

La-Pha-Pack®



*Your Partner for reliable
closure technique in
laboratories*

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NEW

VIALS



Page 11

10ml + 20ml Precision Thread Vials with Magnetic Screw Seals (8mm centre hole/closed top)

NEW

SEALS



Page 10

8mm, 11mm Crimp Seals, 8mm Screw Seals, 9mm Short Thread Seals and 11mm Snap Ring Seals with new RedRubber/PTFE Septa

NEW

LA-PHA-PACK®



Page 13

Headspace Compatibility Chart



Page 12

1.5ml PP Short Thread Vials transparent and amber + 0.7ml PP Short Thread and Snap Ring Vials, transparent



Page 11

Magnetic Short Thread Cap ND9 for CTC GC PAL + Thermo Scientific TriPlus Autosampler



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Pre-Screwed/Pre-Crimped Vials



Page 12

Vials with integrated Micro-Insert and TopSerts as modern sample containers for Micro-Sampling



Page 10

Short Thread Seals ND9 with Pre-cut Septum for HPLC



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2in1 KITs



Page 12

Screw Neck Vials and closures with different volumes in clear and amber glass for storage purposes



Page 13

Snap Ring Seals with soft PE Cap available in transparent and blue



Page 13

17mm HPLC Syringe Filters and 30mm HPLC Syringe Filters with Glass Fibre Prefilter

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Preface

Dear Customer!

The new edition of our product catalogue was further optimized, in order to facilitate your daily work when searching the right consumables. We would like to draw your attention to the photographic illustration of all glass products as well as to the simplification of the identification of suitable Headspace-Vials and closures for the different instrument manufacturers in Chapter 10. On the following pages you will find some recommendations, how to use our catalogue and other resources best to supply your customers with La-Pha-Pack® products.

We have maintained the approved structure of our previous catalogue. Within the product groups new articles have been complemented and marked accordingly. The structural composition of our catalogue is explained on page 5 – handling of the catalogue.

Please note that the catalogue only contains our standard products which, of course, are stock items. Far more products can be obtained from us, so that it is always

worthwhile to contact us, in case you don't find the product of your choice in the catalogue.

We hope that the improved catalogue will be a useful guide for you in always finding the right La-Pha-Pack® product for your demand. We would like to point out that information on any new products that will be launched after the catalogue's print date, can be taken from our website at www.la-pha-pack.com, icon "Innovations".

We would like to point out explicitly that our policy prohibits supplying end-users. However, everybody is welcome to ask for technical advice or samples. Enquiries or orders from consumers have to be placed at local dealers or can be forwarded by us to a distributor of ours.

In case of any further questions or sample requests you are always welcome to contact us.

Your La-Pha-Pack Team



How to find the right product

a) You know the **manufacturer/model of your customer's instrument/autosampler**

- Go to the **Autosampler Compatibility Chart** on pages 76 to 85 of the catalogue and look for suitable vials. The chapter and page indications will lead you to the appropriate vials. Suitable Micro-Inserts, Seals, Septa and Caps for these vials will follow in the subsequent chapters. In case you don't find the model in the Autosampler Compatibility Chart, please contact us. In our library we have even more information on vial suitability for the various instruments on the market.
- In addition to our general Autosampler Compatibility Chart you find on pages 70 to 75 our updated **Quick-Reference-Charts** with suitable consumables for the following instrument companies: Agilent – CTC – Dionex – PerkinElmer – Shimadzu – Spark – Varian – VWR (Merck®)/Hitachi – Waters® – Thermo Scientific. In our Quick-Reference-Charts you find also recommendations for typically used Seals and Micro-Inserts. The chapter and page indications lead you to the corresponding chapters, where you find further consumables.
- As in Headspace the correct identification of vial and closure types is extremely difficult due to the various technical designs, a special **Headspace Compatibility Chart** has been created for this application in Chapter 10 on pages 40 and 41. While you can take the suitable vial type for the different instrument manufacturers from the upper part of the chart, you'll find the appropriate recommended closures in the middle section. The various cap types that have to be considered are colour-coded. At the bottom of the page a break-down of the indicated part numbers according to the colour-coded cap types and the different septa materials is listed. For better illustration of the septa type you'll find at the left side of page 40 (20mm septa for crimp caps) resp. at the right side of page 41 (17.5mm septa for magnetic Precision Thread Caps) photographs and article descriptions of them.

b) You have **a sample from your customer** of the vial requested

- Go to the **actual size drawings** at the end of the catalogue and look for identical vials. The chapter indication will lead you to the appropriate vials. Suitable Micro-Inserts, Seals, Septa and Caps for these vials will follow in the subsequent chapters!
- **Send the sample to us** for evaluation and we will identify the correct La-Pha-Pack® product.

In return we will provide you free of charge with some samples of the La-Pha-Pack® product for your customer to evaluate.

c) You know **the diameter** of your customer's septa, vial, seal, etc.

- The first two digits of our article numbers are indications of the diameter. Go to the **Numerical Index** on page 68 and look for articles starting with the digits of your diameter. The 3rd and 4th digits are indications of the article group, e.g. 09 for vials, 02 for septa, etc. (List of our article groups can be taken from the Annex of the Numerical Index).

d) You know a **key description** of your customer's requested product

- Go to the **Alphabetical Index** on pages 66 to 67 and look, if the key description is included there.

e) You find a listing of **cross-reference numbers** listed by various suppliers on pages 86 to 91. In case you are not able to identify a cross-reference number, please contact us any time. In our library further information regarding suppliers' article numbers are available.

Handling of the catalogue

- Each chapter includes all products that belong together, i.e. Vials (e.g. all types of Short Thread Vials or Micro-Vials), suitable Micro-Inserts for these Vials, appropriate Seals for these Vials (e.g. all types of Short Thread Seals) and – if available – individual Septa/Caps.
- The catalogue starts with the vials that have the smallest nominal diameter, continuing with increasing nominal diameter. Other accessories like Vial Racks, Syringe Filters, GC-Septa and crimpers can be found more towards the end of the catalogue.
- All kind of listings (Product Names, Alphabetical Index, Numerical Index, Annex of Numerical Index, Quick-Reference-Charts, Autosampler Compatibilities,

Cross-References, Actual Size Drawings of all standard glass articles, Drawings of caps etc.) can be found at the very end of the catalogue. The only exception is the Headspace Compatibility Chart which you can take from Chapter 10 on pages 40 and 41.

- A short company profile is included in the preface and can be taken from our website under www.la-pha-pack.com (subchapter "Company"). Further copies of the catalogue can be requested at any time with our Customer Service department in German and/or English language. A French edition is available as a PDF datafile.

Article Number System

Our 8 digital article number comprises the following indications:

8mm Polypropylene Screw Cap **black**, **5.5mm** centre hole

08 08 0027

Article Group

Diameter in mm (08=Plastic Caps, **Sequential Number** no liner)

Contacts

Customer Service (for quotations, sample requests, technical advice, etc.):

Telephone: +49 (0) 24 23 / 94 31-0 (Reception)
 +49 (0) 24 23 / 94 31-12
 +49 (0) 24 23 / 94 31-18
 +49 (0) 24 23 / 94 31-19
 +49 (0) 24 23 / 94 31-29
 +49 (0) 24 23 / 94 31-49
Telefax: +49 (0) 24 23 / 94 31-33
E-Mail: service@la-pha-pack.com

Order Processing (for orders, delivery times of open orders, etc.):

Telephone: +49 (0) 24 23 / 94 31-11
 +49 (0) 24 23 / 94 31-17
 +49 (0) 24 23 / 94 31-43
Telefax: +49 (0) 24 23 / 94 31-33
E-Mail: order@la-pha-pack.com

Accounts department (for payments, reminders, etc.):

Telephone: +49 (0) 24 23 / 94 31-14
 +49 (0) 24 23 / 94 31-42
Telefax: +49 (0) 24 23 / 94 31-44
E-Mail: finance@la-pha-pack.com

(If you know the name of your direct contact person, you can reach him/her under:

"first letter of firstname" . "surname" @la-pha-pack.com)

Internet: www.la-pha-pack.com

Office hours:

Monday until Friday: 8.00 am to 16.30 pm

General organisational matters

All standard items are stock items that usually can be despatched within 24 hours after receipt of order. All products are kept absolutely neutral, i.e. no La-Pha-Pack® article numbers are printed or labelled on the packaging of the products.

As we only supply wholesalers or dealers who promote our products as their own brands, we strictly keep up a policy of neutral packaging. Only batch numbers for reasons of traceability in cases of complaint are attached to the product. For the vials additionally a small schematic drawing of the product is labelled on the front side of the PP-Box to enable identification of the content. Customer specific labelling can be carried out against a small surcharge.

We want that consumers of our products are satisfied with them. Therefore everybody is welcome to ask for cost-free samples for testing purposes to evaluate the most appropriate product for his instrument/application with regard to technical suitability, convenience in handling and price-performance ratio. This way you have the opportunity to see and decide before placing an order which product suits best your individual needs.

General terms and conditions

All orders are based on our general terms and conditions which can be sent to you upon request or can be taken from our website under www.la-pha-pack.com, icon "Imprint". At this point we would like to draw your attention to the following:

Minimum delivery quantities:

Vials, Seals, Septa:	1,000 pieces
Filters:	100 pieces
GC Injection Port Septa:	25 pieces
Capillary Connectors:	10 pieces
	(for Connectors for 2 columns)
	1 piece
	(for Connectors for 3 columns)
Crimpers/Decappers:	1 piece
2in1 KITs:	10 pieces
Vial Racks:	1 piece

The minimum order quantities are independent from the packaging units indicated underneath all products.

Minimum order value: 250.00 EURO

Our goods are excluded from exchange, legal regulations remain unaffected hereof.

Others

There are no prices included in our catalogue nor separate price lists available. Prices are calculated individually, depending on order quantities. We are prepared to submit special offers for annual call-off orders, as we can take the total delivery quantity and number of call-off deliveries into consideration.

In case of orders for special products that are not included in our standard delivery programme we kindly ask you to pay attention to the fact that these orders can only be carried out after release of samples, drawings or specifications.

Furthermore we would like to point out that ordered quantities for special articles on customers' request will be adhered to in principle, however, deliveries can either be up to 10 per cent higher or lower than the original quantity.

Company Profile

La-Pha-Pack® offer a complete range of consumables for GC, HPLC and Headspace analysis. This comprises vials, septa, seals, filters, crimpers, and other accessories. Besides all standard items for almost all common instruments in the chromatography market, La-Pha-Pack® also carry out special production runs of vials, septa and combination seals according to customer's specifications.

The products are sold worldwide through a network of distributors. The products are of high quality and have been thoroughly tested before their launch. As a DIN EN ISO 9001:2000 certified company we devoted ourselves to complete customer satisfaction which we define in our business policy as follows:

- to supply continuously high quality products
- to offer optimal economy
- to grant consequent deadlines
- to develop innovative and market-orientated products
- to support promptly and efficiently our customers in all respects they may require



Special Product Features

La-Pha-Pack® are the only supplier of chromatography vials from a class 10,000 cleanroom. With the CleanPack label on the box we guarantee this high hygienic standard. Additionally, tamper-proof evidence is given by the shrink-wrapping of the bottom part of the PP-box, whereas its cover enables recloseability at any time during consumption, in order to avoid any later contamination of the vials during usage.

The zip-lock PE-bags with the tear-off foil strip for our seals follow the same principles of the vial packaging with regard to tamper-proof evidence and recloseability. An additional product safety is given through the automatic counting and packaging process, as quantity obedience can be guaranteed and any contamination through human touch – as it would happen when weighing the parts by hand – is excluded. Printed batch numbers on each zip-lock bag grant traceability.

Production

Vials, septa and seals are manufactured with highly-sophisticated production technology out of high quality raw materials under strict standards of cleanliness.

The vials are almost all made out of 1st hydrolytic class glass. Opto-electronic devices on the glass machines measure within parts of a second, whether the manufactured vial meets the specifications. In case of mismatch, the vial is blown out into the trash. Besides this 100 per cent control, manual in-process controls and a final inspection according to DIN/ISO standards assure further product safety. The packaging of the vials in a cleanroom class 10,000 provides a new standard of cleanliness for chromatography which ensures a correct and reliable analysis.





Production

PTFE laminated liners made of Butyl, Natural Rubber or Silicone are normally punched in high performance automatic punching presses out of endless roll material. First the roll is cut to the size of the punching die (= number of punches per die) on a rubber slitting machine. An inspection of the roll with regard to visual defects as well as an automatic control of the material thickness is then carried out. The customized roll is then fitted onto stainless steel coils which afterwards feed the material into the punching presses.



The precision dies for the automatic punching press are designed to operate without any punching agents or lubricants. This as well as the complete coverage of the punching area are important for a contamination-free septa production. The precision dies guarantee proper cutting edges and an exact round, reproducible diameter to tight tolerances. Any joints and defects in the role are detected by a sensor which automatically separates and sends them through an automatic sorting shutter system to scrap. A closed tunnel system as well as stainless steel collecting boxes ensure a maximum of hygiene for the ready punched septas before further processing in the automatic assembly machines. Besides high productivity and excellent raw material usage the high performance automatic punching presses offer outstanding dimensional stability as well as a continuous high quality.



The closures are fully automatically assembled. Several colour sensors check at different levels of the assembly process the side-orientation of the liner, so that it is guaranteed that the PTFE lamination is always directed towards the sample. A gauge checks at the end of the assembly process that not more or less than one liner is installed. The automatic assembly of the liner ensures that no human skin fat or sweat can contaminate the seal, as it would be in case of manual assembly. Special production runs either on the septa side or for completely assembled seals can be carried out according to customer's specification. Also special packaging (different packaging units, additional printed labels, etc.) can be requested.



A new more efficient and state-of-the-art production technology for producing closures is the lining method. In this process an appropriate number of caps is side-orientated via a vibration bowl and transported underneath the punching die of an automatic high performance punching press. With this technology the septa is punched directly into the cap, so that an additional separate assembling process becomes redundant. The advantage of this method is that only one machine is required which needs to be set up and operated. The time savings due to the omission of the second working step „assembly“ and the higher output of the high performance punching press in comparison to a standard assembly machine make this technology an economically interesting option for high volume products. A video camera system checks each manufactured closure with regard to possible defects of the septa as well as of the cap.



Besides the septa and closures crimping tools are also being produced in Langerwehe. Especially critical is the manufacturing step of cutting the crimping heads by a NC milling machine which involves high requirements on dimensional stability in the hundredth part range. Production includes manual crimpers and decappers as well as a pneumatic crimping tool with a broad variety of crimping and decapping heads. The pneumatic crimping tool can either be equipped with stand and foot switch or with hanging device and trigger in the handle. All crimping tools are thoroughly tested for proper functioning before sale. Operating instructions are supplied with all crimpers as well as with the pneumatic crimping tool. As an additional service for our customers we offer a repair service for crimping tools bought from La-Pha-Pack®.

Production

Assembly of the closures and automatic counting and packaging are carried out in an uncertified clean room, controlled with enclosed machinery, restrictions on packaging material access (no cardboard/no wooden pallets) and mandatory use of protective clothing by the operational personnel. Besides the sensor-controls at the machines additional in-process controls through the operating as well as through the QC personnel ensure further product safety. All controls are documented on the assembly form as well as all essential data about the manufacturing process.



Quality

As a DIN EN ISO 9001:2000 certified company we have set up high quality standards for ourselves. Besides dimensional accuracy these include also very strict requirements on the hygienic conditions under which the products are being manufactured. Especially for chromatography consumables that are used for analysis purposes this quality aspect has an increasing importance, as even the smallest contaminations can distort the results of analysis.

All products are only produced of high quality raw materials. Besides opto-electronic quality controls during the manufacturing process, in-process controls and final QC inspections according to DIN/ISO standard ensure safe and reliable products for chromatography usage. For quality control of goods received and for final QC inspection of all manufactured products state-of-the-art test control units, like profile projector and a measuring device for penetration forces for septa, are being used. All quality controls are documented and appropriate reports can be requested at any time in German or English language as well as certificates of compliance. Batch numbers on all products guarantee 100 per cent traceability. Upon special request certificates of cleanliness may be supplied for the EPA Screw Neck Vials. For better illustration of the various obtainable quality documents, you will find demo certificates on our website www.la-pha-pack.com under "technical information".



Service

Hugh stocks guarantee that standard items can be despatched within 24 hours. Upon request also direct deliveries can be carried out as well as customer specific labelling. Annual call-off orders can be stocked for our customers.

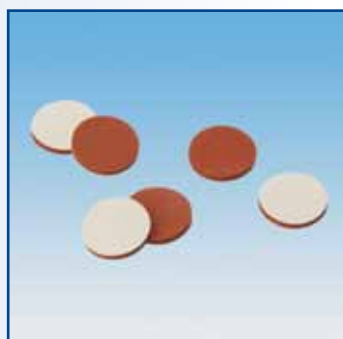
La-Pha-Pack® offers their customers also special services in connection with their chromatography products. Customers may for example obtain Micro-Inserts being already installed in the appropriate vials or they may be supplied with vials being already pre-sealed with closures of their choice, in order to avoid any contamination in the lab during consumption. Barcode labelling of sample vials belongs to our range of special services as well as a repair service for crimping tools made by La-Pha-Pack®. You can find detailed information on our special services in our catalogue in Chapter 18.2 on pages 57-58.

Furthermore La-Pha-Pack® supports their customers with technical advice with regard to autosampler compatibilities, cross references or application specific questions. Product trainings can be offered locally or in our company. Cost-free samples can be put at the customer's disposal, in order to evaluate quality and suitability for the individual instrument respectively the individual application before placing an order. On the marketing side we can provide you with product photographs, suggestions for editorials or mailings or any other support you may require.



Innovation

La-Pha-Pack® aim to develop products that meet today's requirements of the chromatography market with regard to instrument / application suitability, convenience and price-performance ratio. Development work is often carried out in cooperation with instrument manufacturers. The most important product launches of this catalogue are shown below along with some short product profiles.



New PRE-CUT septa for HPLC applications

In HPLC slitted or cross-slitted Silicone/PTFE Septa are often used, in order to offer a penetration aid for the fairly thick and dull needles used in the HPLC instruments. While the instrument needle requires the slitted septa, the user may run into the risk of concentration changes due to the evaporation of solvents.

The risk increases with the volatility of the solvent used and especially in cases of solvents such as Hexane this problem may end in none-reproduceability of analysis results. Furthermore there is a risk that the volatile solvent may extract something from the carrier material of the septa (i.e. mainly out of the Silicone), as the chemically inert PTFE lamination has been cut through as well as the Silicone layer with slitted or cross-slitted liners. Thus two risks (concentration change + contamination through extraction) with a lot of impact to the analysis go along with slitted septa, even though the needle may require it.

In order to avoid these risks, La-Pha-Pack® has developed the so-called pre-cut septa. Here the Silicone carrier material is cut through in a Y-form, however, the PTFE lamination remains intact. As the Silicone part of the septa represents 95 per cent of the complete septa thickness, the needle can easily penetrate through the Y-slit for most of the septa's thickness. Only the 0.05mm thick PTFE lamination which remains uncut, needs to be penetrated by the HPLC needle itself, which is within the instrument's capability. The intact PTFE lamination will also give 100 per cent protection to the sample with regard to any possible contamination until the needle pierces through it to pull out the sample for injection. The Y-form of the pre-cut was chosen, in order to give the needle a lot of target area for penetration, even if the needle doesn't come down centrally. Besides that the Y-form of the pre-cut allows a better flow of air during sample pick up, in order to avoid a vacuum forming in the vial.

RedRubber/PTFE as a new synthetic rubber quality for septa

For standard analysis' in GC and HPLC Natural Rubber is often used as septa material, as it is cost-effectively suitable for a huge number of non-critical routine applications, although it has some disadvantages with regard to analytical purity. However, Natural Rubber is a relatively hard liner material that is not always easy to penetrate. Therefore La-Pha-Pack® offers now a PTFE-laminated synthetic Rubber called "RedRubber/PTFE", which is much softer than Natural Rubber and also shows a lower fragmentation. As a synthetic rubber RedRubber, however, has a different molecular structure than natural rubber und thus is not characterized with the outstanding resealability properties that make natural rubber the first choice in cases of multiple injections. On the other hand synthetic rubber is purer than natural rubber, although it doesn't achieve a comparable analytical purity that Silicone/PTFE septa do have. Costwise both types of rubber are almost on the same level and thus an economically excellent septa material for routine analysis'. Temperature resistance of both materials is also compatible and ranges between -40°C and 110° respectively 120°C for natural rubber. The new septa material can be obtained as 8mm Screw Seals, 9mm Short Thread Closures, 8mm or 11mm Crimp Closures or as 11mm Snap Ring Seals. Replacement septa are also offered for these closures partially.

9mm Magnetic Short Thread closures for CTC GC PAL, Agilent, Gerstel, Shimadzu AOC5000, Thermo Scientific TriPlus Autosampler, etc.

Autosamplers transporting vials using a magnet require sample vials with magnetic closures. Amongst these are the CTC GC PAL instrument as well as similarly constructed instruments of Gerstel, Agilent and Shimadzu, etc. and the TriPlus Autosampler of Thermo Scientific. For sample volumes up to 2ml mainly Crimp Neck Vials with magnetic Crimp Closures have been used. However, due to the hard metal of the caps these were not easy to crimp and to decap. Connected to that is the risk of incorrectly crimped vials which means in case of overcrimped vials the dropping of the vials from the magnet due to the bulge of the cap and in case of a too loose crimp leakage and thus non-reproducible analysis results. The newly developed Short Thread Seals with assembled magnetic cap represent a more convenient and easier to open respectively to seal alternative. The ready-to-use closure with Silicone/PTFE septa excludes all risks associated with an incorrect crimp and thus is safer and more comfortable in handling. It has been tested by CTC Analytics with regard to magnetic force, penetration and purity and has been officially released for use on their instrument.



Precision Thread Headspace-Vials now also for usage on PerkinElmer Turbomatrix Autosampler

Up to now Precision Thread Headspace-Vials have been mainly used on instruments with magnetic transport mechanism. The reason for this were the very hard to crimp magnetic crimp caps that made it necessary to find a more convenient and safer to handle sealing system. However, the risk of incorrectly and inconsistently crimped vials is generally connected to the crimping process which in the end may result in non-reproducible analysis results. On one hand this may be caused by different understandings of people how a correctly crimped vial should look like (see catalogue page 55), but on the other hand may also be dependent on the design and condition of the used crimping tool (adjustability of crimping pressure, adjustability of crimping height, age of the tool and level of wear, etc.). Furthermore adjustment of a crimping tool - especially in Headspace - is not easy, as depending on the design of the crimp neck of the vial (bevelled top Headspace Neck / flat DIN Crimp Neck) and depending on the crimp neck's and/or the septa's thickness, crimping pressure as well as crimping height in the crimping head have exactly to be adjusted. In order to eliminate these difficulties and risks, more and more instrument companies intend to make the sealing process of the sample vial - and connected to it, the tightness of the vial - safer and more reliable.

PerkinElmer have now introduced the Precision Thread Headspace Vials in their delivery programme for all TurboMatrix 16, 40 and 110 autosampler being built after 01.09.2006. Thus almost all common Headspace autosampler (Agilent, CTC, Gerstel, PerkinElmer, Shimadzu, Varian) are now offering the option to use these universally suitable vials for Headspace + SPME. Another advantage of these closures is the much thinner septa in comparison to those used in crimp caps that are much easier and safer for the needle to penetrate. With the pre-cut septa technology further protection is especially offered to the SPME fibre. Here the Silicone layer is cut through in star shape, however, the PTFE lamination remains intact. As the Silicone part of the septa represents 95 per cent of the complete septa thickness, the needle can easily penetrate through the star shape for most of the septa's thickness. The intact PTFE lamination will give 100 per cent sample integrity avoiding any contamination out of the Silicone material. Besides the penetration support given by the pre-cut septa, there is also a very low number of fragmentation generated during the penetration process which is also very important in case of SPME. The star shape of the pre-cut was chosen, in order to give the needle a lot of target area and the septa enough space to spread apart for penetration. The metal screw caps can be used even at high temperatures with appropriate temperature resistant septa and with their numerous threads press the septa tightly against the glass rims. Closed top screw caps for sample storage/ transportation as well as replacement septa are available from La-Pha-Pack®.





Vials with integrated Micro-Insert (Glass-in-Glass) and TopSerts (TPX Vial with integrated Glass Micro-Insert) as modern sample containers for Microsampling

Sample volumes in Chromatography are becoming smaller and smaller and thus safe handling of these micro volumes is more and more important. While in the past a lot of Micro-Vials were used that required an adapter to run in the autosampler, nowadays people prefer those that have a safe standing position and that can easily be put in the instrument as well as on the lab bench or in a vial rack. Further important safety aspects with Micro-Vials are risk-free injection of the needle, safe handling during filling as well as excellent sealing of the sample container. Vials with integrated Micro-Inserts – whether Glass-in-Glass or Glass-in-Plastic (TopSerts) – fulfil all these requirements. The firm integration of the Micro-Insert in the vial is not only work saving for the enduser, but also safer during filling, as a larger and handier sample container is in hands than that when using just a separate Micro-Insert. Also centering of the Micro-Insert for safe injection of the needle is guaranteed right by the design. The glass Micro-Insert of the TopSerts lies firmly in the cone of the TPX Vials and its edges slightly exceed the rims of the vial, so that the septum seals them tightly. These Glass-in-Plastic Micro-Vials are more robust and economic than the Glass-in-Glass versions. The crystal clear TPX offers good transparency and chemical resistance. TopSerts are available with 9mm Screw Neck or with 11mm Snap Ring/Crimp Neck. They can also be supplied with silanized Micro-Inserts. The Glass-in-Glass Micro-Vials can be obtained as well with 9mm Screw Neck or with 11mm Crimp Neck in clear or amber glass.



New Polypropylene Vials

Polypropylene Vials are especially used for Ion Chromatography, Atomic Absorption and Capillary Electrophoresis (CE + CE/MS), as they are nonionic and non-reactive and don't contain any heavy metals. Polar components, such as proteins and amino-acids, can better be analysed in plastic vials due to the reduced adsorption of the inner vial walls as can aqueous or pH-sensitive samples in HPLC. While up to now mainly Polypropylene Micro-Vials with a conical insert and a filling volume of 0.3ml have been offered, La-Pha-Pack® has now introduced 0.7ml Vials with cylindrical insert. All these types are available as 9mm Short Thread or 11mm Snap Ring versions, while the 0.3ml Micro-Vials can even be obtained in amber Polypropylene for light sensitive substances or in crystal clear TPX. Furthermore a 9mm Short Thread Vial with a filling volume of 1.5ml is also offered in transparent or amber Polypropylene. Although its main usage is in Ion Chromatography, it is also an ideal sample container for pH-sensitive and aqueous samples in HPLC. The vial is characterized by a slightly concave shaped inner bottom that reduces dead volume and offers ideal conditions for the needle for sample pick up. Filling lines facilitate handling. All plastic vials are supplied in tamper-proof evident zip-lock bags with 100 pieces each.



New Range of Storage Vials

A complete new range of Screw Neck Vials with different volumes (2ml, 4ml, 8ml, 12ml, 16ml, 20ml, 30ml, 40ml and 60ml) has been added to the delivery programme. All vials are made of 1st hydrolytic class glass and some are available in clear and amber glass. In the meantime we offer closed top screw closures for all storage vials with a broad selection of different septa materials. The most common ones are listed in chapter 19.2 on page 60 with an indication of the appropriate suitable vials. In case you are interested in the appropriate open top version, please kindly contact our Customer Service. For better identification of the stored samples barcode labelling of the vials is also possible, however, a minimum order quantity may be required.

Snap Ring Caps made out of hard or soft Polyethylene

Due to its elasticity Snap Ring Caps are made out of Polyethylene, as the caps are pushed with pressure over the snap ring lips of the glass vial. During this process the cap is widened in diameter and should contract, once the snap ring lips have been passed by, in order to guarantee an appropriate tightness.

Up to now La-Pha-Pack® has only offered hard Snap Ring Caps, as their reset forces are stronger than those of soft snap ring caps and thus achieve a better seal. However, handling of the hard caps is disadvantageous, as they are more difficult to push on and off. Therefore the closure range has been enlarged by adding soft caps in blue and transparent colour. They can be obtained with different septa materials, including the new septa quality "RedRubber/PTFE", a cost-effective synthetic rubber that is easy to penetrate and that has a sufficient analytical purity for routine analysis'. Another new and innovative product for chromatography are Snap Ring closures with pre-cut septa where only the Silicone layer is slitted while the chemical inert PTFE lamination remains intact. Thus you have a septum that fulfils the requirements of the needle for a penetration aid without showing the problems of completely slitted septa. These are concentration changes due to evaporation of solvents as well as contamination due to extraction of volatile substances from the Silicone material.



Better identification of suitable Vials and Closures in Headspace

Chapter 10 "Headspace" of our catalogue has been completely redesigned, in order to simplify the identification of suitable consumables for a certain instrument. For Headspace this is extremely difficult, as besides numerous vial types there are also different cap types required depending on the autosampler. While you can take the suitable vial type for the different instrument manufacturers from the upper part of the double paged chart, you'll find the appropriate recommended closures in the middle section. The various cap types that have to be considered are colour-coded. At the bottom of the page a break-down of the indicated part numbers according to the colour-coded cap types and the different septa materials is listed. For better illustration of the septa type you'll find at the left side of page 40 (20mm septa for crimp caps) resp. at the right side of page 41 (17.5mm septa for magnetic Precision Thread Caps) photographs and article descriptions of them. Of course you can also take appropriate recommendations from our Quick-Reference-Charts on pages 70 to 75.



New range of HPLC Syringe Filters

Besides our range of 25mm ProFill HPLC Syringe Filters we are going to introduce a new range of 30mm Filters. They are characterized by an injection moulded coloured ring around the housing and all include a glass fibre prefilter. They will be available in four different types of membrane in pore sizes of 0.2µm and 0.45µm. As hydrophilic membrane types we are going to offer Regenerated Cellulose (RC), Nylon (PA) and PVDF with glass fibre prefilter; in addition PTFE with glass fibre prefilter as a hydrophobic membrane. Besides the colour-coding the print of the membrane type along with the pore size on the housing guarantees product safety during usage. This range of filters is going to replace our current ProFill PLUS range of filters, as it will offer an increased effective filter area (4.91 cm² instead of only 3.14 cm²) which is especially important for heavily particle loaded samples requiring the glass fibre prefilter.

Furthermore we will add to our line of filters 17mm versions. While the design of housing and injection moulded ring is similar to those of the 30mm ones with glass fibre prefilters, all products – except for the PVDF filters – of that range do not include any prefilter. They will be available with one of the following membranes in 0.2µm or 0.45µm pore size: PTFE, Regenerated Cellulose (RC), Nylon (PA) and PVDF. These filters should mainly be used for small sample volumes where the dead volume should be kept to a minimum.



Vials

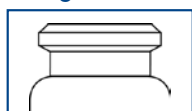
In chromatography a wide variety of glass or plastic vials are used as sample containers for analysis. As they are mainly used within autosamplers or other automatic instruments, strict obedience of their dimensions is crucial for trouble-free operation. Besides these physical properties the vials also have to fulfill requirements regarding inertness and cleanliness, as otherwise analysis results may be incorrect. La-Pha-Pack® consider the physical and chemical demands in their production process by various implementations:

1. Almost all vials are made out of 1st hydrolytic class glass. First hydrolytic class glass is very hard and has a low expansion coefficient even at high temperature variations. It shows an excellent chemical resistance to acidic and neutral solutions, and even to alkaline solutions due to its relatively low Alkali content. Higher density of the glass surface offers a higher hydrolytic resistance. Clear Glass of 1st hydrolytic class is differentiated by 33 expansion (Type 1, Class A) and 51 expansion glass (Type 1, Class B), whereas amber is generally worldwide only available as 51 expansion glass. The indicated lower expansion coefficient of 33 implies that this harder clear glass has to be processed at higher temperatures. These amount to approx. 1,200 °C for 33 expansion glass in comparison to only approx. 1,000 °C for glass of 51 expansion. In the USA typically clear glass in 33 expansion and amber glass in 51 expansion is used, whereas in Europe solely 51 expansion glass is processed. From a quality point of view both types of glass are equally suitable for usage in chromatography, as they both are glasses of 1st hydrolytic class. However, as for the forming of the glass tubes the vials to be manufactured are only heated partially, the risk of condensating substances extracted from the glass due to the processing temperatures is higher with 33 expansion glass. One reason is that higher production temperatures extract more substances out of the glass than lower temperatures. Another cause is that the temperature difference between heated and nonheated parts of the vial increases, the higher the manufacturing temperature. Decisive for proper fitting precision vials is a high quality tubing with very tight tolerances to ensure that the processed vial later fits exactly into the instruments on the market.
2. During the manufacturing process opto-electronic devices at the machines check within fractions of a second, if the processed vials meet the physical specifications (dimensions, etc.). In case of mismatch the vial is automatically rejected. Besides this 100 per cent automatic control manual in-process controls as well as a final inspection according to DIN/ISO standards further ensure functionality and perfect fit in the instrument.
3. All vials that carry a CleanPack label on the front side of the PP-Box have been packed in a certified class 10,000 cleanroom after having passed through an annealing oven at approx. 600°C. These high hygienic conditions are pharmaceutical standard, however, new for chromatography vials. Thus the consumer can rely on clean, uncontaminated vials for a correct analysis.
4. Functional tests further ensure that the vial not only fits the instrument, but also all components that might be connected to it, such as Micro-Inserts, Seals, etc.. A correct analysis can only be carried out, if the whole unit of the vial (Micro-Insert) and closure correctly fit with each other and achieve a tight seal.
5. HPLC certified vials are only of value, if
 - a.) analytical and physical specifications are available that are measurable and controllable
(→ Verification / → DIN/ISO Documentation / → Warranty)
 - b.) test methods are disclosed
(→ Reproducibility / → Verification / → Validity of the certificate)
 - c.) the selected test samples are representative regarding number and correspond to the final product (i.e. have vials been tested directly out of production or out of original packs or even after some time of storage and how many per batch have been analysed)
(→ Credibility / → Safety)
 - d.) the certificate is informative and controllable for everybody
 - e.) warranty and claims for compensation arise from the certificate
 - f.) the certificate is unlimitedly valid for every user, for every type of sample and for every application/analysis method
(→ Credibility / → Safety / → Warranty)

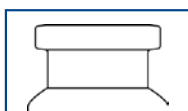
However, even then everyone should be aware that the quality of a vial does not change by a certificate (as same raw materials and same production technology are used), but only the testing procedures differ.

In order to visualize the most important characteristics that differentiate the different types of vials, we show below some drawings helping you to identify a vial:

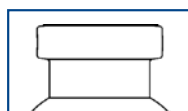
A) Design of the Neck



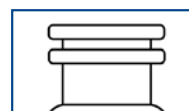
Headspace Neck
(bevelled Neck)



DIN Crimp Neck
(flat Crimp Neck)



Special Neck
for SPME Vial
(thicker Crimp Neck)



Snap Ring Neck
(can be used
with Snap Ring Caps ND11
or Crimp Caps ND11)



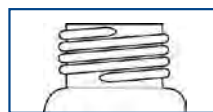
Fire-Polished Neck
(Shell Vials)



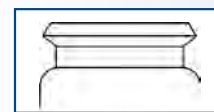
Standard Screw Neck
(Threads run down to
the shoulder of the vial)



Short Thread ND9
(Thread ends in the middle of the neck, so
that there is still some space between the
edge of the cap and shoulder of the vial for
robotic arms)

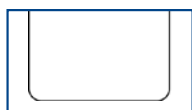


Precision Thread ND18
for Headspace and SPME

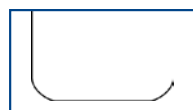


Snap Cap Neck
(Sample storage containers,
no autosampler vials)

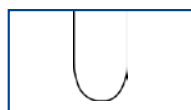
B) Design of the Bottom



flat bottom



rounded bottom
(HS-bottom)



round bottom



conical bottom



Solid glass bottom of a
Microliter vial with inner cone

Besides standard glass vials La-Pha-Pack® also supply some silanized glass products. Silanized glass products are used to reduce the adsorption of polar compounds onto the surface of the glass container (e.g. protein analysis). Some compounds like amino-acids, proteins or phenols tend to react with the glass, and the silanization process prevents this by deactivating the glass surface.

In some specific applications like atomic absorption, water and protein analysis, capillary electrophoresis, etc., even plastic vials have to be used. La-Pha-Pack® also offer a broad range of Plastic Vials and Plastic Micro-Vials of different materials (PP, TPX).

In case the application requires pre-sealed vials (e.g. vials that are either already crimped or screwed), as for example in the tobacco industry, we can also supply you with any type of vial and closure already assembled. However, please note that the vials have to be taken out of the CleanPack packaging for the sealing process and thus cannot be called "cleanroom" packed anymore.

EPA Vials can be supplied with or without certificate of cleanliness depending on the consumer's requirements. Furthermore EPA vials can also be supplied pre-assembled with their seals.

Seals

Seals are the assembled combination of a cap and a septa. To carry out a correct analysis, it is important that besides the vial the seal is also inert and uncontaminated. La-Pha-Pack® assemble and pack their seals fully automated in an uncertified clean room. Thus it is guaranteed that they are not contaminated by human contact as it would be in case of manual assembly. Photocells check the side-orientation of the liner, so that it is ensured that the PTFE lamination is always directed towards the sample to build an inert barrier between sample and carrier material of the septa. A gauge control ensures that not more or less than one septa is installed. The final seals are automatically counted – and not weighed – by automates to guarantee quantity obedience. They are packed in tamper-proof evident zip-lock bags that allow easy identification of the content due to the transparent PE material. The zip-lock enables resealing of the bag to avoid any contamination of the closures during consumption. The batch number of the manufactured seal is printed on each PE-bag for traceability.

UltraBond seals are closures where the cap and the septa form an inseparable unit without the use of any glue or adhesive which are not allowed in chromatography products. This firm connection is achieved by a patented process changing the molecular structure of the cap and the septa surface, so that they form a unit. This process ensures that the septa is not pushed into the vial during penetration, even if the needle is very thick and blunt. Examples for such UltraBond Seals are 24mm Screw Seals for EPA Vials or 9mm Short Thread Seals for Short Thread Vials.

Seals

Different closure techniques and/or application requirements necessitate certain caps. In order to visualize the different types of caps, please see the photos below:



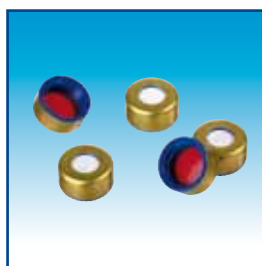
Screw Caps
(open top/closed top)



Short Thread Caps
(open top/closed top)



Snap Ring Caps
(only as open top, hard or
soft PE Cap available)



Magnetic
Short Thread Cap
(only as open top)



Various UltraBond
Seals ND9 + ND24



PE-Plugs
(for Shell Vials;
Micro-Inserts can be
installed in the plug)



Snap Caps
(for sample storage
containers)



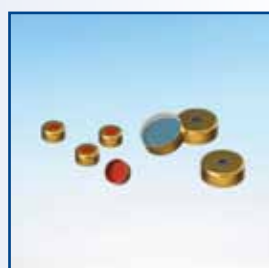
PE Push-On Caps
ND8 + ND11



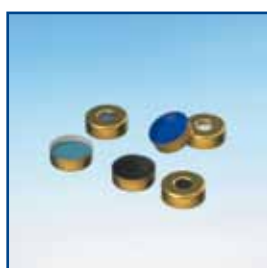
PE Caps
(for Crimp Necks ND8,
ND11 + ND20)



Aluminium Caps,
centre hole



Magnetic
Crimp Caps
(5mm centre hole)



Magnetic
Crimp Caps
(8mm centre hole)



Magnetic Screw Caps
(8mm centre hole/closed top)



Magnetic Bimetal
Crimp Cap
(8mm centre hole)



Headspace Caps
(Pressure Release Caps)



Centre Tear Off Caps



Complete Tear Off Caps



Crimp Caps with roll
grove

Septa

The right choice of septa depends on the application. Almost all septa are laminated on one side with PTFE, which has a high chemical resistance and forms an inert barrier between sample and carrier material of the septa. The carrier materials have different physical and chemical properties, such as temperature resistance, resealability properties, cleanliness, hardness, thickness, etc.

The individual conditions of the customer's application aim at the specific characteristics of the carrier material, e.g.:					
Multiple injection? ↓ good resealability properties necessary ↓ Natural Rubber/TEF	Temperature? ↓ -40°C up to 120°C ↓ Natural Rubber/TEF; Butyl/PTFE			Thin, fragile needle? ↓ soft and thin septa required ↓ e.g. Silicone/PTFE	Blunt, thick needle? ↓ Slitted/pre-cut liner as penetration aid (HPLC) ↓ e.g. 08 02 0039 (page 21-chapter 2.4)
	-40°C up to 120°C ↓ Natural Rubber/TEF; Butyl/PTFE	-40°C up to 110°C ↓ RedRubber/PTFE	-60°C up to 200°C ↓ Silicone/PTFE	Critical analysis? ↓ very clean liner required ↓ UltraClean Silicone/PTFE septa	Low coring? ↓ Both sided PTFE laminated liners required ↓ PTFE/Silicone/PTFE PTFE/Butyl/PTFE

In order to visualize the most common liners on the market, please see photos below. However, please note that colours of the liners are no exact indication for the identification of a liner material.



Natural Rubber/TEF



RedRubber/PTFE beige



Butyl



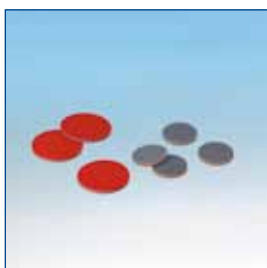
Butyl/PTFE



Pharma-Fix-Septa
(Butyl/PTFE)



Silicone/Aluminium foil



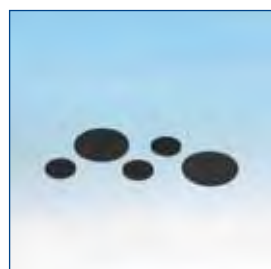
PTFE/Silicone/PTFE
PTFE/Butyl/PTFE



Silicone/PTFE



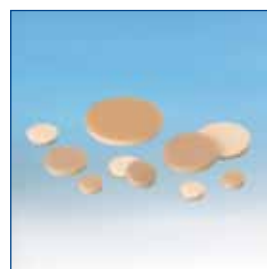
Pre-cut liners



Viton



PTFE



Septa for Schott
Screw Caps



PTFE/EPDM/PTFE

1. Crimp Neck ND8



The vials are preferentially used on instruments of the following manufacturers: Agilent, Beckman, Carlo Erba, CTC, Fisons, PerkinElmer, Shimadzu, Thermo Scientific, VWR (Merck®)/Hitachi, etc.

(Please have a look at the autosampler compatibility chart on pages 76-85 to see on which models they can be used)

Broad selection of Crimp Neck Vials ND8 available:

- with different volumes
- with flat, round or conical bottom
- in clear or amber glass
- for almost all autosamplers

Crimp Neck Vials and Micro Vials ND8 can be closed with 8mm Aluminium Caps, 9mm PE-Caps or with 8mm Push-On Caps. However, Micro-Vials often need an adapter to run in the autosampler. They often have a conical bottom shape, so that they cannot stand by themselves, but need an adapter.

1.1 Crimp Neck Vials and Micro-Vials ND8

08 09 0405	08 09 0406	08 09 0284	08 09 0845	08 09 0953
0.7ml Crimp Neck Vial, 40 x 7mm, clear glass, 1 st hydrol. class	0.7ml Crimp Neck Vial, 40 x 7mm, amber glass, 1 st hydrol. class	0.8ml Crimp Neck Vial, 30 x 8.2mm, clear glass, 1 st hydrol. class	1.2ml Crimp Neck Vial, 40 x 8.2mm, clear glass, 1 st hydrol. class	1.2ml Crimp Neck Vial, 40 x 8.2mm, amber glass, 1 st hydrol. class
10 x 100 pcs. per PP-Box	10 x 100 pcs. per PP-Box	100 pcs. per PP-Box	100 pcs. per PP-Box	100 pcs. per PP-Box

08 09 0276	08 09 0606	08 09 0305	08 09 0258	08 09 1080
0.3ml Micro-Vial, 31.5 x 5.5mm, clear glass, 1 st hydrol. class, round bottom	0.2ml Micro-Vial, 31.5 x 5.5mm, clear glass, 1 st hydrol. class, conical	0.6ml Micro-Vial, 40 x 7mm, clear glass, 1 st hydrol. class, conical	0.6ml Micro-Vial, 40 x 7mm, amber glass, 1 st hydrol. class, conical	0.4ml Micro-Vial, 30 x 7mm, amber glass, 1 st hydrol. class, conical
10 x 100 pcs. per PP-Box	10 x 100 pcs. per PP-Box	10 x 100 pcs. per PP-Box	10 x 100 pcs. per PP-Box	10 x 100 pcs. per PP-Box

TIP



For Vial Racks please see
chapter 18.1 on page 57

TIP



For 8mm Crimpers and Decappers
please see chapter 17 on pages 55 cont.

**CLEAN
PACK**

All vials labelled with such a sticker
are packed under pharmaceutical
conditions in a class 10,000 cleanroom.

1.2 Aluminium Crimp Seals ND8

1.2.1 Natural Rubber/TEF and RedRubber/PTFE Seals

- Temperature resistant from -40 °C up to 120 °C for Natural Rubber resp. up to 110 °C for RedRubber
- Natural Rubber ideal for multiple injections due to high resealability, but not as clean as the synthetic RedRubber
- Natural Rubber harder to penetrate with more fragmentation during penetration than RedRubber

Art. No.	Description Cap	Septa Material	Durometer	Thickn.
08 03 0451	Aluminium Cap clear lacquered, 4mm centre hole	Nat. Rubber red-orange/TEF transparent Agilent Quality	60° shore A	1.0mm
08 03 1935	Aluminium Cap clear lacquered, 4mm centre hole	Nat. Rubber red-orange/TEF transparent (replaces article 08 03 0200)	60° shore A	1.0mm
08 03 2042	Aluminium Cap clear lacquered, 4mm centre hole	RedRubber/PTFE beige	45° shore A	1.0mm

Packaging Unit: 100 pcs. per PE-Bag

1.2.2 Silicone/PTFE Seals

- Temperature resistant from -60 °C up to 200 °C
- Preferably only for single injections due to low resealability properties
- Different hardnesses (durometers) to meet requirements of the needle regarding penetration
- Much cleaner than Natural Rubber or RedRubber
- Silicone liners with PTFE on both sides for less coring during penetration

Art. No.	Description Cap	Septa Material	Durometer	Thickn.
08 03 0249	Aluminium Cap clear lacquered, 4mm centre hole	Silicone white/PTFE red UltraClean	45° shore A	1.3mm
08 03 0165	Aluminium Cap clear lacquered, 4mm centre hole	Silicone cream/PTFE red UltraClean	55° shore A	1.5mm
08 03 0884	Aluminium Cap clear lacquered, 4mm centre hole	Silicone dark blue/PTFE white	45° shore A	1.3mm
08 03 0599	Aluminium Cap clear lacquered, 4mm centre hole	Silicone blue transparent/PTFE white	45° shore A	1.3mm
08 03 0113	Aluminium Cap clear lacquered, 4mm centre hole	PTFE red/Silicone white/PTFE red	45° shore A	1.0mm
08 03 1156	Aluminium Cap clear lacquered, 4mm centre hole	Silicone white/PTFE red, with slit	45° shore A	1.3mm

Packaging Unit: 100 pcs. per PE-Bag

1.2.3 Other Crimp Seals

- PTFE is very inert and high temperature resistant, however, problems with leakage due to the inflexibility and thinness of the material; only for single injections; nearly no press fit in caps; mainly for uncritical HPLC analysis
- Viton is resistant to a number of corrosive organic substances; temperature resistant from -23 °C up to 200 °C; mainly used in petrochemical areas

Art. No.	Description Cap	Septa Material	Durometer	Thickn.
08 03 0268	Aluminium Cap clear lacquered, 4mm centre hole	PTFE virginal	53° shore D	0.25mm
08 03 0861	Aluminium Cap clear lacquered, 4mm centre hole	Viton black	70° shore A	1.0mm
08 03 0055	Aluminium Cap clear lacquered, 4mm centre hole	Viton black	70° shore A	1.5mm

Packaging Unit: 100 pcs. per PE-Bag

1.3 Other Combination Seals for Crimp Neck ND8

- Push-On Cap (08 08 1675) with thinned penetration point made of Polyethylene for Crimp Neck Vials and Micro-Vials ND8
- Inexpensive alternative to crimp caps for uncritical analyses, as it does not contain any septa, but only has a thinner penetration point.



Art. No.	Description Cap	Septa Material	Durometer	Thickn.
08 08 1675	PE Push-On Cap, blue	with thinned penetration point		
09 15 0753	PE-Cap, transparent, 9 x 5.9mm, 4mm centre hole	Nat. Rubber red-orange/TEF transparent	60° shore A	1.3mm
09 15 0756	PE-Cap, transparent, 9 x 5.9mm, 4mm centre hole	Silicone white/PTFE red	45° shore A	1.3mm

Packaging Unit: 100 pcs. per PE-Bag

Further Crimp Seals ND8 or Combination Seals for Crimp Neck ND8 are available upon request!

2. Screw Neck ND8



The vials are preferentially used on instruments of the following manufactures: Beckman, CTC, Gilson, Knauer, Shimadzu, Spark, Varian, VWR (Merck®)/Hitachi, etc. (Please have a look at the autosampler compatibility chart on pages 76-85 to see on which models they can be used)

- Standard vials for GC and HPLC
- Specially suitable for VWR (Merck®)/Hitachi instruments (Articles 11 09 0210, 11 09 0259, 05 09 0129, 08 15 0460, 08 08 0027, 08 02 0177, 08 02 0039)
- Broad range of Micro-Inserts
- Vials and seals also available as 2in1 KIT
- Small opening requires Micro-Inserts with a diameter of 5mm
- Micro-Insert with flat bottom also available

2.1 Screw Neck Vials ND8, small opening, 8-425 thread and Micro-Vials ND8

11 09 0210	11 09 0259	11 09 0419	11 09 0382	11 09 0417
1.5ml Screw Neck Vial, 32 x 11.6mm, clear glass, 1 st hydrol. class, small opening	1.5ml Screw Neck Vial, 32 x 11.6mm, amber glass, 1 st hydrol. class, small opening	1.5ml Screw Neck Vial, 32 x 11.6mm, clear glass, 1 st hydrol. class, small opening, label + filling lines	1.5ml Screw Neck Vial, 32 x 11.6mm, amber glass, 1 st hydrol. class, small opening, label + filling lines	1.1ml Micro-Vial, 32 x 11.6mm, clear glass, 1 st hydrol. class, conical
100 pcs. per PP-Box	100 pcs. per PP-Box	100 pcs. per PP-Box	100 pcs. per PP-Box	100 pcs. per PP-Box

2.2 Micro-Inserts for Vials with small opening

05 09 0129	05 09 0269	05 09 1674	05 09 0968	05 09 0279	05 13 0426
0.1ml Micro-Insert, 31 x 5mm, clear glass, 1 st hydrol. class, 15mm top	0.1ml Micro-Insert, 31 x 5mm, clear glass, 1 st hydrol. class, 9mm top	0.2ml Micro-Insert, 31 x 5mm, clear glass, 1 st hydrol. class, flat bottom	0.1ml Micro-Insert, 29 x 5mm, clear glass, 1 st hydrol. class, with assembled plastic spring	0.05ml Micro-Insert, 27.5 x 4mm, clear glass, 1 st hydrol. class Metal Spring required!	Spring 36 x 5mm For Micro-Insert 05 09 0279!
10 x 100 pcs. per PP-Box	10 x 100 pcs. per PP-Box	10 x 100 pcs. per PP-Box	10 x 100 pcs. per PP-Box	10 x 100 pcs. per PP-Box	100 pcs. per PE-Bag



TIP

Upon request vials with your logo can be manufactured as a special production



TIP

Upon request vials with a barcode label are available



TIP

Upon request pre-sealed vials are deliverable

2.3 PP Screw Seals ND8

- 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
- Now available either with Natural Rubber or RedRubber as cost-effective seals

NEW


2.3.1 Natural Rubber/TEF, RedRubber/PTFE and Butyl/PTFE Seals

- Temperature resistant from -40 °C up to 120 °C for NR/TEF + Butyl/PTFE resp. up to 110°C for RR/PTFE
- Natural Rubber is ideal for multiple injections due to high resealability, but not as easy to penetrate than RR/PTFE
- Butyl as a synthetic rubber has good chemical properties (cleanliness)
- Standard, moderately priced seals for GC and HPLC
- RR/PTFE has a better purity than NR/TEF, is softer and has less fragmentation, but doesn't offer the outstanding resealability as NR/TEF

Art. No.	Description Cap	Septa Material	Durometer	Thickn.
08 15 0460	Polypropylene Screw Cap black, 5.5mm centre hole	Nat. Rubber red-orange/TEF transparent	60° shore A	1.3mm
08 15 1637	Polypropylene Screw Cap black, 5.5mm centre hole	Butyl red/PTFE grey	55° shore A	1.3mm
08 15 0654	Polypropylene Screw Cap black, closed top	Nat. Rubber red-orange/TEF transparent	60° shore A	1.3mm
08 15 1653	Polypropylene Screw Cap black, closed top	Butyl red/PTFE grey	55° shore A	1.3mm
08 15 1965	Polypropylene Screw Cap black, 5.5mm centre hole	RedRubber/PTFE beige	45° shore A	1.0mm

NEW

Further Screw Seals ND8 with closed/open top resp. with white Caps are available upon request!

Packaging Unit: 100 pcs. per PE-Bag

2.3.2 Silicone/PTFE Seals

- Temperature resistant from -60 °C up to 200 °C
- Much cleaner than Natural Rubber, RedRubber or Butyl
- Preferably only for single injections due to low resealability properties
- Silicone liners with PTFE on both sides for less coring
- Different hardnesses (durometers) to meet requirements of the various types of needles regarding penetration
- The special, slitted liner for VWR (Merck®)/Hitachi is only available unassembled, as the diameter with the most optimal valve effect does not achieve any press-fit in the cap. Enlargement of the diameter is only possible with negative effects on the building up of vacuums in the vial

Art. No.	Description Cap	Septa Material	Durometer	Thickn.
08 15 0293	Polypropylene Screw Cap black, 5.5mm centre hole	Silicone white/PTFE red <i>UltraClean</i>	45° shore A	1.3mm
08 15 0427	Polypropylene Screw Cap black, 5.5mm centre hole	Silicone cream/PTFE red <i>UltraClean</i>	55° shore A	1.5mm
08 15 0886	Polypropylene Screw Cap black, 5.5mm centre hole	Silicone dark blue/PTFE white	45° shore A	1.3mm
08 15 0709	Polypropylene Screw Cap black, 5.5mm centre hole	Silicone blue transparent/PTFE white	45° shore A	1.3mm
08 15 0294	Polypropylene Screw Cap black, 5.5mm centre hole	PTFE red/Silicone white/PTFE red	45° shore A	1.0mm
08 15 1040	Polypropylene Screw Cap black, closed top	Silicone white/PTFE red <i>UltraClean</i>	45° shore A	1.3mm
08 15 1192	Polypropylene Screw Cap black, closed top	Silicone cream/PTFE red <i>UltraClean</i>	55° shore A	1.5mm
08 15 1449	Polypropylene Screw Cap black, 5.5mm centre hole	Silicone white/PTFE red, with slit	45° shore A	1.3mm

Further Screw Seals ND8 with closed/open top resp. with white Caps are available upon request!

Packaging Unit: 100 pcs. per PE-Bag

2.4 Septa 8mm

08 02 0177	08 02 0232	08 02 0355	08 02 1966	08 02 1633	08 02 1680	08 02 0774	08 02 0220
PTFE virginal, 53° shore D, 0.25mm (only unassembled)	Nat. Rubber red- orange/TEF transparent, 60° shore A, 1.0mm (only unassembled)	Nat. Rubber red-orange/ TEF transparent, 60° shore A, 1.3mm tested by VWR (Merck®)/Hitachi	RedRubber/PTFE beige, 45° shore A, 1.0mm	Butyl red/PTFE grey, 55° shore A, 1.3mm	PTFE grey/Butyl red/PTFE grey, 55° shore A, 1.3mm	Viton black, 70° shore A, 1.0mm	Viton black, 70° shore A, 1.5mm
08 02 0103	08 02 0009	08 02 0881	08 02 0563	08 02 0039	08 02 0005	Against a small surcharge we also sell in smaller packaging units!	
Silicone white/PTFE red, 45° shore A, 1.3mm	Silicone cream/ PTFE red, 55° shore A, 1.5mm	Silicone dark blue/ PTFE white, 45° shore A, 1.3mm	Silicone blue transp./ PTFE white, 45° shore A, 1.3mm	Silicone white/PTFE blue, 55° shore A, 0.9mm, slitted rec. by VWR (Merck®)/Hitachi (only unassembled)	PTFE red/Silicone white/ PTFE red, 45° shore A, 1.0mm		

Packaging Unit: 1000 pcs. per PE-Bag

2.5 PP Screw Caps ND8

08 08 0027	08 08 0420	08 08 0436	08 08 0435
Polypropylene Screw Cap, black, 5.5mm centre hole	Polypropylene Screw Cap, black, closed top	Polypropylene Screw Cap, white, 5.5mm centre hole	Polypropylene Screw Cap, white, closed top
Packaging Unit: 100 pcs. per PE-Bag			

TIP



Any combination of 1.5ml Vials with one of the appropriate seals can be supplied as 2in1 KIT!

2.6 Screw Neck Vials ND8, small opening, 8-425 thread with pre-screwed PP Screw Seals ND8 **NEW**

- Pre-screwed vials reduce the risk of contamination of vials in laboratories. Furthermore special applications could require (e.g. in the tobacco industry) a pre-screwed vial.
- Pre-screwed vials are available with any of the 8-425 screw neck vials and any seal of your choice



Art. No.	Description Vial	Description of Screwed-on Seal
11 14 1739	1.5ml Screw Neck Vial, 32 x 11.6mm, clear glass, 1 st hydrol. class, small opening (11 09 0210)	Polypropylene Screw Cap, black, 5.5mm centre hole (08 08 0027); Silicone white/PTFE blue, 55° shore A, 0.9mm, slitted (08 02 0039), rec. by VWR (Merck®)/Hitachi
11 14 1716	1.5ml Screw Neck Vial, 32 x 11.6mm, clear glass, 1 st hydrol. class, small opening (11 09 0210)	Polypropylene Screw Cap black, 5.5mm centre hole; Silicone white/PTFE red, 45° shore A, 1.3mm (08 15 0293)
11 14 1763	1.5ml Screw Neck Vial, 32 x 11.6mm, clear glass, 1 st hydrol. class, small opening (11 09 0210)	Polypropylene Screw Cap black, 5.5mm centre hole; Silicone white/PTFE red, 45° shore A, 1.3mm, slitted (08 15 1449)

Further pre-screwed vial and seal combinations are available upon request!

Packaging Unit: 100 pcs. per PP-Box

2.7 Special 2in1 KITs

3in1 KITs for VWR (Merck®)/Hitachi Autosampler

Art. No. 3in1 KIT	Art. No. Vial	Art. No. Cap	Art. No. Septa	Alternative 3in1 KITs/2in1 KITs	
11 23 1047	11 09 0210	08 08 0027	08 02 0039	11 23 1144	11 23 1085
3in1 KIT consisting of: 11 09 0210, 08 08 0027, 08 02 0039	1.5ml Screw Neck Vial, 32 x 11.6mm, clear glass, 1 st hydrol. class, small opening	Polypropylene Screw Cap, black, 5.5mm centre hole	Silicone white/PTFE blue, 55° shore A, 0.9mm, slitted rec. by VWR (Merck®)/Hitachi	Same Cap + same Septa in combination with 11 09 0259 (amber glass, small opening)	Same Vial + same Cap in combination with 08 02 0177 (PTFE virginal 0.25mm)
11 23 1045	11 09 0210	08 15 0460		11 23 1614	11 23 1499
2in1 KIT consisting of: 11 09 0210, 08 15 0460	1.5ml Screw Neck Vial, 32 x 11.6mm, clear glass, 1 st hydrol. class, small opening	Polypropylene Screw Cap, black, 5.5mm centre hole, Nat. Rubber red-orange/ TEF transparent, 60° shore A, 1.3mm		Same Seal in combination with 11 09 0259 (amber glass, small opening)	Same Seal in combination with 11 09 0419 (clear glass, small opening, with label + filling lines)

Packaging Unit: 100 pcs. each in one KIT

2in1 KITs for Varian Autosampler

Art. No. 2in1 KIT	Art. No. Vial	Art. No. Seal	Alternative 2in1 KITs
11 23 1046	11 09 0210	08 15 0293	11 23 1280
2in1 KIT consisting of: 11 09 0210, 08 15 0293	1.5ml Screw Neck Vial, 32 x 11.6mm, clear glass, 1 st hydrol. class, small opening	PP Screw Cap, black, 5.5mm centre hole; UltraClean Silicone white/PTFE red, 45° shore A, 1.3mm	Same Seal in combination with 11 09 0419 (clear glass, small opening, with label + filling lines)
11 23 1098	11 09 0259	08 15 0293	11 23 1100
2in1 KIT consisting of: 11 09 0259, 08 15 0293	1.5ml Screw Neck Vial, 32 x 11.6mm, amber glass, 1 st hydrol. class, small opening	PP Screw Cap, black, 5.5mm centre hole; UltraClean Silicone white/PTFE red, 45° shore A, 1.3mm	Same Seal in combination with 11 09 0382 (amber glass, small opening, with label + filling lines)

Packaging Unit: 100 pcs. each in one KIT

Further 2in1 KITs are available upon request!

3. Short Thread ND9

The vials can be used on all common autosamplers due to their technical geometry, preferentially they are found on Agilent, HTA, Shimadzu, Thermo Scientific, Varian, Waters®, etc.

(Please have a look at the autosampler compatibility chart on pages 76-85 to see on which models they can be used)

The Universal Autosampler Vial

- Universally compatible on almost all autosamplers, thereby rationalization of other 1.5ml vials, as for instance 11 mm Crimp Neck Vials, Screw Neck Vials 8-425 and 10-425, is possible.
- Vials with integrated Micro-Insert are also now available in amber glass
- Pre-screwed Short Thread Vials available

NEW



3.1 Short Thread Vials ND9, wide opening and Micro-Vials with Short Thread ND9

11 09 0500	11 09 0519	11 09 0520	11 09 0999	11 09 1957	11 09 0620	11 14 1189	11 14 1655
1.5ml Short Thread Vial, 32 x 11.6mm, clear glass, 1st hydrol. class, wide opening	1.5ml Short Thread Vial, 32 x 11.6mm, clear glass, 1st hydrol. class, wide opening, label + filling lines	1.5ml Short Thread Vial, 32 x 11.6mm, amber glass, 1st hydrol. class, wide opening, label + filling lines	Short Thread Vial with integrated 0.2ml Micro-Insert, 32 x 11.6mm, clear glass, 1st hydrol. class, with label + filling lines	Short Thread Vial with integrated 0.2ml Micro-Insert, 32 x 11.6mm, amber glass, 1st hydrol. class, with label + filling lines	1.1ml Microliter Short Thread Vial ND9, 32 x 11.6mm, clear glass, 1st hydrol. class	TopSert TPX Short Thread Vial, 32 x 11.6mm, clear, with integrated 0.2ml Glass Micro-Insert SILANIZED: 11 14 1265	TopSert TPX Short Thread Vial, 32 x 11.6mm, amber, with integrated 0.2ml Glass Micro-Insert SILANIZED: 11 14 1694
100 pcs. per PP-Box	100 pcs. per PP-Box	100 pcs. per PP-Box	100 pcs. per PP-Box	100 pcs. per PP-Box	100 pcs. per PP-Box	100 pcs. per PP-Box	100 pcs. per PP-Box

3.2 Micro-Inserts for Short Thread Vials ND9 with wide opening

06 09 0357	06 09 0669	06 09 0865	06 09 0866
0.1ml Micro-Insert, 31 x 6mm, clear glass, 1st hydrol. class, 15mm top	0.1ml Micro-Insert, 31 x 6mm, clear glass, 1st hydrol. class, 12mm top	0.1ml Micro-Insert, 29 x 5.7mm, clear glass, 1st hydrol. class, with assembled plastic spring	0.2ml Micro-Insert, 31 x 6mm, clear glass, 1st hydrol. class, flat bottom
10 x 100 pcs. per PP-Box	10 x 100 pcs. per PP-Box	10 x 100 pcs. per PP-Box	10 x 100 pcs. per PP-Box

3.3 Silanized Products

11 09 1241	11 09 1242	06 09 1240	06 09 1343
SILANIZED 1.5ml Short Thread Vial, 32 x 11.6mm, clear glass, 1st hydrol. class, wide opening	SILANIZED 1.5ml Short Thread Vial, 32 x 11.6mm, amber glass, 1st hydrol. class, wide opening, label + filling lines	SILANIZED 0.1ml Micro-Insert, 31 x 6mm, clear glass, 1st hydrol. class, 15mm top	SILANIZED 0.1ml Micro-Insert, 29 x 5.7mm, clear glass, 1st hydrol. class, with assembled plastic spring
100 pcs. per PP-Box	100 pcs. per PP-Box	10 x 100 pcs. per PP-Box	10 x 100 pcs. per PP-Box

Upon request we supply Micro-Inserts pre-assembled in vials.

NEW

Upon request other products can be silanized under consideration of minimum order quantities.

NEW

3.4 Plastic Vials ND9 and Plastic Micro-Vials ND9

					
PP	PP	NEW PP	PP	TPX	PP
11 19 1205	11 19 1516	11 19 1706	11 19 0932	11 19 1021	11 19 1216
1.5ml PP Short Thread Vial, transparent, with filling lines, 32 x 11.6mm, slightly concave shaped bottom	1.5ml PP Short Thread Vial, amber, with filling lines, 32 x 11.6mm, slightly concave shaped bottom	0.7ml PP Short Thread Micro-Vial, transparent, 32 x 11.6mm	0.3ml PP Short Thread Micro-Vial, transparent, 32 x 11.6mm	0.3ml TPX Short Thread Micro-Vial, crystal clear, 32 x 11.6mm	0.3ml PP Short Thread Micro-Vial, amber, 32 x 11.6mm
100 pcs. per PE-Bag	100 pcs. per PE-Bag	100 pcs. per PE-Bag	100 pcs. per PE-Bag	100 pcs. per PE-Bag	100 pcs. per PE-Bag

3.5 PP Short Thread Seals ND9



- Synthetic RedRubber/PTFE material as a cost-effective match of the Agilent quality. In contrast to Natural Rubber it is not suitable for multiple injections, however softer for a safe penetration. **NEW**
- Short thread seals also available as closed top version (blue cap) **NEW**
- 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 Y-shape while the PTFE lamination remains intact. This way concentration changes occurring with completely slitted septa can be avoided. **NEW**

3.5.1 With transparent cap, 6mm centre hole

Art. No.	Description Cap	Septa Material	Durometer	Thickn.
09 15 0981	PP Short Thread Cap transparent, 6mm centre hole	PTFE virginal	53° shore D	0.2mm
09 15 0478	PP Short Thread Cap transparent, 6mm centre hole	Nat. Rubber red-orange/TEF transparent	60° shore A	1.0mm
09 15 2011	PP Short Thread Cap transparent, 6mm centre hole	RedRubber/PTFE beige Agilent Quality	45° shore A	1.0mm
09 15 0481	PP Short Thread Cap transparent, 6mm centre hole	Silicone white/PTFE red UltraClean	55° shore A	1.0mm
09 15 0480	PP Short Thread Cap transparent, 6mm centre hole	PTFE red/Silicone white/PTFE red	45° shore A	1.0mm
09 15 0852	PP Short Thread Cap transparent, 6mm centre hole	Silicone white/PTFE blue, with slit	55° shore A	1.0mm
09 15 2021	PP Short Thread Cap transparent, 6mm centre hole	Silicone white/PTFE red, pre-cut (Y)	55° shore A	1.0mm

Packaging Unit: 100 pcs. per PE-Bag

3.5.2 With blue cap

3.5.2.1 With blue cap, 6mm centre hole

Art. No.	Description Cap	Septa Material	Durometer	Thickn.
09 15 0982	PP Short Thread Cap blue, 6mm centre hole	PTFE virginal	53° shore D	0.2mm
09 15 0867	PP Short Thread Cap blue, 6mm centre hole	Nat. Rubber red-orange/TEF transparent	60° shore A	1.0mm
09 15 1819	PP Short Thread Cap blue, 6mm centre hole	RedRubber/PTFE beige Agilent Quality	45° shore A	1.0mm
09 15 0838	PP Short Thread Cap blue, 6mm centre hole	Silicone white/PTFE red UltraClean	55° shore A	1.0mm
09 15 0868	PP Short Thread Cap blue, 6mm centre hole	PTFE red/Silicone white/PTFE red	45° shore A	1.0mm
09 15 0869	PP Short Thread Cap blue, 6mm centre hole	Silicone white/PTFE blue, with slit	55° shore A	1.0mm
09 15 2016	PP Short Thread Cap blue, 6mm centre hole	Silicone white/PTFE red, pre-cut (Y)	55° shore A	1.0mm

Packaging Unit: 100 pcs. per PE-Bag

3.5.2.2 With blue cap, closed top

Art. No.	Description Cap	Septa Material	Durometer	Thickn.
09 15 1828	PP Short Thread Cap blue, closed top	PTFE virginal	53° shore D	0.2mm
09 15 1887	PP Short Thread Cap blue, closed top	Nat. Rubber red-orange/TEF transparent	60° shore A	1.0mm
09 15 1799	PP Short Thread Cap blue, closed top	Silicone white/PTFE red UltraClean	55° shore A	1.0mm

Packaging Unit: 100 pcs. per PE-Bag

3.5.3 With red cap, 6mm centre hole

Art. No.	Description Cap	Septa Material	Durometer	Thickn.
09 15 1337	PP Short Thread Cap red, 6mm centre hole	PTFE virginal	53° shore D	0.2mm
09 15 1176	PP Short Thread Cap red, 6mm centre hole	Nat. Rubber red-orange/TEF transparent	60° shore A	1.0mm
09 15 2012	PP Short Thread Cap red, 6mm centre hole	RedRubber/PTFE beige, Agilent Quality	45° shore A	1.0mm
09 15 1178	PP Short Thread Cap red, 6mm centre hole	Silicone white/PTFE red <i>UltraClean</i>	55° shore A	1.0mm
09 15 1177	PP Short Thread Cap red, 6mm centre hole	PTFE red/Silicone white/PTFE red	45° shore A	1.0mm
09 15 1179	PP Short Thread Cap red, 6mm centre hole	Silicone white/PTFE blue, with slit	55° shore A	1.0mm

Packaging Unit: 100 pcs. per PE-Bag

3.5.4 With black cap, 6mm centre hole

Art. No.	Description Cap	Septa Material	Durometer	Thickn.
09 15 1668	PP Short Thread Cap black, 6mm centre hole	PTFE virginal	53° shore D	0.2mm
09 15 1570	PP Short Thread Cap black, 6mm centre hole	Nat. Rubber red-orange/TEF transparent	60° shore A	1.0mm
09 15 2013	PP Short Thread Cap black, 6mm centre hole	RedRubber/PTFE beige Agilent Quality	45° shore A	1.0mm
09 15 1572	PP Short Thread Cap black, 6mm centre hole	Silicone white/PTFE red <i>UltraClean</i>	55° shore A	1.0mm
09 15 1571	PP Short Thread Cap black, 6mm centre hole	PTFE red/Silicone white/PTFE red	45° shore A	1.0mm
09 15 1669	PP Short Thread Cap black, 6mm centre hole	Silicone white/PTFE blue, with slit	55° shore A	1.0mm

Packaging Unit: 100 pcs. per PE-Bag

3.5.5 With green cap, 6mm centre hole

Art. No.	Description Cap	Septa Material	Durometer	Thickn.
09 15 1539	PP Short Thread Cap green, 6mm centre hole	PTFE virginal	53° shore D	0.2mm
09 15 1356	PP Short Thread Cap green, 6mm centre hole	Nat. Rubber red-orange/TEF transparent	60° shore A	1.0mm
09 15 1911	PP Short Thread Cap green, 6mm centre hole	RedRubber/PTFE beige, Agilent Quality	45° shore A	1.0mm
09 15 1332	PP Short Thread Cap green, 6mm centre hole	Silicone white/PTFE red <i>UltraClean</i>	55° shore A	1.0mm
09 15 1485	PP Short Thread Cap green, 6mm centre hole	PTFE red/Silicone white/PTFE red	45° shore A	1.0mm
09 15 1746	PP Short Thread Cap green, 6mm centre hole	Silicone white/PTFE blue, with slit	55° shore A	1.0mm

Packaging Unit: 100 pcs. per PE-Bag

3.5.6 With yellow cap, 6mm centre hole

Art. No.	Description Cap	Septa Material	Durometer	Thickn.
09 15 2015	PP Short Thread Cap yellow, 6mm centre hole	PTFE virginal	53° shore D	0.2mm
09 15 1542	PP Short Thread Cap yellow, 6mm centre hole	Nat. Rubber red-orange/TEF transparent	60° shore A	1.0mm
09 15 2014	PP Short Thread Cap yellow, 6mm centre hole	RedRubber/PTFE beige, Agilent Quality	45° shore A	1.0mm
09 15 1527	PP Short Thread Cap yellow, 6mm centre hole	Silicone white/PTFE red <i>UltraClean</i>	55° shore A	1.0mm
09 15 1486	PP Short Thread Cap yellow, 6mm centre hole	PTFE red/Silicone white/PTFE red	45° shore A	1.0mm
09 15 1745	PP Short Thread Cap yellow, 6mm centre hole	Silicone white/PTFE blue, with slit	55° shore A	1.0mm

Packaging Unit: 100 pcs. per PE-Bag

3.5.7 With Magnetic Short Thread Cap, 6mm centre hole (for CTC GC PAL + Thermo Scientific TriPlus autosampler)

- more convenient and safer in handling than 1.1 mm magnetic crimp seals
- ready-to-use closures
- officially tested and approved by CTC



Art. No.	Description Cap	Septa Material	Durometer	Thickn.
09 15 1907	PP Short Thread Cap, blue, 6mm centre hole, with firmly affixed magnetic cap, gold	Silicone white/PTFE red <i>UltraClean</i>	55° shore A	1.0mm

Packaging Unit: 100 pcs. per PE-Bag

3.5.8 9mm Short Thread MS Cap

- One Component Closure – no bleeding
- absolutely inert
- pierceable like a septa
- LC/GC MS certified
- tight like a septa



Art. No.	Description Cap	Septa Material	Durometer	Thickn.
09 08 2000	9mm Short Thread MS Cap, transparent	with thinned penetration area and diaphragm		

Packaging Unit: 100 pcs. per PE-Bag

3.5.9 UltraBond Seals ND9

(Cap + Liner form an inseparable unit, so that the liner cannot be pushed into the vial even with a blunt needle)

- Analogous to the LECTRABOND closure from Waters® resp. the INTERSEAL closure from Agilent we also offer several UltraBond Short Thread Seals, among others also in an **improved Waters® quality**. The new septa material is an especially pure Silicone material, which optimizes the product safety even more. Furthermore, the PTFE layer was modified, which permits an even easier penetration of the needle.



Art. No.	Description Cap	Septa Material	Durometer	Thickn.
09 04 1220	PP Short Thread Cap black, 6mm centre hole	Silicone white/PTFE red	45° shore A	1.3mm
09 04 1533	PP Short Thread Cap blue, 6mm centre hole	Silicone beige/PTFE white	45° shore A	1.3mm
09 04 1534	PP Short Thread Cap blue, 6mm centre hole	improved Waters® Quality Silicone beige/PTFE white, with slit	45° shore A	1.3mm

Packaging Unit: 100 pcs. per PE-Bag

3.6 Septa 9mm for Short Thread Caps

NEW

- Please consider that the diameter of the septa has been determined in that way that they fit optimal in our short thread caps. This is not necessarily valid for caps of other manufacturers.

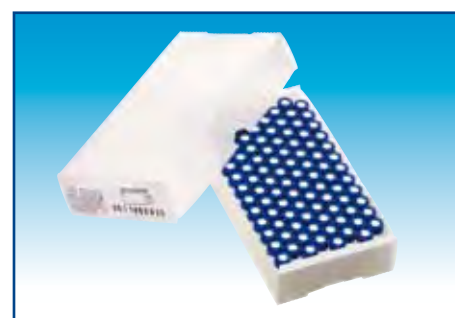
09 02 0980	09 02 1779	09 02 1818	09 02 1780	09 02 1781	09 02 1942
PTFE virginal, 53° shore D, 0.2mm	Nat. Rubber red- orange/TEF transparent, 60° shore A, 1.0mm	RedRubber/ PTFE beige, 45° shore A, 1.0mm Agilent Quality	Silicone white/ PTFE red, 55° shore A, 1.0mm	PTFE red/Silicone white/ PTFE red, 45° shore A, 1.0mm	Silicone white/ PTFE blue, 55° shore A, 1.0mm with slit

Packaging Unit: 1000 pcs. per PE-Bag

3.7 Short Thread Vials and Micro-Vials ND9 with assembled Short Thread Seals ND9

NEW

- Pre-screwed vials reduce the risk of contamination of vials in laboratories. Furthermore special applications could require a pre-screwed vial (e.g. in the tobacco industry).
- Pre-screwed vials are available with any of the short thread vials and any seal of your choice



Art. No.	Description Vial	Description of Screwed-on Seal
11 14 1464	1.5ml Short Thread Vial, 32 x 11.6mm, clear glass, 1 st hydrol. class, wide opening (11 09 0500)	PP Short Thread Cap green, 6mm centre hole, Nat. Rubber red-orange/TEF transparent, 60° shore A, 1.0mm (09 15 1356)
11 14 1906	1.5ml Short Thread Vial, 32 x 11.6mm, clear glass, 1 st hydrol. class, wide opening (11 09 0500)	PP Short Thread Cap blue, 6mm centre hole, RedRubber/PTFE beige, (Agilent Quality) , 45° shore A, 1.0mm (09 15 1819)
11 14 1963	1.5ml Short Thread Vial, 32 x 11.6mm, clear glass, 1 st hydrol. class, wide opening (11 09 0500)	PP Short Thread Cap blue, 6mm centre hole, Silicone white/PTFE blue, with slit, 55° shore A, 1.0mm (09 15 0869)
11 14 1841	1.5ml Short Thread Vial, 32 x 11.6mm, amber glass, 1 st hydrol. class, wide opening, label + filling lines (11 09 0520)	PP Short Thread Cap blue, 6mm centre hole, Silicone white/PTFE blue, with slit, 55° shore A, 1.0mm (09 15 0869)
11 14 1867	1.5ml Short Thread Vial, 32 x 11.6mm, amber glass, 1 st hydrol. class, wide opening, label + filling lines (11 09 0520)	PP UltraBond Seal blue, 6mm centre hole, Silicone beige/PTFE white, with slit (improved Waters® Quality), 45° shore A, 1.3mm (09 04 1534)

Packaging Unit: 100 pcs. per PP-Box

3.8 Special 2in1 KITs

2in1 KITs with Short Thread Vials

Art. No. 2in1 KIT	Art. No. Vial	Art. No. Seal	Alternative 2in1 KITs	
11 24 1140	11 09 0500	09 15 0478	11 24 1778	
2in1 KIT consisting of: 11 09 0500, 09 15 0478	1.5ml Short Thread Vial, 32 x 11.6mm, clear glass, 1 st hydrol. class, wide opening	PP Short Thread Cap transparent, 6mm centre hole; Nat. Rubber red-orange/TEF transparent, 60° shore A, 1.0mm	Further 2in1 KITs can be made according to your wishes!	Same Seal in combination with 11 09 0520 (amber glass, with label + filling lines)
11 24 1141	11 09 0500	09 15 0481	11 24 1142	11 24 1091
2in1 KIT consisting of: 11 09 0500, 09 15 0481	1.5ml Short Thread Vial, 32 x 11.6mm, clear glass, 1 st hydrol. class, wide opening	PP Short Thread Cap transparent, 6mm centre hole; UltraClean Silicone white/PTFE red, 55° shore A, 1.0mm	Same Seal in combination with 11 09 0519 (clear glass, with label + filling lines)	Same Seal in combination with 11 09 0520 (amber glass, with label + filling lines)
11 24 1049	11 09 0500	09 15 0867	11 24 1929	11 24 1528
2in1 KIT consisting of: 11 09 0500, 09 15 0867	1.5ml Short Thread Vial, 32 x 11.6mm, clear glass, 1 st hydrol. class, wide opening	PP Short Thread Cap blue, 6mm centre hole; Nat. Rubber red-orange/TEF transparent, 60° shore A, 1.0mm	Same Seal in combination with 11 09 0519 (clear glass, with label + filling lines)	Same Seal in combination with 11 09 0520 (amber glass, with label + filling lines)
11 24 1050	11 09 0500	09 15 0838	11 24 1143	11 24 1342
2in1 KIT consisting of: 11 09 0500, 09 15 0838	1.5ml Short Thread Vial, 32 x 11.6mm, clear glass, 1 st hydrol. class, wide opening	PP Short Thread Cap blue, 6mm centre hole; UltraClean Silicone white/PTFE red, 55° shore A, 1.0mm	Same Seal in combination with 11 09 0519 (clear glass, with label + filling lines)	Same Seal in combination with 11 09 0520 (amber glass, with label + filling lines)
11 24 1051	11 09 0500	09 15 0869	11 24 1238	11 24 1573
2in1 KIT consisting of: 11 09 0500, 09 15 0869	1.5ml Short Thread Vial, 32 x 11.6mm, clear glass, 1 st hydrol. class, wide opening	PP Short Thread Cap blue, 6mm centre hole; Silicone white/PTFE blue, 55° shore A, 1.0mm, with slit	Same Seal in combination with 11 09 0519 (clear glass, with label + filling lines)	Same Seal in combination with 11 09 0520 (amber glass, with label + filling lines)
11 24 1052	11 09 0500	09 15 0868	11 24 1446	11 24 1447
2in1 KIT consisting of: 11 09 0500, 09 15 0868	1.5ml Short Thread Vial, 32 x 11.6mm, clear glass, 1 st hydrol. class, wide opening	PP Short Thread Cap blue, 6mm centre hole; PTFE red/Silicone white/PTFE red, 45° shore A, 1.0mm	Same Seal in combination with 11 09 0519 (clear glass, with label + filling lines)	Same Seal in combination with 11 14 1189 (TopSert, clear, with integrated Glass Micro-Insert)
11 24 1622	11 09 0500	09 04 1534	11 24 1860	11 24 1696
2in1 KIT consisting of: 11 09 0500, 09 04 1534	1.5ml Short Thread Vial, 32 x 11.6mm, clear glass, 1 st hydrol. class, wide opening	UltraBond Seal blue, 6mm centre hole; Silicone beige/PTFE white, with slit, 45° shore A, 1.3mm improved Waters® Quality	Same Seal in combination with 11 09 0519 (clear glass, with label + filling lines)	Same Seal in combination with 11 09 0520 (amber glass, with label + filling lines)

NEW

Packaging Unit: 100 pcs. each in one KIT

2in1 KIT with Microliter Short Thread Vial, clear glass

Art. No. 2in1 KIT	Art. No. Vial	Art. No. Seal	Alternative
11 24 1129	11 09 0620	09 15 0869	11 24 1862
2in1 KIT consisting of: 11 09 0620, 09 15 0869	1.1ml Microliter Short Thread Vial ND9, 32 x 11.6mm, clear glass, 1 st hydrol. class	PP Short Thread Cap blue, 6mm centre hole; Silicone white/PTFE blue, 55° shore A, 1.0mm, with slit	Same Vial in combination with 09 04 1534

Packaging Unit: 100 pcs. each in one KIT

2in1 KIT with PP Short Thread Micro-Vials, transparent

11 24 1130	11 19 0932	09 15 0869	11 24 1643
2in1 KIT consisting of: 11 19 0932, 09 15 0869	0.3ml PP Short Thread Micro-Vial, transp., 32 x 11.6mm	PP Short Thread Cap blue, 6mm centre hole; Silicone white/PTFE blue, 55° shore A, 1.0mm, with slit	Same Vial in combination with 09 04 1534

Packaging Unit: 100 pcs. each in one KIT

11 24 1476	11 19 0932	09 15 0838	11 24 1593
2in1 KIT consisting of: 11 19 0932, 09 15 0838	0.3ml PP Short Thread Micro-Vial, transp., 32 x 11.6mm	PP Short Thread Cap blue, 6mm centre hole; UltraClean Silicone white/PTFE red, 55° shore A, 1.0mm	Same Vial in combination with 09 15 0868

Packaging Unit: 100 pcs. each in one KIT

Further 2in1 KITs are available upon request!



4. Screw Neck ND10



The vials are preferentially used on instruments of the following manufacturers: **Jasco, PerkinElmer, Shimadzu, Varian, Waters®**, etc.

(Please have a look at the autosampler compatibility chart on pages 76-85 to see on which models they can be used)

- Wide opening enables easy filling with viscous materials
- Broad range of Micro-Inserts
- Alternatively you can also look for Short Thread Vials in chapter 3.1
- Any combination of 1.5ml Screw Neck Vial 10-425 with one of our 10mm PP Screw Seals can be obtained as a 2in1 KIT
- Packed in a cleanroom class 10,000 which is a new hygienic standard for chromatography vials
- Closed top Seals and replacement septa area available with immediate effect

NEW

4.1 Screw Neck Vials ND10, wide opening, 10-425 thread and appropriate Micro-Inserts

10 09 0743	10 09 1196	10 09 1197	06 09 0357	06 09 0669	06 09 0865	06 09 0866
1.5ml Screw Neck Vial, 10-425 Thread, 32 x 11.6mm, clear glass, 1 st hydrol. class, wide opening	1.5ml Screw Neck Vial, 10-425 Thread, 32 x 11.6mm, clear glass, 1 st hydrol. class, wide opening, label + filling lines	1.5ml Screw Neck Vial, 10-425 Thread, 32 x 11.6mm, amber glass, 1 st hydrol. class, wide opening, label + filling lines	0.1ml Micro-Insert, 31 x 6mm, clear glass, 1 st hydrol. class, 15mm top	0.1ml Micro-Insert, 31 x 6mm, clear glass, 1 st hydrol. class, 12mm top	0.1ml Micro-Insert, 29 x 5.7mm, clear glass, 1 st hydrol. class, with assembled plastic spring	0.2ml Micro-Insert, 31 x 6mm, clear glass, 1 st hydrol. class, flat bottom
100 pcs. per PP-Box	100 pcs. per PP-Box	100 pcs. per PP-Box	SILANIZED: 06 09 1240		SILANIZED: 06 09 1343	
10 x 100 pcs. per PP-Box	10 x 100 pcs. per PP-Box	10 x 100 pcs. per PP-Box	10 x 100 pcs. per PP-Box	10 x 100 pcs. per PP-Box	10 x 100 pcs. per PP-Box	10 x 100 pcs. per PP-Box

4.2 PP Screw Seals ND10

Art. No.	Description Cap	Septa Material	Durometer	Thickn.
10 15 1256	Polypropylene Screw Cap black, 7mm centre hole	Nat. Rubber red-orange/TEF transparent	60° shore A	1.3mm
10 15 1257	Polypropylene Screw Cap black, 7mm centre hole	Silicone white/PTFE red <i>UltraClean</i>	45° shore A	1.3mm
10 15 0744	Polypropylene Screw Cap black, 7mm centre hole	Silicone white/PTFE beige	45° shore A	1.5mm
10 15 1258	Polypropylene Screw Cap black, 7mm centre hole	PTFE red/Silicone white/PTFE red	45° shore A	1.0mm
10 15 1328	Polypropylene Screw Cap black, 7mm centre hole	Silicone white/PTFE blue, with slit	55° shore A	1.5mm
10 15 1905	Polypropylene Screw Cap black, 7mm closed top	Nat. Rubber red-orange/TEF transparent	60° shore A	1.3mm

Packaging Unit: 100 pcs. per PE-Bag

4.3 Septa 10mm

NEW

10 02 0646	09 02 1259	09 02 1260
PTFE virginal, 53° shore D, 0.25mm (only unassembled)	Nat. Rubber red-orange/ TEF transp., 60° shore A, 1.3mm	Silicone white/PTFE red, 45° shore A, 1.3mm
09 02 0723	09 02 1261	09 02 1327
Silicone white/PTFE beige, 45° shore A, 1.5mm	PTFE red/Silicone white/ PTFE red, 45° shore A, 1.0mm	Silicone white/PTFE blue, 55° shore A, 1.5mm, with slit

Packaging Unit: 1000 pcs. per PE-Bag

4.4 PP Screw Caps ND10

Art. No.	Description Cap
10 08 0742	Polypropylene Screw Cap black, 7mm centre hole
10 08 1899	Polypropylene Screw Cap black, closed top

Packaging Unit: 100 pcs. per PE-Bag

5. Crimp Neck ND11

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.

(Please have a look at the autosampler compatibility chart on pages 76-85 to see on which models they can be used)

NEW

- Standard vials for GC and HPLC
- Vials with integrated Micro-Insert are also available now in clear and amber glass
- Vials with a barcode label can be obtained as well as pre-crimped vials
- Microliter Vials (11 09 0619) for sample preparation (reactions, concentrations) or as an alternative for conical Micro-Vials resp. Crimp Neck Vials with Inserts
- Use our TopSert Micro-Vial as a cost-effective alternative to glass vials with fused-in Micro-Inserts resp. to Micro-Insert with plastic spring! Their glass Micro-Insert is absolutely centered in the plastic mould and pressed firmly against the septa due to its slightly exceeding edges.



5.1 Crimp Neck Vials ND11, wide opening, and appropriate Micro-Inserts

11 09 0356	11 09 0476	11 09 0477	06 09 0357	06 09 0669	06 09 0865	06 09 0866
1.5ml Crimp Neck Vial, 32 x 11.6mm, clear glass, 1 st hydrol. class, wide opening	1.5ml Crimp Neck Vial, 32 x 11.6mm, clear glass, 1 st hydrol. class, wide opening, label + filling lines	1.5ml Crimp Neck Vial, 32 x 11.6mm, amber glass, 1 st hydrol. class, wide opening, label + filling lines	0.1ml Micro-Insert, 31 x 6mm, clear glass, 1 st hydrol. class, 15mm top SILANIZED: 06 09 1240	0.1ml Micro-Insert, 31 x 6mm, clear glass, 1 st hydrol. class, 12mm top	0.1ml Micro-Insert, 29 x 5.7mm, clear glass, 1 st hydrol. class, with assembled plastic spring SILANIZED: 06 09 1343	0.2ml Micro-Insert, 31 x 6mm, clear glass, 1 st hydrol. class, flat bottom
100 pcs. per PP-Box	100 pcs. per PP-Box	100 pcs. per PP-Box	10 x 100 pcs. per PP-Box	10 x 100 pcs. per PP-Box	10 x 100 pcs. per PP-Box	10 x 100 pcs. per PP-Box

5.2 Micro-Vials with Crimp Neck ND11

NEW

11 09 0486	11 09 0415	11 09 0921	11 09 1956	11 09 0619	11 14 1190	11 14 1656
0.9ml Micro-Vial, 32 x 10mm, clear glass, 1 st hydrol. class, conical	1.1ml Micro-Vial, 32 x 11.6mm, clear glass, 1 st hydrol. class, conical	Crimp Neck Vial with integrated 0.2ml Micro-Insert, 32 x 11.6mm, clear glass, 1 st hydrol. class, with label + filling lines	Crimp Neck Vial with integrated 0.2ml Micro-Insert, 32 x 11.6mm, amber glass, 1 st hydrol. class, with label + filling lines	1.1ml Microliter-Vial, 32 x 11.6mm, clear glass, 1 st hydrol. class	TopSert TPX Snap Ring Vial, 32 x 11.6mm, clear, with integrated 0.2ml Glass Micro-Insert SILANIZED: 11 14 1266	TopSert TPX Snap Ring Vial, 32 x 11.6mm, amber, with integrated 0.2ml Glass Micro-Insert SILANIZED: 11 14 1695
10 x 100 pcs. per PP-Box	100 pcs. per PP-Box	100 pcs. per PP-Box	100 pcs. per PP-Box	100 pcs. per PP-Box	100 pcs. per PP-Box	100 pcs. per PP-Box

5.3 Other Crimp Neck Vials ND11

11 09 0831		11 09 0184	
2.5ml Crimp Neck Vial, 41 x 11.6mm, clear glass, 1 st hydrol. class, wide opening		1.5ml Crimp Neck Vial, 32 x 11.6mm, clear glass, 1 st hydrol. class, small opening	
100 pcs. per PP-Box		100 pcs. per PP-Box	

TIP



Any combination of 1.5ml Vials with one of the appropriate seals can be supplied as 2in1 KIT!

TIP



For 11 mm Crimpers and Decappers please see chapter 17 on pages 55 cont.

5.4 Aluminium Crimp Seals ND11

5.4.1 Natural Rubber/TEF Seals

- Temperature resistant from -40 °C up to 120 °C
- Standard seal for GC and HPLC
- Ideal for multiple injections due to high resealability
- Three layer septa of Natural Rubber/Butyl/TEF combines the good physical properties of Nat. Rubber (resealability) with the good chemical properties of Butyl (cleanliness)

Art. No.	Description Cap	Septa Material	Durometer	Thickn.
11 03 0209	Aluminium Cap clear lacquered, 5.5mm centre hole	Nat. Rubber red-orange/TEF transparent	60° shore A	1.0mm
11 03 0300	Aluminium Cap clear lacquered, 5.5mm centre hole	Agilent Quality Nat. Rubber red-orange/Butyl red/TEF transparent	45° shore A	1.0mm
11 03 0301	Aluminium Cap green lacquered, 5.5mm centre hole	Nat. Rubber red-orange/Butyl red/TEF transparent	45° shore A	1.0mm
11 03 0302	Aluminium Cap red lacquered, 5.5mm centre hole	Nat. Rubber red-orange/Butyl red/TEF transparent	45° shore A	1.0mm
11 03 0303	Aluminium Cap blue lacquered, 5.5mm centre hole	Nat. Rubber red-orange/Butyl red/TEF transparent	45° shore A	1.0mm
11 03 0304	Aluminium Cap gold lacquered, 5.5mm centre hole	Nat. Rubber red-orange/Butyl red/TEF transparent	45° shore A	1.0mm
11 03 0900	Aluminium Cap clear lacquered, 5.5mm centre hole	Nat. Rubber red-orange/TEF transparent (replaces article 11 03 0700)	60° shore A	1.3mm

Packaging Unit: 100 pcs. per PE-Bag

5.4.2 RedRubber/PTFE Seals **NEW**

- Temperature resistant from -40 °C up to 110 °C
- softer alternative to Natural Rubber/TEF and Butyl/PTFE
- Cleaner than Natural Rubber or Butyl; low fragmentation
- RedRubber is a synthetic rubber

Art. No.	Description Cap	Septa Material	Durometer	Thickn.
11 03 1875	Aluminium Cap clear lacquered, 5.5mm centre hole	RedRubber/PTFE beige Agilent Quality	45° shore A	1.0mm
11 03 1984	Aluminium Cap green lacquered, 5.5mm centre hole	RedRubber/PTFE beige Agilent Quality	45° shore A	1.0mm
11 03 1985	Aluminium Cap red lacquered, 5.5mm centre hole	RedRubber/PTFE beige Agilent Quality	45° shore A	1.0mm
11 03 1986	Aluminium Cap blue lacquered, 5.5mm centre hole	RedRubber/PTFE beige Agilent Quality	45° shore A	1.0mm
11 03 1987	Aluminium Cap gold lacquered, 5.5mm centre hole	RedRubber/PTFE beige Agilent Quality	45° shore A	1.0mm

Packaging Unit: 100 pcs. per PE-Bag

5.4.3 Silicone/PTFE Seals

- Temperature resistant from -60 °C up to 200 °C
- Cross-slitted liner as penetration aid and for low coring, but also for avoiding vacuum in the vial in case of multiple injections
- Much cleaner than Natural Rubber, RedRubber or Butyl

Art. No.	Description Cap	Septa Material	Durometer	Thickn.
11 03 0247	Aluminium Cap clear lacquered, 5.5mm centre hole	Silicone white/PTFE red UltraClean	45° shore A	1.3mm
11 03 1625	Aluminium Cap green lacquered, 5.5mm centre hole	Silicone white/PTFE red UltraClean	45° shore A	1.3mm
11 03 0666	Aluminium Cap red lacquered, 5.5mm centre hole	Silicone white/PTFE red UltraClean	45° shore A	1.3mm
11 03 0667	Aluminium Cap blue lacquered, 5.5mm centre hole	Silicone white/PTFE red UltraClean	45° shore A	1.3mm
11 03 1624	Aluminium Cap gold lacquered, 5.5mm centre hole	Silicone white/PTFE red UltraClean	45° shore A	1.3mm
11 03 0362	Aluminium Cap clear lacquered, 5.5mm centre hole	Silicone cream/PTFE red	55° shore A	1.5mm
11 03 0885	Aluminium Cap clear lacquered, 5.5mm centre hole	Silicone dark blue/PTFE white	45° shore A	1.3mm
11 03 0588	Aluminium Cap clear lacquered, 5.5mm centre hole	Silicone blue transparent/PTFE white	45° shore A	1.3mm
11 03 0196	Aluminium Cap clear lacquered, 5.5mm centre hole	PTFE red/Silicone white/PTFE red	45° shore A	1.0mm
11 03 0464	Aluminium Cap clear lacquered, 5.5mm centre hole	Silicone white/PTFE blue, cross-slitted	55° shore A	1.5mm

Packaging Unit: 100 pcs. per PE-Bag

5.4.4 Other Aluminium Crimp Seals

- PTFE is very inert and high temperature resistant
- mainly for uncritical HPLC analysis
- Butyl as synthetic rubber is much cleaner than Natural Rubber
- Butyl is temperature resistant from -40 °C up to 120 °C
- Viton is resistant to a number of corrosive organic substances, mainly used in petrochemical areas
- Viton is temperature resistant from -23 °C up to 200 °C

Art. No.	Description Cap	Septa Material	Durometer	Thickn.
11 03 0339	Aluminium Cap clear lacquered, 5.5mm centre hole, roll grove	PTFE virginal	53° shore D	0.25mm
11 03 1641	Aluminium Cap clear lacquered, 5.5mm centre hole	Butyl red/PTFE grey	55° shore A	1.3mm
11 03 1663	Aluminium Cap clear lacquered, 5.5mm centre hole	PTFE grey/Butyl red/PTFE grey	55° shore A	1.3mm
11 03 0720	Aluminium Cap clear lacquered, 5.5mm centre hole	Viton black	70° shore A	1.0mm
11 03 0407	Aluminium Cap clear lacquered, 5.5mm centre hole	Viton black	70° shore A	1.5mm

All before-mentioned crimp seals are also available with gold, green, blue and red caps (with the exception of 11 03 0339)

Packaging Unit: 100 pcs. per PE-Bag

5.5 Magnetic Crimp Seals ND11 (for CTC PAL + Thermo Scientific TriPlus Autosampler)

Art. No.	Description Cap	Septa Material	Durometer	Thickn.
11 03 0318	Magnetic Cap, gold lacquered, 5mm centre hole	Silicone white/PTFE red <i>UltraClean</i>	45° shore A	1.3mm
11 03 0332	Magnetic Cap, gold lacquered, 5mm centre hole	PTFE red/Silicone white/PTFE red	45° shore A	1.0mm

Packaging Unit: 100 pcs. per PE-Bag

5.6 Other Combination Seals for Crimp Neck ND11

- Push-On Cap (11 08 1676) with thinned penetration point made of Polyethylene for Crimp Neck Vials and Snap Ring Vials ND11
- Inexpensive alternative to crimp caps for uncritical analyses, as it does not contain any septa, but only has a thinner penetration point.

Art. No.	Description Cap	Septa Material	Durometer	Thickn.
11 08 1676	PE Push-On Cap, blue	with thinned penetration point		
13 15 0553	PE-Cap, transparent, 13 x 7.5mm, 4.5mm centre hole	Nat. Rubber red-orange/TEF transparent	60° shore A	1.0mm
13 15 0996	PE-Cap, transparent, 13 x 7.5mm, 4.5mm centre hole	Silicone white/PTFE red <i>UltraClean</i>	55° shore A	1.0mm

Packaging Unit: 100 pcs. per PE-Bag

5.7 Septa 11mm

11 02 0176	11 02 0534	11 02 1876	11 02 1634	11 02 1662	11 02 0721	11 02 0221
PTFE virginal, 53° shore D, 0.25mm	Nat. Rubber red-orange/ TEF transparent, 60° shore A, 1.0mm	RedRubber/PTFE beige, 45° shore A, 1.0mm Agilent Quality	Butyl red/PTFE grey, 55° shore A, 1.3mm	PTFE grey/Butyl red/ PTFE grey, 55° shore A, 1.3mm	Viton black, 70° shore A, 1.0mm	Viton black, 70° shore A, 1.5mm
11 02 0104	11 02 0140	11 02 0882	11 02 0564	11 02 0446	11 02 0115	Against a small surcharge we also sell in smaller packaging units! (Minimum order quantity 1,000 pieces)
Silicone white/PTFE red, 45° shore A, 1.3mm	Silicone cream/PTFE red, 55° shore A, 1.5mm	Silicone dark blue/ PTFE white, 45° shore A, 1.3mm	Silicone blue transp./ PTFE white, 45° shore A, 1.3mm	Silicone white/PTFE blue, 55° shore A, 1.5mm, cross-slitted	PTFE red/Silicone white/ PTFE red, 45° shore A, 1.0mm	

Packaging Unit: 1000 pcs. per PP-Box

5.8 Crimp Neck Vials ND11, wide opening, with pre-crimped Aluminium Seals ND11

Art. No.	Description Vial	Description of pre-crimped Seal
11 31 1469	1.5ml Crimp Neck Vial, 32 x 11.6mm, clear glass, 1 st hydrol. class, wide opening (11 09 0356)	Aluminium Cap clear lacquered, 5.5mm centre hole, Nat. Rubber red-orange/TEF transparent (Agilent Quality), 60° shore A, 1.0mm (11 03 0209)
11 31 1968	1.5ml Crimp Neck Vial, 32 x 11.6mm, clear glass, 1 st hydrol. class, wide opening (11 09 0356)	Aluminium Cap clear lacquered, 5.5mm centre hole, Nat. Rubber red-orange/TEF transparent, 60° shore A, 1.3mm (11 03 0900)
11 31 1730	1.5ml Crimp Neck Vial, 32 x 11.6mm, clear glass, 1 st hydrol. class, wide opening (11 09 0356)	Aluminium Cap clear lacquered, 5.5mm centre hole, Nat. Rubber red-orange/Butyl red/TEF transparent, 45° shore A, 1.0mm (11 03 0300)
11 31 1221	1.5ml Crimp Neck Vial, 32 x 11.6mm, clear glass, 1 st hydrol. class, wide opening (11 09 0356)	Aluminium Cap blue lacquered, 5.5mm centre hole, Nat. Rubber red-orange/Butyl red/TEF transparent, 45° shore A, 1.0mm (11 03 0303)
11 31 1596	1.5ml Crimp Neck Vial, 32 x 11.6mm, amber glass, 1 st hydrol. class, wide opening, label + filling lines (11 09 0477)	Aluminium Cap clear lacquered, 5.5mm centre hole, Nat. Rubber red-orange/TEF transparent (Agilent Quality), 60° shore A, 1.0mm (11 03 0209)

Packaging Unit: 100 pcs. per PP-Box

TIP

NEW

6. Snap Ring ND11



The vials are preferentially used on instruments of the following manufacturers: Agilent, CTC, DANI, Dionex, Jasco, Shimadzu, Spark, Thermo Scientific, Varian, VWR (Merck®)/Hitachi, Waters®, etc.

(Please have a look at the autosampler compatibility chart on pages 76-85 to see on which models they can be used)

- We recommend this vial-/closure system for HPLC applications only
- Universally usable vials for almost all autosamplers, even for those with robotic handling
- Micro-Inserts can be delivered pre-assembled in vials
- Vials can also be crimped with a standard 11mm Aluminium Crimp Seal, as the two snap ring lips have the same height as a crimp neck
- Wide opening enables easy filling with viscous materials

NEW

6.1 Snap Ring Vials ND11, wide opening, and appropriate Micro-Inserts

11 09 0627	11 09 0644	11 09 0645	06 09 0357	06 09 0669	06 09 0865	06 09 0866
1.5ml Snap Ring Vial, 32 x 11.6mm, clear glass, 1 st hydrol. class, wide opening	1.5ml Snap Ring Vial, 32 x 11.6mm, clear glass, 1 st hydrol. class, wide opening, label + filling lines	1.5ml Snap Ring Vial, 32 x 11.6mm, amber glass, 1 st hydrol. class, wide opening, label + filling lines	0.1ml Micro-Insert, 31 x 6mm, clear glass, 1 st hydrol. class, 15mm top	0.1ml Micro-Insert, 31 x 6mm, clear glass, 1 st hydrol. class, 12mm top	0.1ml Micro-Insert, 29 x 5.7mm, clear glass, 1 st hydrol. class, with assembled plastic spring	0.2ml Micro-Insert, 31 x 6mm, clear glass, 1 st hydrol. class, flat bottom
SILANIZED: 06 09 1240			SILANIZED: 06 09 1343			
100 pcs. per PP-Box	100 pcs. per PP-Box	100 pcs. per PP-Box	10 x 100 pcs. per PP-Box	10 x 100 pcs. per PP-Box	10 x 100 pcs. per PP-Box	10 x 100 pcs. per PP-Box

6.2 Micro-Vials with Snap Ring ND11

11 14 1190	11 14 1656
TopSert TPX Snap Ring Vial, 32 x 11.6mm, clear, with integrated 0.2ml Glass Micro-Insert	TopSert TPX Snap Ring Vial, 32 x 11.6mm, amber, with integrated 0.2ml Glass Micro-Insert
SILANIZED: 11 14 1266	SILANIZED: 11 14 1695
100 pcs. per PP-Box	100 pcs. per PP-Box

- Less cost intensive alternative to Glass Vials with integrated Micro-Insert respectively alternative to Micro-Inserts with Polymere spring
- More rigid than the fragile Glass Vials with fused-in Micro-Inserts
- Absolutely centric and firm fit of the Micro-Insert
- Excellent sealing of the slightly exceeding Micro-Insert by the septa
- Good transparency and chemical resistance of the clear TPX vials. Amber TPX vials can be used for light-sensitive samples.
- Safe standing position; vial can be lifted by the plastic flanges
- Standard dimensions of the Vial and the Micro-Insert guarantee a troublefree run in the autosampler
- Packed with 100 pieces in a PP-Box or in combination with seals as a 2in1 KIT

TIP



For HPLC Syringe Filters and HPLC Syringe Filters with Glass Fibre Prefilter please see chapter 14 on pages 52 and 53

TIP



For Vial Racks please see chapter 18.1 on page 57