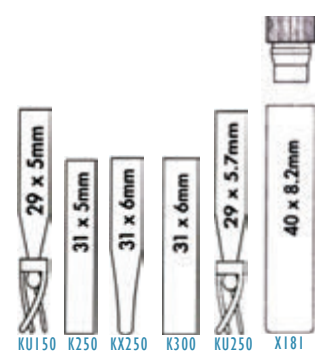
Description	Cat No
GC Plug for Shimadzu GCs, Thermolite color, 5.5x7x7.5mm, temperature resistant 340°C, 25pcs/glass bottle	IEU001
GC Septa, Ice blue color, 11x3mm, temperature resistant 250°C, 25pcs/glass bottle	IEU002



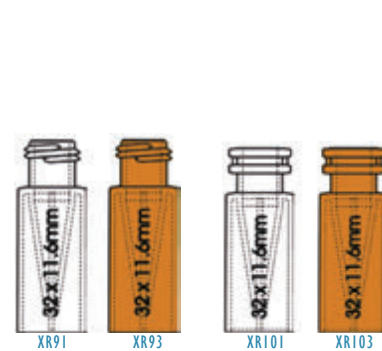
# Vials shapes and sizes synthetic<sup>1</sup>

<sup>1</sup> Visuals are not contractual

Micro-Inserts & Shell Vials



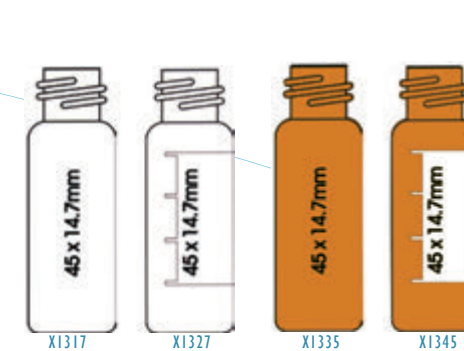
PP vials Crimp Neck ND11



Crimp Neck ND11



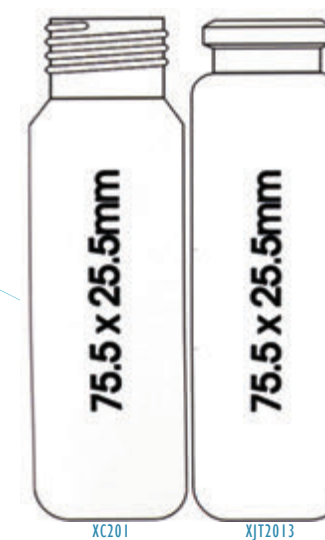
Screw Neck ND13



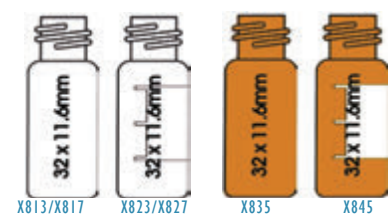
Headspace

More series, see on page 24 for compatibility Chart...

Screw Thread ND18 Crimp-Top ND20



Screw Neck ND8, small opening



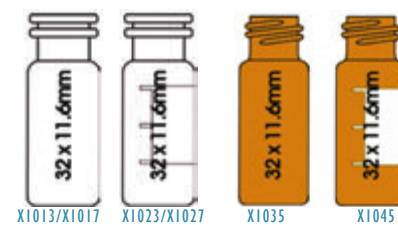
Short Thread ND9



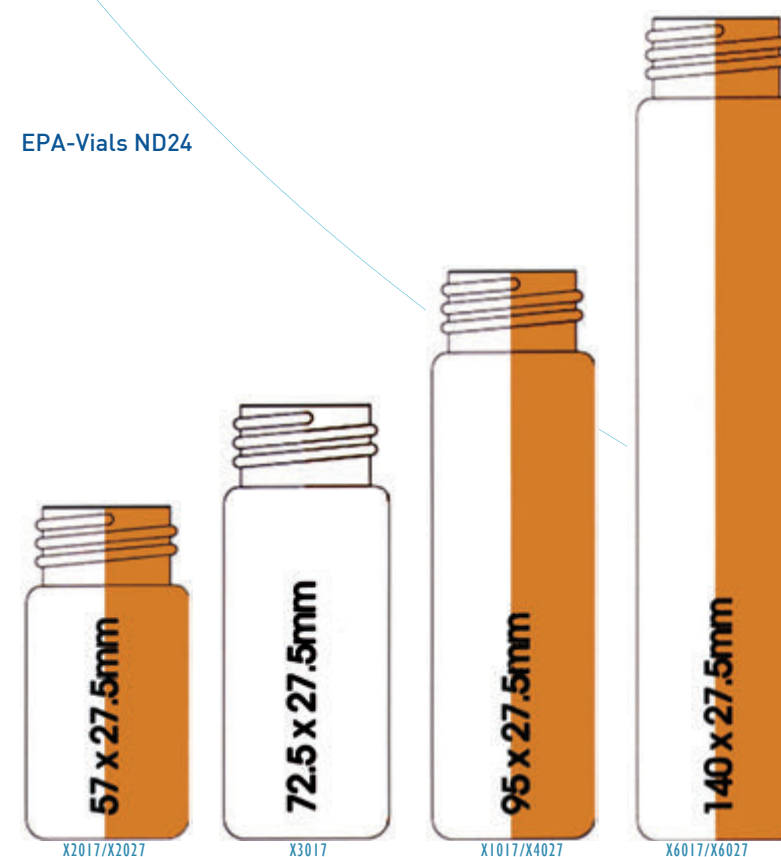
Screw Neck ND10, wide opening



Snap Ring ND11



EPA-Vials ND24



# Compatibility chart

Find the vials categories compatible with your model of autosampler

**F** mark indicates that a cap having an outer flange is required — **M** mark indicates that a magnetic seal is required  
 Certain autosamplers require the purchase of optional vial trays and and, in few cases, programming upgrades to use all of the vials listed.

Brand	Model	Crimp 11mm Vial	Screw 8-425 Vial	Screw 9mm Vial	Screw 10-425 Vial	Screw 13mm Vial 15x45mm	Headspace
Agilent	1050	■		■			
	1090A	■	■	■			■
	1100/1200 Well-plate	■		■			
	1100/1200 NAnoFlow	■		■			■
	6850ALS	■					
	7673A/7683	■					
	7680A 5FE/7694/G1888						■
	Model 220						
Al	42 position Tray	■					
	60 Position Tray						
AIM	CPS-100/200	■	■	■			
Alcott	718AL/719D	■	■	■			
Alpha M.O.S	Fox/Prometheus	■	■	■			M
	Kronos	■	■	■			
Antec Leyden	ALEXYS AS 100	■	■	■			
ATAS GL	Focus	■	■	■			M
Beckman Coulter	501/507/System Gold	■	■	■		■	
Bruker	Map II	■	■	■	■		
	LC51					■	
CTC Analytics	LC PAL / GC PAL	■					
	Combi PAL	■	■	■			M
	HTC PAL/HTS PAL	■	■	■			
	TwinPAL	■	■	■			

Brand	Model	Crimp 11mm Vial	Screw 8-425 Vial	Screw 9mm Vial	Screw 10-425 Vial	Screw 13mm Vial 15x45mm	Headspace
DANI	IFC PAL		■	■			
	Master AS	■	■	■			
	Master DHS						■
	ALS-1000/39.80/86.80	■					
DIONEX	HSS 39.50/86.50/SPT 37.50						■
	AS-HV		■	■			
	Ultimate 3000	■	■	■			
	ASI-100/AS50	■	■	■			
Dynatech	AS-40		■			■	
	FAMOS	■	■	■			
Dynatech	LC-241	■	■	■			
Eksigent	NanoLC-AS1	■	■	■			
ESA	540-MT	■	■	■	■	■	
	540				■		
EST	Markelov 9000	■	■	■			■
	LC-241 plus	■	■	■			
Fisons	Cobra	■	■	■			
	A-200S/AS 150/800/8000	■	■	■			
GBC	LC1650	■	■	■	■	■	
GE Healthcare	Ettan A-950	■	■	■			
GE Instruments	Sievers 900		■	■	■		
Gerstel	MPS 2	■	■	■	■		M
	MPS 3	■	■	■			
Gilson	234/Astred/Aspec	■	■	■			
	235	■	■	■			

Brand	Model	Crimp 11mm Vial	Screw 8-425 Vial	Screw 9mm Vial	Screw 10-425 Vial	Screw 13mm Vial 15x45mm	Headspace
	231 XL/232 XL/233 XL	■	■	■			
	215	■	■	■	■		
	250	■	■	■			
Gynkotek/Softron	GINA 50/160	■	■	■			
HTA	HT310A	■	■	■			
	HT300A	■					
	HT200H	■					
Jasco	851/AS950/1550/1555		F				
	AS-2059/AS2059Plus		F		■		
	AS-2055/AS/2057		F		■		
	LEAP CLPAL/GC PAL	■	■	■	■		
	Combi PAL	■	■	■	■		
	HTC PAL/HTS PAL	■	■	■	■		
HITACHI	AS-1000	■	■	■			
	AS-2000	■	■	■			
	AS-4000	■		■			
	Lacrom L-7200/7250	■	■	■			
	Lacrom Elite L-2200	■	■	■			
Perkin-Elmer	Autosystem/AS-2000	■	■	■		■	
	Clarus 500/600	■		■			
	Integral 4000	■	■	■			
	ISS-100/200/Series 200	■	■	■			
	Model 225	■	■	■			
	HS16/40/120						■
	LC Plus	■	■	■			
	Turbomatrix HS110						■
Shimadzu	AOC-8B/9 AOC-14/1400	■	■	■			
	AOC-5000	■	■	■	■		M
	AOC-20	■		■		■	
	AOC-20S	■	■	■			■
	HSS-2B/4B						■
	SIL-2A					■	

Brand	Model	Crimp 11mm Vial	Screw 8-425 Vial	Screw 9mm Vial	Screw 10-425 Vial	Screw 13mm Vial 15x45mm	Headspace
	SIL-2/6A/6B/9A Flange		F		■		
	SIL-10A		■		■		
	SIL-20A	■	■	■	■		
	SIL-HT/10ADVP	■	■	■	■		
	LC-2010	■	■	■	■		
ThermoScientific	SurveyorTM/accela	■	■	■			
	AS3000/TraceGC/	■		■			
	Surveyor Plus TM Lite	■	■	■			
	TriPlus AS	■	■				■
	TriPlus HS						■
	TriPlus	■	■	■	■		■
Varian	CP-8410	■	■	■	■	■	
	Genesis						■
	CombiPAL	■	■	■	■		M
	8034/8035/8100/8200	■	■	■			
	9095/9100	■	■	■			
	920-LC/940-LC	■	■	■			
	Prostar 400/410/420/430	■	■	■	■		
Waters	WISP 48					■	
	717Plus	■	■	■			
	Alliance 2690	■	■	■	■		
	Model 2707	■	■	■			
	Model 2767		■	■	■		
	Model 2777				■		
	Acquity	■	■	■	■		
	Acquity Sample Organizer	■	■	■	■		
	NanoAcquity	■	■	■			
	CaptLC	■	■	■			
Spark-Holland	Symbiosis/reliance	■	■	■	■		
Tosoh	TSK-6080/AS-8010/ AS-8020	■	F		■	■	



24 rue Albert Joly - 78000 Versailles - France

Tel. : +33 9 72 32 10 17 06 - Fax : +33 1 83 64 60 45 - [info@imchem.fr](mailto:info@imchem.fr) - [www.imchem.fr](http://www.imchem.fr)