

CHROMA GLOBE

Your specialist for chromatography and pharmaceutical packaging



 **Quality**

 **Service**

 **Logistic**



| | |
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Company Profile

CHROMA GLOBE GbR was founded on November 15th, 2007.

The company's headquarters have been in Kreuzau since 2011, approx. 55 km west of Cologne.

The objective of the company is the production and distribution of high-quality laboratory and pharmaceutical packaging materials.

We aim to manufacture, sell high-quality laboratory and pharmaceutical products. As an independent, flexible, privately owned company managed by the owners, the company's goal is to quickly and reliably supply a worldwide customer base with innovative and high quality products at competitive prices.

Our customers are laboratory wholesalers, specialist dealers, manufacturers of analysis equipment, customers in the pharmaceutical industry, as well as laboratories and institutes.

Our range of products includes ...

❖ **a wide scope of laboratory glass for laboratories in the chromatography and analysis technology:**

- crimp and screw vials, micro inserts
- septa of different materials, Silicone / PTFE, butyl / PTFE, Viton, PTFE, silicone / aluminum crimp closures
plastic closure
- flaring tools (manual, pneumatic and electric)
plastic bottles
syringe filters for HPLC

❖ **for use mainly by pharmaceutical users:**

- Injection vials and infusion bottles
- Injection stoppers, infusion stoppers and septa
- crimp closures, plastic closures
- flaring tools (manual, pneumatic and electric)
Syringe filters
- Septa for laboratory closures (Schott screw caps GL16 – GL45)

In order to optimize customer service and to increase the flexibility required by the market, the key products – sealing washers (septas), closures and flanging tools – are produced exclusively in-house.

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 Chroma Globe article numbers are printed or labelled on the packaging of the products.

As we only supply wholesalers or distributors 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 would like to satisfy the consumers with our products. 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.



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 consider 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% higher or lower than the original quantity.

Services

- **Technical Support**
 - Autosampler Compatibility
 - Cross-References
 - Application-Specific Questions
- **Sample Service**
 - Cost-free
 - Upon request dispatch directly to the end user
- **Distribution Service**
 - Shipping of standard items within 24 hours
 - Upon request dispatch directly to the end user (neutral delivery)
 - Customer-Specific Labelling
 - Stocking of annual call-off contracts
- **Product Trainings**
 - Product training either at the customer's site or in our company
 - Introduction to the production processes of vials and seals
- **Product Catalogue Support**
 - Texts, tables, drawings and photos as electronic data files

Explanations

- **Cleanroom packed products**

There are different standards of cleanroom classes globally established. When stated, our products are packed in clean rooms of the class ISO 7 or ISO 8 (acc. to ISO 14644-1) which is identical to the class 10.000 or 100K (acc. to US FED STD 209E) for particles $\geq 0.5 \mu\text{m}$. Cleanroom classes represent a hygienic standard often found in the pharmaceutical industry. These special rooms have certified conditions for maximum particles per ft³ or m³ air. To have a comparison: The environment in a normal room contains billions of particles. The Cleanrooms are regularly measured by external authorities to guarantee the specifications. Such rooms have no windows (air-conditioned) and only material with low particle abrasion is allowed there (Plastic instead of wood or cardboard, etc.). The people have to wear special clothing.

- **Durometer**

Durometer is the hardness of a liner and is expressed in ° shore. The higher the grade the harder the liner; the lower the grade, the softer the liner. The softest liner is 35° shore A and the hardest 70° shore A. Besides the thickness of a liner the hardness is an essential indication when deciding which liner is suitable for the penetration of a certain type of needle (fragile needles, thin or thick needles, sharp or dull needles, etc.)

- **Headspace Neck (bevelled top)**

A Headspace Neck or Headspace Vial with bevelled top has a crimp neck whose outer edges are bevelled. In contrast to a flat DIN crimp neck the liner only has a very small surface to sit on which is a disadvantage regarding tightness (except for Pharma-Fix septa). Headspace Necks or bevelled crimp necks are only necessary when using the patented PerkinElmer Pressure Release Seal consisting of an Aluminum Cap with a slit, a metal star washer plate and a star-shaped liner. This system only releases excess pressure reliably when using a vial with such a top.



Explanations (Cont.)

- **Micro-Insert**

A Micro-Insert in contrast to a Micro-Vial cannot be sealed on its own. It is neckless and always has to be used within a vial. The diameter of the Micro-Insert is depending on the size of the vial opening. A Micro-Insert reduces the volume, so that a needle is capable of picking up even smallest sample quantities. The longer the top of an Insert the more the volume can be reduced.

- **Micro-Vial**

Micro-Vials can be sealed, but often need an adapter to run in the autosampler. In case they have a conical bottom, they cannot stand by themselves.

- **Microliter Vial (optimised residual emptying)**

Microliter-Vials can be closed independently and do not require an adapter for a safe stand due to their solid flat bottom with inner cone. The inner cone reduces the sample volume in such a way that a needle is still able to hold even small sample quantities. Functionally comparable to a sample vials with integrated or inserted micro insert, but the Micro-Liter vials holds about 5 times the sample volume of a micro insert.

- **Seal**

A Seal is an already assembled closure consisting of a cap and a liner.

- **Silanized**

Silanized vials are used to reduce the adsorption of polar compounds onto the normally polar surface of the glass container. Some compounds like aminoacids, proteins or phenols tend to react with the OH-groups of the glass, even if – as is common for chromatography – 1st hydrolytic class glass is used. Through the silanization process the glass surface is deactivated and so possible reactions between the polar compounds and the glass are eliminated.

Article Number System

Our 8 digital article number comprises the following indications:

Article Group

BV=Bördelverschluss
(Crimp Cap)



Sequential Number

Diameter in mm

BK = Bördelkappen/empty Crimp Caps
 BV = Bördelverschlüsse/assembled Crimp Caps
 CR = Verschließzangen/Crimper
 CV = Bördelköpfe/Crimping Heads
 DC = Öffnungszangen/Decapper
 DV = Öffnungsköpfe/Decapping Heads
 ES = Einwegspritzen/Disposable Syringes
 FB = Flachbodengläser/Shell Vials
 FE = Federn/Springs
 FI = Filter/Syringe Filters

FK = Flaschen-Kit/Vial Kits
 FO = Flip-Off Kappen/Caps
 FS = Flaschen-Sets/Vials Sets
 FT = Flip-Tear-Up Kappen/caps
 GC = GC Septen/GC Septa
 GW = Gewindeflaschen/Screw Vials
 HS = Headspace-Flaschen/Vials
 KG = Kurzgewindeflaschen/Short Thread Vials
 KP = 2in1 Kits
 ME = Mikroeinsätze/Micro-Inserts
 ÖS = Öffnungsschneider/ Opening Pliers

PC = Pneumatische Bördelgeräte/Pneumatic Crimping Tools
 RR = Rollrandflaschen/ Crimp Neck Vials
 SE = Scheiben/Septen/Liners/Septa
 SF = Schnappdeckelflaschen/Snap Cap Vials
 SK = Schraubekappen/empty Screw Caps
 SN = Schnappingverschlüsse/Snap Ring Closures
 SR = Schnappingflaschen/Snap Ring Vials
 ST = Stopfen/Stoppers
 SV = Schraubverschlüsse/Screw Closures
 VR = Vial-Racks
 VV = vorverschlossene Flaschen/pre-assembled Vials



Contacts

Customer Service

(for quotes, samples, technical support, etc.):

Phone: +49 (0) 24 22 / 90 41 38-3

Telefax: +49 (0) 24 22 / 90 41 38-7

E-Mail: service@chroma-globe.de

Order Processing

(for orders, delivery times, open orders, lead times, etc.):

Phone : +49 (0) 24 22 / 90 41 38-2

Telefax: +49 (0) 24 22 / 90 41 38-7

E-Mail: service@chroma-globe.de

General terms and conditions

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.chroma-globe.de, 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/Syringes: | 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/Storage Boxes: | 1 piece |

The minimum order quantities are independent from the packaging units indicated underneath all products. Minimum order value: 250.00 € Our goods are excluded from exchange, legal regulations remain unaffected hereof.

All information are subject to technical changes!

All data concerning dimensions and volumes are approximate. Specifications, terms and pricing are subject to change. Not all products are available in all countries. Please consult your local sales representative for details.

Remark:

Products mentioned in the catalogue are intended for general laboratory use (for research and development purposes and analytical quality control and/or routine measurements) only. They are not suited for clinical use (diagnostic, therapeutic or prognostic). Chroma Globe GbR does not assume any responsibility for damages due to improper application of our products or due to application of our products in other fields of application. The user has to ensure that the products used are suitable for the planned applications. Application on the human body is strictly forbidden. The user is liable of all damages resulting from such application. Chroma Globe GbR products are suited for qualified personnel only.

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.

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



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



| RR 08 0326 | RR 08 0327 | RR 08 0328 | RR 08 0329 | RR 08 0330 |
|---|---|---|---|---|
| 0.7ml Crimp Neck Vial, 40 x 7mm, clear glass, 1st hydrol. class | 0.7ml Crimp Neck Vial, 40 x 7mm, amber glass, 1st hydrol. class | 0.8ml Crimp Neck Vial, 30 x 8.2mm, clear glass, 1st hydrol. class | 1.2ml Crimp Neck Vial, 40 x 8.2mm, clear glass, 1st hydrol. class | 1.2ml Crimp Neck Vial, 40 x 8.2mm, amber glass, 1st hydrol. class |
| R. vol. < 11 µl | R. vol. < 11 µl | R. vol. < 11 µl | R. vol. < 20 µl | R. vol. < 20 µl |
| 10 x 100 pcs. per PP-Box | | | 100 pcs. per PP-Box | |



| RR 08 0331 | RR 08 0332 | RR 08 0317 | RR 08 0333 | RR 08 0334 |
|--|---|---|---|---|
| 0.3ml Micro-Vial, 31.5 x 5.5mm, clear glass, 1st hydrol. class, round bottom | 0.2ml Micro-Vial, 31.5 x 5.5mm, clear glass, 1st hydrol. class, conical | 0.7ml Micro-Vial, 40 x 7mm, clear glass, 1st hydrol. class, conical | 0.7ml Micro-Vial, 40 x 7mm, amber glass, 1st hydrol. class, conical | 0.4ml Micro-Vial, 30 x 7mm, amber glass, 1st hydrol. class, conical |
| R. vol. < 6 µl | R. vol. < 3 µl | R. vol. < 3 µl | R. vol. < 3 µl | R. vol. < 3 µl |
| 10 x 100 pcs. per PP-Box | | | | |

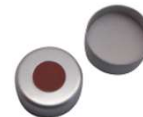
| Art. No. | CR 08 0001 | DC 08 0002 | ÖS 08 0150 |
|--------------|------------------------------------|-------------------------------------|---|
| Description: | Crimper for 8mm Aluminum Crimp Cap | Decapper for 8mm Aluminum Crimp Cap | Opening plier for 8mm Aluminum Crimp Cap (sterilisable for clean room applications) |
| | Unit = 1 piece per Box | | Unit = 1 piece per PE-Bag |



1.2 Aluminum 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 160°C for RedRubber.
- Natural Rubber harder to penetrate with more fragmentation during penetration than RedRubber.
- Natural Rubber ideal for multiple injections due to high resealability, but not as clean as the synthetic RedRubber.



| Art. No. | BV 08 0818 | BV 08 0438 | BV 08 0727 |
|---------------------|---|--------------------------------|--------------------------|
| Cap: | Aluminum Cap clear lacquered, 4mm centre hole | | |
| Septa: | Nat. Rubber red-orange/ TEF transparent | RedRubber/ PTFE transparent | RedRubber/ PTFE beige |
| Durometer: | 60° shore A | 45° shore A | 45° shore A |
| Thickness: | 1,0mm | 1,0mm | 1,0mm |
| 100 pcs. per PE-Bag | | | |

1.2.2 Silicone/PTFE Seals

- Temperature resistant from -60° C to 200° C
- Preferably only for single injections
- Different hardnesses to meet the respective needle types
- Silicone septa coated on both sides for low particle formation during penetration
- Cleaner than Natural Rubber or as RedRubber



| Art. No. | BV 08 0324 | BV 08 0753 | BV 08 0522 | BV 08 0523 | BV 08 1418 |
|---------------------|---|-----------------------------|-------------------------------------|---|---|
| Cap: | Aluminum Cap clear lacquered, 4mm centre hole | | | | |
| Septa: | Silicone white/ PTFE red | Silicone cream/ PTFE red | PTFE red/Silicone white/PTFE red | Silicone white/ PTFE red, SLIT | ZeroPEAK Septa , Silikon natural/ PTFE beige |
| Durometer: | 45° shore A | 55° shore A | 45° shore A | 45° shore A | 38° shore A |
| Thickness: | 1,0mm | 1,5mm | 1,0mm | 1,0mm | 1,0mm |
| 100 pcs. per PE-Bag | | | | | |

1.2.3 Other Crimp Seals

- PTFE is very inert and temperature resistant, however, problems with leakage due to the inflexibility and thinness of the material
- Only for single injections for non-critical HPLC analysis
- Viton is resistant to a variety of corrosive organic substances; temperature resistant from -40°C to 240°C, main application in the petrochemical industry



| Art. No. | BV 08 0984 | BV 08 0546 | BV 08 0547 |
|-----------------------|---|---|---|
| Cap: | Aluminum Cap, clear lacquered, 4mm centre hole, with roll groove | Aluminum Cap, clear lacquered, 4mm centre hole | Aluminum Cap, clear lacquered, 4mm centre hole |
| Septa: | PTFE virginal | Viton black | Viton black |
| Durometer: | 53° shore A | 70° shore A | 70° shore A |
| Thickness: | 0,25mm | 1,0mm | 1,5mm |
| 100 pieces per PE-Bag | | | |

The vials are preferentially used on instruments of the following manufactures: Beckman, CTC, Gilson, Knauer, Shimadzu, Spark, Varian, VWR (Merck®)/Hitachi, etc.

Standard vials for GC and HPLC.

- Specially suitable for VWR (Merck®)/Hitachi instruments (Article GW 08 0193, GW 08 0799, ME 05 0289, SV 08 0657, SK 08 0287, SE 08 0018, SE 08 0076)
- Broad range of Micro-Inserts.
- Screw Neck Vials (thread 8-425) with small opening requires Micro-Inserts with a diameter of 5mm.
- Vials and seals also available as 2in1 KIT.



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



| GW 08 0193 | GW 08 0799 | GW 08 0194 | GW 08 0195 | GW 08 0356 | GW 08 0859 GW 08 0860 | GW 08 1317 GW 08 1318 |
|---|---|---|---|--|---|--|
| 1.5ml Screw Neck Vial, 8-425 thread, 32 x 11.6mm, clear glass, 1st hydrol. class, small opening | 1.5ml Screw Neck Vial, 8-425 thread, 32 x 11.6mm, amber glass, 1st hydrol. class, small opening | 1.5ml Screw Neck Vial, 8-425 thread, 32 x 11.6mm, clear glass, 1st hydrol. class, small opening, label + filling lines | 1.5ml Screw Neck Vial, 8-425 thread, 32 x 11.6mm, amber glass, 1st hydrol. class, small opening, label + filling lines | 1.1ml Micro-Vial, 8-425 thread, 32 x 11.6mm, clear glass, 1st hydrol. class, conical, small opening | 1.1ml Microliter Screw Neck Vial, 32 x 11.6mm, clear glass, 1. hydrol. class, with rounded glass base, 1. hydrol. class (amber glass) | 1.1ml Microliter Screw Neck Vial, 32 x 11.6mm, clear glass, 1. hydrol. class (amber glass) |
| SILANIZED GW 08 0193s | SILANIZED GW 08 0799s | SILANIZED GW 08 0194s | SILANIZED GW 08 0195s | | | |
| R. vol. < 110 µl | R. vol. < 110 µl | R. vol. < 110 µl | R. vol. < 110 µl | R. vol. < 3 µl | R. vol. < 15 µl | R. vol. < 15 µl |

100 pcs. per PP-Box

2.2 Micro-Inserts for Vials with small opening



| ME 05 0289 | ME 05 0357 | ME 05 0358 | ME 05 0290 |
|--|--|--|--|
| 0.15ml Micro-Insert, 31 x 5mm, clear glass, 1st hydrol. class, 15mm top | 0.2ml Micro-Insert, 31 x 5mm, clear glass, 1st hydrol. class, 9mm top | 0.2ml Micro-Insert, 31 x 5mm, clear glass, 1st hydrol. class, flat bottom | 0.15ml Micro-Insert, 29 x 5mm, clear glass, 1st hydrol. class, with assembled plastic spring |
| SILANIZED ME 05 0289s | SILANIZED ME 05 0357s | SILANIZED ME 05 0358s | SILANIZED ME 05 0290s |
| R. vol. < 1 µl | R. vol. < 2 µl | R. vol. < 8 µl | R. vol. < 1 µl |

10 x 100 pcs. per PP-Box



Vial Racks see page 46.

R. vol. = Residual Volume (µl)

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

2.3.1 Natural Rubber/TEF and RedRubber/PTFE Seals

- Natural rubber temperature resistant from -40°C to 120°C
- RedRubber/PTFE from -40°C bis 160°C
- Natural rubber is more difficult to penetrate than RedRubber and has a higher particle formation
- RedRubber and butyl show less fragmentation than natural rubber
- Natural rubber is ideal for multiple injections due to its good resealing properties, but not as clean as RedRubber or Butyl



| Art. No. | SV 08 0657 | SV 08 0658 | SV 08 0766 | SV 08 0763 | SV 08 0916 |
|---------------------|--|----------------------------|----------------------|------------------------|--------------------------------------|
| Cap: | Polypropylene Screw Cap black, 5.5mm centre hole, 8-425 thread | | | | |
| Septa: | Natural Rubber red-orange/TEF transparent | RedRubber/PTFE transparent | RedRubber/PTFE beige | Butyl cream /PTFE grey | Silicone white/ Aluminum foil silver |
| Durometer : | 60° shore A | 45° shore A | 45° shore A | 55° shore A | 50° shore A |
| Thickness: | 1,3mm | 1,0mm | 1,0mm | 1,3mm | 1,3mm |
| 100 pcs. per PE-Bag | | | | | |

2.3.2 Silicone/PTFE Seals

- Temperature resistant from -60°C to 200°C
- Preferably for single injections only
- Different hardnesses to suit the respective needle types
- Cleaner than natural rubber, RedRubber or butyl
- Silicone septa coated on both sides for low particle formation during penetration



| Art. No. | SV 08 0158 | SV 08 0759 | SV 08 0761 | SV 08 0293 | SV 08 0495 | SV 08 0439 |
|---------------------|--|--------------------------|----------------------------------|----------------------------------|--------------------------------|---------------------------------|
| Cap: | Polypropylene Screw Cap black, 5.5mm centre hole, 8-425 thread | | | | | |
| Septa: | Silicone white/ PTFE red | Silicone cream/ PTFE red | Silicone blue transp./PTFE white | PTFE red/Silicone white/PTFE red | Silicone white/ PTFE red, slit | Silicone white/ PTFE blue, slit |
| Durometer: | 45° shore A | 55° shore A | 45° shore A | 45° shore A | 45° shore A | 45° shore A |
| Thickness: | 1,3mm | 1,5mm | 1,3mm | 1,0mm | 1,3mm | 1,5mm |
| 100 pcs. per PE-Bag | | | | | | |

2.3.3 Natural Rubber/TEF, RedRubber/PTFE, Butyl/PTFE and Silicone/PTFE Seals, closed top



| Art. No. | SV 08 0760 | SV 08 0767 | SV 08 1001 | SV 08 0762 |
|---------------------|---|-----------------------|------------------------|--------------------------|
| Cap: | Polypropylene Screw Cap black, closed top, 8-425 thread | | | |
| Septa: | Natural Rubber red-orange/ TEF transparent | RedRubber/ PTFE beige | Butyl cream /PTFE grey | Silicone white/ PTFE red |
| Durometer: | 60° shore A | 45° shore A | 55° shore A | 45° shore A |
| Thickness: | 1,3mm | 1,0mm | 1,3mm | 1,3mm |
| 100 pcs. per PE-Bag | | | | |

2.4 Septa ND8



| Art. No. | SE 08 0018 | SE 08 0072 | SE 08 0765 | SE 08 0073 | SE 08 0089 | SE 08 0074 |
|-----------|----------------|---|----------------------|-----------------------|--------------|-------------------------|
| Septa: | PTFE, Virginal | Natural Rubber red-orange/TEF transparent | RedRubber/PTFE beige | Butyl cream/PTFE grey | Viton, Black | Silicone white/PTFE red |
| Hardness: | 53° shore A | 60° shore A | 45° shore A | 55° shore A | 70° shore A | 45° shore A |
| Thickness | 0,25mm | 1,0mm | 1,0mm | 1,3mm | 1,0mm | 1,3mm |

1.000 pcs. per PE-Bag



| Art. No. | SE 08 0752 | SE 08 0076 | SE 08 0915 | SE 08 0075 | SE 08 0118 | SE 08 1204 |
|-----------|-------------------------|---|-------------------------------------|--------------------------------------|----------------------------------|--------------------------------|
| Septa: | Silicone cream/PTFE red | Silicone white/PTFE blue, slit; recommd.by VWR Merck@/Hitachi | Silicone white/Aluminum foil silver | Silicone blue transparent/PTFE white | PTFE red/Silicone white/PTFE red | Silicone white/PTFE blue, slit |
| Hardness: | 55° shore A | 55° shore A | 50° shore A | 45° shore A | 45° shore A | 55° shore A |
| Thickness | 1,5mm | 0,9mm | 1,3mm | 1,3mm | 1,0mm | 1,5mm |

1.000 pcs. per PE-Bag

2.5 PP Screw Caps ND8



| Art. No. | SK 08 0287 | SK 08 0756 | SK 08 0757 | SK 08 0758 |
|----------|---|--|---|--|
| Cap: | 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 |

100 pcs. per PE-Bag

Suitable Vial Racks and Storage Boxes for Screw Neck Vials ND8 on page 46



2.6 Special 2in1 Kits for Screw Neck Vials ND8

To carry out an analysis, the user always needs two components at the same time: vial and closure. To fulfill this need in a convenient way Chroma Globe offers 2in1 KITS containing 100 vials and 100 seals in a blue, reclosable PP-box. All advantages of the individual items (CleanPack packaging of the vials, tamper-proof evident packaging of vials and seals, traceability through a batch numbering system, etc.) still remain. Furthermore the customer only has to reorder one article instead of two, which makes life easier.



- Each combination of a screw neck vial ND8 is now available with any 8mm screw seal listed in the catalogue as a practical 2in1 kit!



KP 08 1841

| | |
|---|--|
| 1.5ml Screw Neck Vial, 8-425 thread, 32 x 11.6mm, clear glass, 1st hydrol. class, small opening | 8mm PP Screw Cap, black, centre hole, 8-425 thread; Natural Rubber red-orange/ TEF transparent, 60° shore A, 1.3mm |
| (GW 08 0193) | (SV 08 0657) |

100 Vials and 100 Closures per 2in1 Kit



KP 08 1145

| | |
|---|--|
| 1.5ml Screw Neck Vial, 8-425 thread, 32 x 11.6mm, clear glass, 1st hydrol. class, small opening | 8mm PP Screw Cap, black, centre hole, 8-425 thread; Silicone white/PTFE red, 45° shore A, 1.3mm |
| (GW 08 0193) | (SV 08 0158) |

100 Vials and 100 Closures per 2in1 Kit



KP 08 1045

| | |
|---|---|
| 1.5ml Screw Neck Vial, 8-425 thread, 32 x 11.6mm, clear glass, 1st hydrol. class, small opening | 8mm PP Screw Cap, black, centre hole, 8-425 thread; PTFE red/Silicone white/PTFE red, 45° shore A, 1.0mm |
| (GW 08 0193) | (SV 08 0293) |

100 Vials and 100 Closures per 2in1 Kit



KP 08 1842

| | |
|---|--|
| 1.5ml Screw Neck Vial, 8-425 thread, 32 x 11.6mm, clear glass, 1st hydrolytic class, small opening, label and filling lines | 8mm PP Screw Cap, black, centre hole, 8-425 thread; Silicone white/PTFE red, 45° shore A, 1.3mm |
| (GW 08 0194) | (SV 08 0158) |

100 Vials and 100 Closures per 2in1 Kit



KP 08 1843

| | |
|---|---|
| 1.5ml Screw Neck Vial, 8-425 thread, 32 x 11.6mm, clear glass, 1st hydrolytic class, small opening, label and filling lines | 8mm PP Screw Cap, black, centre hole, 8-425 thread; Silicone white/PTFE red, 45° shore A, 1.3mm, Slit |
| (GW 08 0194) | (SV 08 0495) |

100 Vials and 100 Closures per 2in1 Kit



KP 08 1844

| | |
|---|--|
| 1.5ml Screw Neck Vial, 8-425 thread, 32 x 11.6mm, amber glass, 1st hydrolytic class, small opening, label and filling lines | 8mm PP Screw Cap, black, centre hole, 8-425 thread; Silicone white/PTFE red, 45° shore A, 1.3mm |
| (GW 08 0195) | (SV 08 0158) |

100 Vials and 100 Closures per 2in1 Kit

2.7 Screw Vials ND8, with pre-assembled Screw Cap ND8

- Pre-screwed vials reduce the risk of contamination of the vials in the laboratory. Furthermore, special applications (e.g. in the tobacco industry) may require a pre-sealed vial.



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.

The Universal Autosampler Vial

- Universally compatible on almost all autosamplers, thereby rationalization of other 1.5ml vials, as for instance 11mm Crimp Neck Vials, Screw Neck Vials 8-425 and 10-425, is possible.



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



| KG 09 0196 | KG 09 0197 | KG 09 0695 | KG 09 0188 | ME 06 0218 | ME 06 0361 | ME 06 0362 | ME 06 0232 | ME 06 1174 |
|--|---|---|--|---|--|--|--|---|
| 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, | 1,5ml Short Thread Vial, 32 x 11.6mm, amber glass, 1st hydrol. class, wide opening, label +filling lines | 0.25ml Micro-Insert, 31 x 6mm, clear glass, 1st hydrol. class, 15mm top | 0,3ml Micro-Insert, 31 x 6mm, clear glass, 1st hydrol. class, 12mm top | 0,35ml Micro-Insert, 31 x 6mm, clear glass, 1st hydrol. class, flat bottom | 0,25ml Micro-Insert, 29 x 5.7mm. clear glass, 1st hydrol. class, with assembled plastic spring | 0.25ml PE Micro-Insert, 29 x 6mm, clear, with integrated plastic spring |
| SILANIZED KG 09 0196s | SILANIZED KG 09 0197s | SILANIZED KG 09 0695s | SILANIZED KG 09 0188s | SILANIZED ME 06 0218s | SILANIZED ME 06 0361s | SILANIZED ME 06 0362s | SILANIZED ME 06 0232s | |
| R. vol. < 120µl | R. vol. < 120µl | R. vol. < 120µl | R. vol. < 120µl | R. vol. < 4 µl | R. vol. < 4 µl | R. vol. < 8 µl | R. vol. < 4 µl | R. vol. < 4 µl |
| 100 pcs. per PP-Box | | | | 10 x 100 pcs. per PP-Box | | | | |

Short Thread Vials ND9, wide opening, Micro-Inserts and Micro-Vials with Short Thread ND9 (Cont.)

BaseBond Vials



| KG 09 0682 | KG 09 0683 | KG 09 1351 | KG 09 1352 | KG 09 1562 | KG 09 1563 | KG 09 2050 | KG 09 2051 |
|---|--|---|---|---|--|--|--|
| Short Thread Vial with integrated 0.2 ml Micro-Insert, 32 x 11.6mm, clear glass, 1 st hydrol. class with small micro-insert | Short Thread Vial with integrated 0.2 ml Micro-Insert, 32 x 11.6mm, amber glass, 1st hydrol. class with small micro-insert | Short Thread Vial with integrated 0.2ml Micro-Insert, 32 x 11.6mm, clear glass, 1st hydrol. class, writing patch and filling lines, with small micro-insert | Short Thread Vial with integrated 0.2ml Micro-Insert, 32 x 11.6mm, amber glass, 1st hydrol. class, writing patch and filling lines, with small micro-insert | Short Thread Vial with integrated 0.3 ml Micro-Insert, 32 x 11.6mm, clear glass, 1 st hydrol. class, with wide micro-insert | Short Thread Vial with integrated 0.3 ml Micro-Insert, 32 x 11.6mm, amber glass, 1st hydrol. class, with wide micro-insert | Short Thread Vial with integrated 0.3ml Micro-Insert, 32 x 11.6mm, clear glass, 1st hydrol. class, writing patch and filling lines, with wide micro-insert | Short Thread Vial with integrated 0.3ml Micro-Insert, 32 x 11.6mm, amber glass, 1st hydrol. class, writing patch and filling lines, with wide micro-insert |
| "Base Bond" | "Base Bond" | "Base Bond" | "Base Bond" | "Base Bond" | "Base Bond" | "Base Bond" | "Base Bond" |
| R. vol. < 1 µl | R. vol. < 1 µl | R. vol. < 1 µl | R. vol. < 1 µl | R. vol. < 3 µl | R. vol. < 3 µl | R. vol. < 3 µl | R. vol. < 3 µl |
| 100 pcs. per PP-Box | | | | | | | |

R. vol. = Residual Volume (µl)

Short Thread Vials ND9, wide opening, Micro-Inserts and Micro-Vials with Short Thread ND9 (Cont.)



TopBond



TopBond



| | | | | | |
|--|---|---|---|---|---|
| KG 09 1122 | KG 09 0863 KG 09 0864 | KG 09 0365 | KG 09 1201 KG 09 1321 | KG 09 0363 | KG 09 0364 |
| 0,9ml Total Mikroliter Short Thread Vial 32 x 11,6mm, clear glass, 1. hydrol. Class | 1,1ml Microliter Short Thread Vial 32 x 11.6mm, clear glass, (amber glass) 1st hydrol. class with rounded glass base | 1.1ml Microliter Short Thread Vial , 32 x 11.6mm, clear glass, 1. hydrol. Klasse SILANIZED KG 09 0365s | 1.1ml Microliter Short Thread Vial , 32 x 11.6mm, clear glass, (amber glass) 1. hydrol. Klasse SILANIZED KG 09 1201s | Short Thread Vial with integrated 0.2ml Micro-Insert, 32 x 11.6mm, clear glass, 1st hydrol. class, writing patch and filling lines, with small micro-insert „TopBond“ | Short Thread Vial with integrated 0.2ml Micro-Insert, 32 x 11.6mm, amber glass, 1st hydrol. class, writing patch and filling lines, with small micro-insert „TopBond“ |
| R. vol. < 1 µl | R. vol. < 15 µl | R. vol. < 15 µl | R. vol. < 15 µl | | |

100 pcs. per PP-Box

3.3 Plastic Micro-Vials ND9



| | | | | | | |
|---|---|---|---|---|---|---|
| KG 09 0446 | KG 09 0447 | KG 09 0469 | KG 09 0471 | KG 09 0468 | KG 09 0466 | KG 09 0470 |
| 1.5ml PP Short Thread Vial, transparent, filling lines, 32 x 11.6mm, slightly concave shaped bottom | 1.5ml PP Short Thread Vial, amber, filling lines, 32 x 11.6mm, slightly concave shaped bottom | 0,3ml PP Short Thread Micro-Vial, transparent, 32 x 11.6mm | 0,3ml PP Short Thread Micro-Vial, amber, 32 x 11.6mm | 0,7ml PP Short Thread Micro-Vial, transparent, 32 x 11.6mm | TPX Short Thread Vial, clear 32 x 11.6mm, with integrated 0.2ml Glass Micro-Insert, 15mm top | 0,3ml TPX Short Thread Micro-Vial, clear, 32 x 11.6mm |
| R. vol. < 110µl | R. vol. < 110µl | R. vol. < 4 µl | R. vol. < 4 µl | R. vol. < 80µl | R. vol. < 1 µl | R. vol. < 4 µl |

100 pieces per PE-Bag

R. vol. = Residual Volume (µl)

Suitable Vial Racks and Storage Boxes for Screw Neck Vials ND9 on page 46



3.4 PP Short Thread Seals ND9

- Screw cap with the design of a crimp cap; therefore suitable for robotic handling.
- Already assembled seal with slit liner available, in order to avoid vacuum within the vial in case of multiple injections.
- Short thread seals also available as closed top version for storage purposes.



Septa Knowledge center:

PTFE virginal septa:

- Very inert and temperature resistant therefore also as coating on most other septa
- No elastomer therefore limited sealing and reclosing characteristics
- Only recommended for non-critical HPLC applications
- Mostly used by Merck/Hitachi and Waters
- Application area: HPLC

Natural Rubber/TEF septa:

- Standard quality for GC and HPLC
- Temperature resistant from -40 °C up to 120 °C
- Ideal for multiple injections due to high resealability
- Not as clean as synthetic rubber
- Punching liners (are punched from sheet/roll material)
- Application area: HPLC and GC

RedRubber/PTFE beige /transparent) septa:

- NEW standard quality for HPLC und GC
- synthetic rubber is cleaner and softer as Natural Rubber
- Relatively cost effective
- Temperature resistant from -40 °C up to 110 °C
- Liners made of roll and plate material
- Application area: HPLC/GC

Silicone/Aluminum septa:

- All chemical and physical properties of Silicon/PTFE, however temperature resistant from -60°C up to 220°C
- Often used on PERKINELMER instruments
- More expensive than PTFE-laminated septa
- Field of usage: Headspace

(PTFE)/Silicone/PTFE septa:

- Silicone is the cleanest synthetic elastomer and is therefore used for critical analysis
- Temperature resistant from -60°C up to 200°C
- As synthetic elastomer resealability properties not as good as with Natural Rubber
- Speciality: both-sided PTFE-lamination on Silicone-Septa for low coring (generation of particles during penetration)
- Application area: GC/HPLC/HEADSPACE

Silicone/PTFE septa with slit:

- Temperature resistance from -60° C to 200° C
- Preferably recommended for single use injections due to less good reclosing properties
- Slit septa in HPLC as penetration aid for blunt needles and to create a valve effect in case of multiple injections
- Application in GC, HPLC and headspace analysis

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? | Temperature? | | | Thin, fragile needle? | Blunt, thick needle? | Critical analysis? | Low coring? |
|---|----------------------------------|-------------------|-------------------|------------------------------|--|---|---|
| ↓ | ↓ | | | ↓ | ↓ | ↓ | ↓ |
| good resealability properties necessary | -40°C up to 120°C | -40°C up to 110°C | -60°C up to 200°C | soft and thin septa required | slit/pre-cut liner as penetration aid (HPLC) | very clean liner required | Both sided PTFE laminated liners required |
| ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ |
| Natural Rubber/TEF | Natural Rubber /TEF; Butyl/ PTFE | Red Rubber/ PTFE | Silicone /PTFE | Silicone/ PTFE | e.g. SE 08 0076 | ZeroPeak and EasyPierce Silicone/PTFE septa | PTFE/Silicone/ PTFE PTFE/Butyl/ PTFE |

3.4.1 PP Short Thread Cap ND9, transparent, 6mm centre hole



| Art. No. | SV 09 0774 | SV 09 0659 | SV 09 0775 | SV 09 0661 | SV 09 0663 | SV 09 0662 | SV 09 0913 |
|---------------------|---------------|--|---------------------------|-----------------------------|---|---------------------------------------|--|
| Septa: | PTFE virginal | Natrual rubber red-orange TEF transp. | RedRubber / PTFE beige | Silicone white/ PTFE red | PTFE red/ Silicon white/ PTFE red | Silicone white/ PTFE blue, slit | Silicone white/Aluminum foil silver (recom. for PFAS analysis) |
| Durometer: | 53° shore D | 60° shore A | 45° shore A | 55° shore A | 45° shore A | 55° shore A | 55° shore A |
| Thickness: | 0,2mm | 1,0mm | 1,0mm | 1,0mm | 1,0mm | 1,0mm | 1,0mm |
| 100 pcs. per PE-Bag | | | | | | | |

3.4.2 PP Short Thread Cap ND9, blue, 6mm centre hole



| Art. No. | SV 09 0507 | SV 09 0433 | SV 09 0776 | SV 09 0159 | SV 09 0164 | SV 09 0187 | SV 09 0948 |
|---------------------|---------------|--|---------------------------|-----------------------------|---|---------------------------------------|--|
| Septa: | PTFE virginal | Natrual rubber red-orange TEF transp. | RedRubber / PTFE beige | Silicone white/ PTFE red | PTFE red/ Silicon white/ PTFE red | Silicone white/ PTFE blue, slit | Silicone white/Aluminum foil silver (recom. for PFAS analysis) |
| Durometer: | 53° shore D | 60° shore A | 45° shore A | 55° shore A | 45° shore A | 55° shore A | 55° shore A |
| Thickness: | 0,2mm | 1,0mm | 1,0mm | 1,0mm | 1,0mm | 1,0mm | 1,0mm |
| 100 pcs. per PE-Bag | | | | | | | |

3.4.3 PP Short Thread Cap ND9, red, 6mm centre hole



| Art. No. | SV 09 0781 | SV 09 0435 | SV 09 0777 | SV 09 0666 | SV 09 0668 | SV 09 0667 | SV 09 0949 |
|---------------------|---------------|--|---------------------------|-----------------------------|---|---------------------------------------|--|
| Septa: | PTFE virginal | Natrual rubber red-orange TEF transp. | RedRubber / PTFE beige | Silicone white/ PTFE red | PTFE red/ Silicon white/ PTFE red | Silicone white/ PTFE blue, slit | Silicone white/Aluminum foil silver (recom. for PFAS analysis) |
| Durometer: | 53° shore D | 60° shore A | 45° shore A | 55° shore A | 45° shore A | 55° shore A | 55° shore A |
| Thickness: | 0,2mm | 1,0mm | 1,0mm | 1,0mm | 1,0mm | 1,0mm | 1,0mm |
| 100 pcs. per PE-Bag | | | | | | | |

3.4.4 PP Short Thread Cap ND9, black, 6mm centre hole



| Art. No. | SV 09 0782 | SV 09 0436 | SV 09 0778 | SV 09 0166 | SV 09 0167 | SV 09 0163 | SV 09 0952 |
|---------------------|---------------|--|---------------------------|-----------------------------|---|---------------------------------------|--|
| Septa: | PTFE virginal | Natrual rubber red-orange TEF transp. | RedRubber / PTFE beige | Silicone white/ PTFE red | PTFE red/ Silicon white/ PTFE red | Silicone white/ PTFE blue, slit | Silicone white/Aluminum foil silver (recom. for PFAS analysis) |
| Durometer: | 53° shore D | 60° shore A | 45° shore A | 55° shore A | 45° shore A | 55° shore A | 55° shore A |
| Thickness: | 0,2mm | 1,0mm | 1,0mm | 1,0mm | 1,0mm | 1,0mm | 1,0mm |
| 100 pcs. per PE-Bag | | | | | | | |

3.4.5 PP Short Thread Cap ND9, green, 6mm centre hole



| Art. No. | SV 09 0783 | SV 09 0434 | SV 09 0779 | SV 09 0162 | SV 09 0675 | SV 09 0674 | SV 09 0950 |
|---------------------|---------------|--|---------------------------|-----------------------------|---|---------------------------------------|--|
| Septa: | PTFE virginal | Natrual rubber red-orange TEF transp. | RedRubber / PTFE beige | Silicone white/ PTFE red | PTFE red/ Silicon white/ PTFE red | Silicone white/ PTFE blue, slit | Silicone white/Aluminum foil silver (recom. for PFAS analysis) |
| Hardness: | 53° shore D | 60° shore A | 45° shore A | 55° shore A | 45° shore A | 55° shore A | 55° shore A |
| Thickness: | 0,2mm | 1,0mm | 1,0mm | 1,0mm | 1,0mm | 1,0mm | 1,0mm |
| 100 pcs. per PE-Bag | | | | | | | |

3.4.6 PP Short Thread Cap ND9, yellow, 6mm centre hole



| Art. No. | SV 09 0784 | SV 09 0432 | SV 09 0780 | SV 09 0160 | SV 09 0678 | SV 09 0677 | SV 09 0951 |
|---------------------|---------------|--|---------------------------|-----------------------------|---|---------------------------------------|--|
| Septa: | PTFE virginal | Natrual rubber red-orange TEF transp. | RedRubber / PTFE beige | Silicone white/ PTFE red | PTFE red/ Silicon white/ PTFE red | Silicone white/ PTFE blue, slit | Silicone white/Aluminum foil silver (recom. for PFAS analysis) |
| Hardness: | 53° shore D | 60° shore A | 45° shore A | 55° shore A | 45° shore A | 55° shore A | 55° shore A |
| Thickness: | 0,2mm | 1,0mm | 1,0mm | 1,0mm | 1,0mm | 1,0mm | 1,0mm |
| 100 pcs. per PE-Bag | | | | | | | |

3.4.7 PP Short Thread Cap ND9, glitter pink, 6mm centre hole



| Art. No. | SV 09 2005 | SV 09 2006 | SV 09 1801 | SV 09 1639 | SV 09 1918 | SV 09 1824 | SV 09 2007 |
|---------------------|---------------|--|---------------------------|-----------------------------|---|---------------------------------------|--|
| Septa: | PTFE virginal | Natrual rubber red-orange TEF transp. | RedRubber / PTFE beige | Silicone white/ PTFE red | PTFE red/ Silicon white/ PTFE red | Silicone white/ PTFE blue, slit | Silicone white/Aluminum foil silver (recom. for PFAS analysis) |
| Hardness: | 53° shore D | 60° shore A | 45° shore A | 55° shore A | 45° shore A | 55° shore A | 55° shore A |
| Thickness: | 0,2mm | 1,0mm | 1,0mm | 1,0mm | 1,0mm | 1,0mm | 1,0mm |
| 100 pcs. per PE-Bag | | | | | | | |

3.4.8 Seals with special slit (Y-SLIT // Y-PRE-CUT)

- With pre-cut septa only the silicone material is slit in Y-shape while the PTFE lamination remains intact. This way concentration changes occurring with completely slit septa can be avoided
- Ideal penetration aid for blunt and thick instrument needles, and prevents the concentration fluctuations that frequently occur with slit or cross slit septa



| Art. Nr. | SV 09 1241 | SV 09 1240 | SV 09 1239 | SV 09 1234 |
|---------------------|---|--------------------------|--|--------------------------|
| Cap: | PP SC, transparent, 6mm hole | PP SC, blue, 6mm hole | PP SC, transparent, 6mm hole | PP SC, blue, 6mm hole |
| Septa: | Silicone white/PTFE red, 55° shore A, 1,0mm (Y-slit) | | Silicone white/PTFE red, 55° shore A, 1,0mm (Y-pre-cut) | |
| 100 pcs. per PE-Bag | | | | |

3.4.9 Seals for high temperature analysis and trace analysis

- 9mm short thread seals with high purity PTFE virginal, or Aluminum septa
- **Perfect for GCMS and LCMS**
- An O-ring ensures 100% tightness



| Art. No. | SV 09 1005 | SV 09 1004 | SV 09 1007 | SV 09 1006 |
|---------------------|---|---|--|--|
| Cap: | PP SC, transparent, 6mm hole | PP SC, blue, 6mm hole | PP SC, transparent, 6mm hole | PP SC, blue, 6mm hole |
| Septa: | Aluminum Septa (additional sealing by O-ring) | Aluminum Septa (additional sealing by O-ring) | PTFE virginal, 0,25mm (additional sealing by O-ring) | PTFE virginal, 0,25mm (additional sealing by O-ring) |
| Hardness: | | | 53° shore A | 53° shore A |
| Thickness | 0,06mm | 0,06mm | 0,20mm | 0,20mm |
| 100 pcs. per PE-Bag | | | | |

3.4.10 UltraBond Seals ND9

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

- A special feature of an UltraBond closure system is that the screw cap and septa form an inseparable unit. This is made of a patented manufacturing process in which the molecular structure of the contact surface of the PP screw cap and the septa is modified in such a way that they form a strong bond without the use of adhesives.
- Comparable systems on the market are LECTRABOND Seals from WATERS® and the INTERSEAL closure from Agilent



| Art. No. | SV 09 0165 | SV 09 1681 | SV 09 1817 | SV 09 1757 | SV 09 0772 | SV 09 0773 |
|---------------------|-------------------------|---------------------------------|----------------------------|---------------------------------|----------------------------|---------------------------------|
| Cap: | PP SC, blue, 6mm hole | PP SC, blue, 6mm hole | PP SC, blue, 6mm hole | PP SC, blue, 6mm hole | PP SC, blue, 6mm hole | PP SC, blue, 6mm hole |
| Septa: | Silicone white/PTFE red | Silicone white /PTFE blue, SLIT | Silicone beige/ PTFE white | Silicone beige/ PTFE white SLIT | Silicone beige/ PTFE white | Silicone beige/ PTFE white SLIT |
| Hardness: | 45° shore A | 45° shore A | 45° shore A | 45° shore A | 45° shore A | 45° shore A |
| Thickness | 1,0mm | 1,0mm | 1,0mm | 1,0mm | 1,0mm | 1,0mm |
| 100 pcs. per PE-Bag | | | | | | |

3.4.11 PP Short Thread Cap ND9, blue, with closed top



| Art. No. | SV 09 0786 | SV 09 1403 | SV 09 0787 |
|---------------------|---|---------------------------------------|---------------------------------------|
| Cap: | PP Short Thread Cap, blue, closed top | PP Short Thread Cap, blue, closed top | PP Short Thread Cap, blue, closed top |
| Septa: | Natural Rubber red-orange/TEF transparent | RedRubber / PTFE beige | Silicone white/PTFE red |
| Hardness: | 60° shore A | 45° shore A | 55° shore A |
| Thickness: | 1,0mm | 1,0mm | 1,0mm |
| 100 pcs. per PE-Bag | | | |

3.4.12 Magnetic Short Thread Seals, 6mm centre hole (CTC GC PAL + Thermo Scientific TriPlus)



| Art. No. | SV 09 1153 | SV 09 1173 | SV 09 1124 |
|---------------------|---|---|---|
| Cap: | PP SC, blue, with assembled magnetic crimp cap ND11, gold, 6mm hole | PP SC, blue, with assembled magnetic crimp cap ND11, gold, 6mm hole | PP SC, blue, with assembled magnetic crimp cap ND11, gold, 6mm hole |
| Septa: | Silicone white/PTFE red | Silicone white/PTFE blue, slit | Natural Rubber red-orange/TEF transparent |
| Hardness: | 45° shore A | 55° shore A | 60° shore A |
| Thickness: | 1,0mm | 1,0mm | 1,0mm |
| 100 pcs. per PE-Bag | | | |

3.5 Special 2in1 Kits for Short Thread Vials and Closures ND9

To carry out an analysis, the user always needs two components at the same time: vial and closure. To fulfill this need in a convenient way Chroma Globe offers 2in1 KITS containing 100 vials and 100 seals in a blue, reclosable PP-box. All advantages of the individual items (CleanPack packaging of the vials, tamper-proof evident packaging of vials and seals, traceability through a batch numbering system, etc.) still remain. Furthermore the customer only has to reorder one article instead of two, which makes life easier.



3.5.1 Special 2in1 Kits for Agilent LC Autosampler



KP 09 1895

| | |
|--|--|
| 1,5ml Short Thread Vial, 32 x 11.6mm, clear glass, 1st hydrol. class, wide opening, label + filling lines (KG 09 0197) | 9mm PP Short Thread Cap, blue, with centre hole; RedRubber / PTFE beige, 45° shore A, 1.0mm (SV 09 0776) |
|--|--|

100 Vials and 100 Closures per 2in1 Kit



KP 09 1142

| | |
|--|--|
| 1,5ml Short Thread Vial, 32 x 11.6mm, clear glass, 1st hydrol. class, wide opening, label + filling lines (KG 09 0197) | 9mm PP Short Thread Cap, blue, centre hole; Silicone white/PTFE red, 55° shore A, 1.0mm (SV 09 0159) |
|--|--|

100 Vials and 100 Closures per 2in1 Kit



KP 09 1378

| | |
|--|--|
| 1,5ml Short Thread Vial, 32 x 11.6mm, amber glass, 1st hydrol. class, wide opening, label + filling lines (KG 09 0188) | 9mm PP Short Thread Cap, blue, centre hole; Silicone white/PTFE red, 55° shore A, 1.0mm (SV 09 0159) |
|--|--|

100 Vials and 100 Closures per 2in1 Kit

3.5.2 Special 2in1 Kits for Merck/Hitachi LC Autosampler



KP 09 1896

| | |
|--|--|
| 1,5ml Short Thread Vial, 32 x 11.6mm, clear glass, 1st hydrol. class, wide opening, label + filling lines (KG 09 0197) | 9mm PP Short Thread Cap, blue, centre hole; Natural Rubber red-orange/TEF transparent, 60° shore A, 1.0mm (SV 09 0433) |
|--|--|

100 Vials and 100 Closures per 2in1 Kit



KP 09 1142

| | |
|--|--|
| 1,5ml Short Thread Vial, 32 x 11.6mm, clear glass, 1st hydrol. class, wide opening, label + filling lines (KG 09 0197) | 9mm PP Short Thread Cap, blue, centre hole; Silicone white/PTFE red, 55° shore A, 1.0mm (SV 09 0159) |
|--|--|

100 Vials and 100 Closures per 2in1 Kit



KP 09 1897

| | |
|--|---|
| 1,5ml Short Thread Vial, 32 x 11.6mm, amber glass, 1st hydrol. class, wide opening, label + filling lines (KG 09 0188) | 9mm PP Short Thread Cap, blue, centre hole; Silicone white/PTFE blue, 55° shore A, 1.0mm, slit (SV 09 0187) |
|--|---|

100 Vials and 100 Closures per 2in1 Kit

3.5.3 Special 2in1 Kits for Shimadzu LC Autosampler



KP 09 1898

| | |
|--|---|
| 1,5ml Short Thread Vial, 32 x 11.6mm, clear glass, 1st hydrol. class, wide opening, label + filling lines (KG 09 0197) | 9mm PP Short Thread Cap, black, with centre hole; RedRubber / PTFE beige, 45° shore A, 1.0mm (SV 09 0778) |
|--|---|

100 Vials and 100 Closures per 2in1 Kit



KP 09 1899

| | |
|--|---|
| 1,5ml Short Thread Vial, 32 x 11.6mm, clear glass, 1st hydrol. class, wide opening, label + filling lines (KG 09 0197) | 9mm PP Short Thread Cap, black, centre hole; Silicone white/PTFE red, 55° shore A, 1.0mm (SV 09 0166) |
|--|---|

100 Vials and 100 Closures per 2in1 Kit



KP 09 1900

| | |
|--|---|
| 1,5ml Short Thread Vial, 32 x 11.6mm, amber glass, 1st hydrol. class, wide opening, label + filling lines (KG 09 0188) | 9mm PP Short Thread Cap, black, centre hole; Silicone white/PTFE red, 55° shore A, 1.0mm (SV 09 0166) |
|--|---|

100 Vials and 100 Closures per 2in1 Kit

3.5.4 Special 2in1 Kits for Waters LC Autosampler



KP 09 1901

1,5ml
Short Thread Vial,
32 x 11.6mm, clear
glass,
1st hydrol. class,
wide opening, label
+ filling lines

(KG 09 0197)

9mm
UltraBond
PP Short Thread
Cap, blue, centre
hole; Silicone
beige/PTFE white,
45° shore A, 1.0mm

(SV 09 0772)

100 Vials and 100 Closures per 2in1 Kit



KP 09 1902

1,5ml
Short Thread Vial,
32 x 11.6mm, clear
glass,
1st hydrol. class,
wide opening, label
+ filling lines

(KG 09 0197)

9mm
UltraBond
PP Short Thread
Cap, blue, centre
hole; Silicone
beige/PTFE white,
45° shore A,
1.0mm, **slit**
(SV 09 0773)

100 Vials and 100 Closures per 2in1 Kit



KP 09 1903

1,5ml
Short Thread Vial,
32 x 11.6mm,
amber glass,
1st hydrol. class,
wide opening, label
+ filling lines

(KG 09 0188)

9mm
UltraBond
PP Short Thread
Cap, blue, centre
hole; Silicone
beige/PTFE white,
45° shore A,
1.0mm, **slit**
(SV 09 0773)

100 Vials and 100 Closures per 2in1 Kit



KP 09 1904

Short Thread Vial
with integrated
0,2ml Micro-Insert,
32 x 11,6mm, clear
glass, 1. hydrol.
class, "Base
Bonded",
with small
micro-insert

(KG 09 0682)

9mm
UltraBond
PP Short
Thread Cap,
blue, centre hole;
Silicone
beige/PTFE
white,
45° shore A, 1.0mm

(SV 09 0772)

100 Vials and 100 Closures per 2in1 Kit



KP 09 1905

1.1ml
Microliter Short
Thread Vial ND9,
32 x 11.6mm, clear
glass, 1st hydrolytic
class, solid cone,
with shaped glass
bottom

(KG 09 0365)

9mm
UltraBond
PP Short
Thread Cap,
blue, centre hole;
Silicone
beige/PTFE white,
45° shore A, 1.0mm

(SV 09 0772)

100 Vials and 100 Closures per 2in1 Kit



KP 09 1906

0,9ml
Total
Mikroliter Short
Thread Vial
32 x 11,6mm, clear
glass,
1. hydrol. Class

(KG 09 1122)

9mm
UltraBond
PP Short
Thread Cap,
blue, centre hole;
Silicone
beige/PTFE
white,
45° shore A,
1.0mm, **slit**
(SV 09 0773)

100 Vials and 100 Closures per 2in1 Kit

3.6 Short Thread Vials ND9, with pre-assembled Short Threads Caps ND9

Sometimes customers wish to obtain vials which are already crimped or screwed with a seal of their choice. For example the tobacco industry analyses the smoke of a cigarette which is injected into an already crimped vial. Also a lot of EPA Vials are bought with the appropriate closure already screwed on top of the vial. **Chroma Globe can provide you with any type of pre-sealed vial.**



3.7 Certified Vial KITS (Short Thread Vials and Short Thread Seals ND9)



HPLC and GC certified Vial KITS:

Certifications are becoming increasingly important in the day-to-day work of laboratories in order to make analytical processes more reproducible and to eliminate possible sources of error. For Chroma Globe, the highest quality of vials and closures are mandatory and are analytically confirmed by the HPLC and GC certification.

3.7.1 HPLC and GC certified Vial Kits (Short Thread ND9)

- Each batch of HPLC and GC-certified KIT is tested on 15 critical parameters. In a realistic method, an HPLC/UV and GC/MS-test of vials/closure combination of blanks and contaminations will be carried out.
- The batch-specific test certificate with the HPLC and GC-Chromatograms can be handed out upon request.



KP 09 1499HPLC

1,5ml
Short Thread Vial,
32 x 11.6mm,
clear glass,
1st hydrol. class,
wide opening,
label + filling lines

9mm
UltraClean
PP Short Thread Cap,
blue, centre hole;
Silicone white/PTFE red,
55° shore A,
1.0mm

100 Vials and 100 Closures per Certified Kit



KP 09 1514HPLC

1,5ml
Short Thread Vial,
32 x 11.6mm,
amber glass,
1st hydrol. class,
wide opening, l
abel + filling lines

9mm
UltraClean
PP Short Thread Cap,
blue, centre hole;
Silicone white/PTFE red,
55° shore A,
1.0mm

100 Vials and 100 Closures per Certified Kit



KP 09 1963HPLC

Short Thread Vial with integrated
0,2ml Micro-Insert,
32 x 11,6mm, clear glass,
1. hydrol. class,
"BaseBond",
with small
micro-insert

9mm
UltraClean
PP Short Thread Cap,
blue, centre hole;
Silicone white/PTFE red,
55° shore A,
1.0mm

100 Vials and 100 Closures per Certified Kit



KP 09 1964HPLC

Short Thread Vial with integrated
0,2ml Micro-Insert,
32 x 11,6mm, clear glass,
1. hydrol. class,
"BaseBond",
with wide
micro-insert

9mm
UltraClean
PP Short Thread Cap,
blue, centre hole;
Silicone white/PTFE red,
55° shore A,
1.0mm

100 Vials and 100 Closures per Certified Kit



KP 09 1965HPLC

1.1ml
Microliter
Short Thread Vial ND9,
32 x 11.6mm, clear glass,
1st hydrolytic class,
solid cone, with shaped glass
bottom

9mm
UltraClean
PP Short Thread Cap,
blue, centre hole;
Silicone white/PTFE red,
55° shore A,
1.0mm

100 Vials and 100 Closures per Certified Kit



KP 09 1966HPLC

0,9ml
Total Mikroliter
Short Thread Vial
32 x 11,6mm,
clear glass,
1. hydrol. class

9mm
UltraClean
PP Short Thread Cap,
blue, centre hole;
Silicone white/PTFE red,
55° shore A,
1.0mm

100 Vials and 100 Closures per Certified Kit

3.7 Certified Vial KITS (Short Thread Vials and Short Thread Seals ND9) Cont.

The LC/MS and GC/MS Certified KITS represent our premium range of certified products. Each lot of the vial/closure combination has been tested by LC/MS and GC/MS on traces of blank values and contaminations.



3.7.2 LC/MS and GC/MS Certified Vial KITS (Short Thread Vials and Short Thread Seals ND9)

- The glass surface of the vials provides very low adsorption tendencies for all types of polar compounds; in fact a lot lower as for all other vials of 1st hydrolytic class glass (without surface treatment)..
- The closure contains a very soft ultra low bleed (**EASYPIERCE** High Performance) silicone septum with PTFE layer, optimized for ultra trace analysis.
- The batch-specific test certificate with the MS-Chromatograms can be handed out on request



KP 09 1967LCMS

1,5ml
Short Thread Vial,
32 x 11.6mm,
clear glass,
1st hydrol. class,
wide opening,
label + filling lines

9mm
EASYPIERCE
High Performance
PP Short Thread Cap,
blue, centre hole;
Silicone white/PTFE red,
40° shore A, 1.0mm

100 Vials and 100 Closures per Certified Kit



KP 09 1968LCMS

1,5ml
Short Thread Vial,
32 x 11.6mm,
amber glass,
1st hydrol. class,
wide opening,
label + filling lines

9mm
EASYPIERCE
High Performance
PP Short Thread Cap,
blue, centre hole;
Silicone white/PTFE red,
40° shore A, 1.0mm

100 Vials and 100 Closures per Certified Kit



KP 09 1969LCMS

Short Thread Vial with integrated
0,2ml Micro-Insert, 32 x
11,6mm, clear glass, 1. hydrol.
class,
"Base Bonded",
with small
micro-insert

9mm
EASYPIERCE
High Performance
PP Short Thread Cap,
blue, centre hole;
Silicone white/PTFE red,
40° shore A, 1.0mm

100 Vials and 100 Closures per Certified Kit



KP 09 1970LCMS

Short Thread Vial with integrated
0,3ml Micro-Insert, 32 x 11,6mm,
clear glass, 1. hydrol. class,
"Base Bonded",
With wide
micro-insert

9mm
EASYPIERCE
High Performance
PP Short Thread Cap,
blue, centre hole;
Silicone white/PTFE red,
40° shore A, 1.0mm

100 Vials and 100 Closures per Certified Kit



KP 09 1971LCMS

1.1ml
Microliter
Short Thread Vial ND9,
32 x 11.6mm, clear glass,
1st hydrolytic class,
solid cone, with shaped glass
bottom

9mm
EASYPIERCE
High Performance
PP Short Thread Cap,
blue, centre hole;
Silicone white/PTFE red,
40° shore A, 1.0mm

100 Vials and 100 Closures per Certified Kit



KP 09 1972LCMS

0,9ml
Total Mikroliter
Short Thread Vial
32 x 11,6mm,
clear glass,
1. hydrol. class

9mm
EASYPIERCE
High Performance
PP Short Thread Cap,
blue, centre hole;
Silicone white/PTFE red,
40° shore A, 1.0mm

100 Vials and 100 Closures per Certified Kit

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

- Wide opening allows easy filling
- Wide range of micro inserts
- Each combination of a 1.5ml threaded vial is available with a suitable screw cap as a 2in1 kit
- Closed top screw seals for storage
- Single septa as replacement available



4.1 Screw Neck Vials ND10, wide opening, 10-425 thread and Mikroliter Vials ND10



| GW 10 0451 | GW 10 0452 | GW 10 1038 | GW 10 0453 | GW 10 0861 GW 10 0862 | GW 10 1319 GW 10 1320 |
|---|---|---|---|---|--|
| 1,5ml Screw Neck Vial, 10-425 Thread, 32 x 11.6mm, clear glass, 1st hydrol. class, wide opening | 1,5ml Screw Neck Vial, 10-425 Thread, 32 x 11.6mm, clear glass, 1st hydrol. class, wide opening, label + filling lines | 1,5ml Screw Neck Vial, 10-425 Thread, 32 x 11.6mm, amber glass, 1st hydrol. Class, wide opening | 1,5ml Screw Neck Vial, 10-425 Thread, 32 x 11.6mm, amber glass, 1st hydrol. class, wide opening, label + filling lines | 1,1ml Screw Neck Vial, 10-425 Thread, 32 x 11,6mm, clear glass, (Amber Glass) 1st hydrol. class | 1,1ml Screw Neck Vial, 10-425 Thread, 32 x 11,6mm, clear glass, (Amber Glass) 1st hydrol. clas |
| R. vol. < 120 µl | R. vol. < 120 µl | R. vol. < 120 µl | R. vol. < 120 µl | R. vol. < 15 µl | R. vol. < 15 µl |
| 100 pcs. per PP-Box | | | | | |

4.2 Micro-Inserts for Vials with wide opening

Special features of our micro insert ME 06 0232 with polymer spring.

- The geometry of the three spreader feet is specially designed so that the feet press against the inner walls of the vial when it is inserted into it, thus ensuring a centric fit and thus reliable sampling.
- The hardness of the polymer spring is specially adapted to ensure that there is sufficient elasticity for easy insertion, but that sufficient counter pressure is generated by the spring mechanism to ensure that the insert always presses against the septa and prevents the sample from leaking.



| ME 06 0218 | ME 06 0361 | ME 06 0362 | ME 06 0232 | ME 06 1174 |
|---|--|---|--|--|
| 0,25ml Micro-Insert, 31 x 6mm, clear glass, 1st hydrol. class, 15mm top | 0,3ml Micro-Insert, 31 x 6mm, clear glass, 1st hydrol. class, 12mm top | 0,35ml Micro-Insert, 31 x 6mm, clear glass, 1st hydrol. class, flat bottom | 0,25ml Micro-Insert, 29 x 5.7mm, clear glass, 1st hydrol. class, with assembled plastic spring | 0,25ml PE Micro-Insert, 29 x 6mm, clear, with integrated plastic spring |
| SILANIZED ME 06 0218s | SILANIZED ME 06 0361s | SILANIZED ME 06 0362s | SILANIZED ME 06 0232s | |
| R. vol. < 4 µl | R. vol. < 4 µl | R. vol. < 8 µl | R. vol. < 4 µl | R. vol. < 8 µl |
| 10 x 100 pcs. per PP-Box | | | | 100 pcs. per PE-Bag |

R. vol. = Residual Volume (µl)

4.3 PP Screw Seals ND10

- Our 10-425 PP Screw Seals can be offered in a variety of septa
- In standard assembled and therefore available from stock, the seals are available as follows
- On request the Seals ND10 can be delivered with further septa materials or with a different cap color



| Art. No. | SV 10 0461 | SV 10 0462 | SV 10 0463 | SV 10 0464 | SV 10 0502 |
|------------|---|-------------------------|----------------------------------|---------------------------------------|---|
| Cap: | PP Srew Cap, black, 7mm hole | | | | PP SC, black, closed top |
| Septa: | Natural Rubber red-orange/TEF transparent | Silicone white/PTFE red | PTFE red/Silicone white/PTFE red | Silicone white/PTFE blue, <i>slit</i> | Natural Rubber red-orange/TEF transparent |
| Hardness | 60° shore A | 45° shore A | 45° shore A | 55° shore A | 60° shore A |
| Thickness: | 1,3mm | 1,3mm | 1,0mm | 1,5mm | 1,0mm |

100 pcs. per PE-Bag

4.4 Septa 10mm for Screw Caps ND10

- Please note that the diameter of the septa is designed to match our cap design. We cannot guarantee an optimal press-fit of the septa in caps of other manufacturers!
- Further septa made of other materials such as Viton, Butyl/PTFE etc. are available on request!



| Art. No. | SE 10 0098 | SE 10 0496 | SE 10 0497 | SE 10 0498 | SE 10 0499 |
|------------|---------------|---|--------------------------|----------------------------------|---------------------------------|
| Septa: | PTFE virginal | Natural Rubber red-orange/TEF transparent | Silicone white /PTFE red | PTFE red/Silicone white/PTFE red | Silicone white /PTFE blue, slit |
| Durometer: | 53° shore A | 60° shore A | 45° shore A | 45° shore A | 55° shore A |
| Thickness: | 0,20mm | 1,0mm | 1,3mm | 1,0mm | 1,5mm |

1.000 pcs. per PE-Bag

4.5 PP Screw Caps ND10

- High-quality PP Screw Caps with thread 10-425 are available as standard caps.
- Available with hole and as closed top version, black
- Other cap colors are available on request



| Art. No. | SK 10 0500 | SK 10 0501 |
|----------|-------------------------------|---------------------------------|
| Cap: | PP Screw Cap, black, 7mm hole | PP Screw Cap, black, closed top |

1.000 pcs. per PE-Bag



Upon request available as 2in1 Kits!

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.

- Standard vials for GC and HPLC.
- Vials with a barcode label can be obtained as well as pre-crimped vials.
- Wide range of suitable standard crimp Seals, micro inserts and appropriate crimping and decapping tools



5.1 Crimp Neck Vials ND11, wide opening



| RR 11 0176 | RR 11 0198 | RR 11 0895 | RR 11 0199 |
|--|---|--|---|
| 1.5ml Crimp Neck Vial, 32 x 11.6mm, clear glass, 1st hydrol. class, wide opening | 1.5ml Crimp Neck Vial, 32 x 11.6mm, clear glass, 1st hydrol. class, wide opening, label + filling lines | 1.5ml Crimp Neck Vial, 32 x 11.6mm, clear glass, 1st hydrol. class, wide opening | 1.5ml Crimp Neck Vial, 32 x 11.6mm, amber glass, 1st hydrol. class, wide opening, label + filling lines |
| SILANIZED RR 11 0176s | SILANIZED RR 11 0198s | SILANIZED RR 11 0895s | SILANIZED RR 11 0199s |
| R. vol. < 100 µl | R. vol. < 100 µl | R. vol. < 100 µl | R. vol. < 100 µl |

5.2 Micro-Inserts for Vials with wide opening



| ME 06 0218 | ME 06 0361 | ME 06 0362 | ME 06 0232 |
|---|--|--|--|
| 0.25ml Micro-Insert, 31 x 6mm, clear glass, 1st hydrol. class, 15mm top | 0.3ml Micro-Insert, 31 x 6mm, clear glass, 1st hydrol. class, 12mm top | 0.35ml Micro-Insert, 31 x 6mm, clear glass, 1st hydrol. class, flat bottom | 0.25ml Micro-Insert, 29 x 5.7mm, clear glass, 1st hydrol. class, with assembled plastic spring |
| SILANIZED ME 06 0218s | SILANIZED ME 06 0361s | ILANIZED ME 06 0362s | SILANIZED ME 06 0232s |
| R. vol. < 4 µl | R. vol. < 4 µl | R. vol. < 8 µl | R. vol. < 4 µl |

100 pcs. per PP-Box

5.1 Crimp Neck Vials ND11 – BaseBond Micro Vials (Cont.)









BaseBond Vials



| RR 11 0680 | RR 11 0681 | RR 11 2056 | RR 11 2057 | RR 11 1353 | RR 11 1354 | RR 11 2048 | RR 11 2049 |
|---|---|---|---|---|---|--|--|
| Crimp Neck Vial with integrated 0.2ml Micro-Insert, 32 x 11.6mm, clear glass, 1st hydrol. class with small micro-insert | Crimp Neck Vial with integrated 0.2ml Micro-Insert, 32 x 11.6mm, amber glass, 1st hydrol. class with small micro-insert | Crimp Neck Vial with integrated 0.2ml Micro-Insert, 32 x 11.6mm, clear glass, 1st hydrol. class, writing patch, with small micro-insert | Crimp Neck Vial with integrated 0.2ml Micro-Insert, 32 x 11.6mm, amber glass, 1st hydrol. class, writing patch, with small micro-insert | Crimp Neck Vial with integrated 0.3ml Micro-Insert, 32 x 11.6mm, clear glass, 1st hydrol. class, with wide micro-insert | Crimp Neck Vial with integrated 0.3ml Micro-Insert, 32 x 11.6mm, amber glass, 1st hydrol. class, with wide micro-insert | Crimp Neck Vial with integrated 0.3ml Micro-Insert, 32 x 11.6mm, clear glass, 1st hydrol. class, writing patch, with wide micro-insert | Crimp Neck Vial with integrated 0.3ml Micro-Insert, 32 x 11.6mm, amber glass, 1st hydrol. class, writing patch, with wide micro-insert |
| "BaseBond" | "BaseBond" | "BaseBond" | "BaseBond" | "BaseBond" | "BaseBond" | "BaseBond" | "BaseBond" |
| R. vol. < 1 µl | R. vol. < 1 µl | R. vol. < 1 µl | R. vol. < 1 µl | R. vol. < 3 µl | R. vol. < 3 µl | R. vol. < 3 µl | R. vol. < 3 µl |

100 pcs. per PP-Box






5.1 Crimp Neck Vials ND11 – Other Micro Vials (Cont.)

| | | | | | | TopBond | TopBond |
|---|--|--|--|--|---|---|---|
|  |  |  |  |  |  |  |  |
| RR 11 0294 RR 11 1682 | RR 11 1200 RR 11 1316 | SR 11 1123 SR 11 1408 | RR 11 0366 | RR 11 0367 | RR 11 0872 RR11 0873 | RR 11 0322 | RR 11 0323 |
| 1.1ml Microliter-Vial, Crimp Neck 32 x 11.6mm, clear glass, (amber glass) 1st hydrol. class | 1.1ml Microliter-Vial, Crimp Neck 32 x 11.6mm, clear glass, (amberglass) 1st hydrol. class | 0,9ml Total Microliter Snap/Crimp Ring Vial 32 x 11.6mm, clear glass, 1st hydrol.class | 0,9ml Micro-Vial, 32 x 10mm, clear glass, 1st hydrol. class, conical | 1,1ml Micro-Vial, 32 x 11.6mm, clear glass, 1st hydrol. class, conical | 1,1ml Microliter Crimp Neck Vial 32 x 11.6mm clear glass, (amber glass) 1st hydrol. Class, with rounded glass base | Crimp Neck Vial with integrated 0,2ml Micro- Insert, 32 x 11.6mm, clear glass, 1st hydrol. class, writing patch, with small micro-insert „TopBond“ | Crimp Neck Vial with integrated 0,2ml Micro- Insert, 32 x 11.6mm, amber glass, 1st hydrol. class, writing patch, with small micro-insert "TopBond" |
| SILANIZED RR 11 0294s | SILANIZED RR 11 1200s | | | | | | |
| R. vol. < 15 µl | R. vol. < 15 µl | R. vol. < 1 µl | R. vol. < 2 µl | R. vol. < 4 µl | R. vol. < 15 µl | R. vol. < 1 µl | R. vol. < 1 µl |
| 100 pcs. per PP-Box | | | 100 pcs. per PE-Bag | | 100 pcs. per PP-Box | | |

5.3 Aluminum Crimp Seals ND11





5.3.1 Natural Rubber/TEF Seals

- Perfect for multiple injections due to its reclosable properties
- Temperature resistant from -40° C to 120° C
- Used in GC and HPLC

| | | | | | |
|---------------------|---|---|---|---|---|
| |  |  |  |  |  |
| Art. No. | BV 11 0216 | BV 11 2212 | BV 11 2213 | BV 11 2201 | BV 11 2214 |
| Cap: | Aluminum Crimp Cap, clear lacquered, 5,5mm hole | Aluminum Crimp Cap, green lacquered, 5,5mm hole | Aluminum Crimp Cap, red lacquered, 5,5mm hole | Aluminum Crimp Cap, blue lacquered, 5,5mm hole | Aluminum Crimp Cap, gold lacquered, 5,5mm hole |
| Septa: | Natural Rubber red-orange/TEF transparent, 60° shore A, 1,0mm | | | | |
| 100 pcs. per PE-Bag | | | | | |

5.3.2 Natural Rubber/Butyl/TEF Seals

- Three-layer, so-called sandwich septa made of natural rubber/butyl/TEF combines the excellent physical properties of natural rubber (resealing properties) with the excellent chemical properties of synthetic butyl (purity)
- Ideal for multiple injections, easier to penetrate than natural rubber/TEF seals

| | | | | |
|---------------------|---|---|---|---|
| |  |  |  |  |
| Art. No. | BV 11 0336 | BV 11 0503 | BV 11 0504 | BV 11 0506 |
| Cap: | Aluminum Crimp Cap, clear lacquered, 5,5mm hole | Aluminum Crimp Cap, green lacquered, 5,5mm hole | Aluminum Crimp Cap, red lacquered, 5,5mm hole | Aluminum Crimp Cap, gold lacquered, 5,5mm hole |
| Septa: | Natural Rubber red-orange/Butyl/TEF transparent, 45° shore A, 1,0mm | | | |
| 100 pcs. per PE-Bag | | | | |

5.3.3 RedRubber/PTFE Seals

- New synthetic rubber comparable to silicone in terms of purity
- Temperature resistance from -40° C to 150° C
- Preferably recommended for single use injections due to less good reclosing properties
- Applications in GC and HPLC



| Art. No. | BV 11 0789 | BV 11 0790 | BV 11 0791 | BV 11 0792 | BV 11 0793 |
|----------|---|---|---|--|--|
| Cap: | Aluminum Crimp Cap, clear lacquered, 5,5mm hole | Aluminum Crimp Cap, green lacquered, 5,5mm hole | Aluminum Crimp Cap, red lacquered, 5,5mm hole | Aluminum Crimp Cap, blue lacquered, 5,5mm hole | Aluminum Crimp Cap, gold lacquered, 5,5mm hole |
| Septa: | RedRubber/PTFE beige, 45° shore A, 1mm (tested instrument manufacturer quality) | | | | |
| | 100 pcs. per PE-Bag | | | | |

5.3.4 Silicone white/PTFE red Seals

- Is the purest synthetic elastomer and is therefore used for critical analyses
- Temperature resistance from -60° C to 200° C
- Preferably recommended for single use injections due to less good reclosing properties
- Application in GC, HPLC and headspace analysis



| Art. No. | BV 11 0172 | BV 11 0794 | BV 11 0795 | BV 11 0796 | BV 11 0797 |
|----------|---|---|---|--|--|
| Cap: | Aluminum Crimp Cap, clear lacquered, 5,5mm hole | Aluminum Crimp Cap, green lacquered, 5,5mm hole | Aluminum Crimp Cap, red lacquered, 5,5mm hole | Aluminum Crimp Cap, blue lacquered, 5,5mm hole | Aluminum Crimp Cap, gold lacquered, 5,5mm hole |
| Septa: | Silicone white/PTFE red, 45° shore A, 1,3mm | | | | |
| | 100 pcs. per PE-Bag | | | | |

5.3.5 Other Silicone/PTFE Seals

- The purest synthetic elastomer and therefore used for critical analyses
- Silicone septa coated with PTFE on both sides for low particle formation
- Slit septa in HPLC as penetration aid for blunt needles to create a valve effect in case of multiple injections
- Temperature resistance from -60° C to 200° C



| Art. No. | BV 11 0643 | BV 11 0138 | BV 11 0136 | BV 11 1417 |
|------------|---|----------------------------------|---|---|
| Cap: | Aluminum Crimp Cap, clear lacquered, 5,5mm hole | | | |
| Septa: | Silicone cream/PTFE red | PTFE red/Silicone white/PTFE red | Silicone white/PTFE blue, cross-slit | ZeroPEAK Silicon natur/PTFE beige |
| Hardness: | 55° shore A | 45° shore A | 55° shore A | 38° shore A |
| Thickness: | 1,5mm | 1,0mm | 1,0mm | 1,0mm |
| | 100 pcs. per PE-Bag | | | |

5.3.6 Butyl/PTFE Seals

- Temperature resistance from -40° C to 120° C



| Art. No. | BV 11 0130 | BV 11 0382 |
|------------|---|---------------------------------|
| Cap: | Aluminium Bördelkappe, farblos lackiert, 5,5mm Loch | |
| Septa: | Butyl cream/PTFE grey | PTFE grey/Butyl cream/PTFE grey |
| Hardness: | 55° shore A | 55° shore A |
| Thickness: | 1,3mm | 1,0mm |
| | 100 pcs. per PE-Bag | |

5.3 Aluminum Crimp Seals ND11 (Cont.)

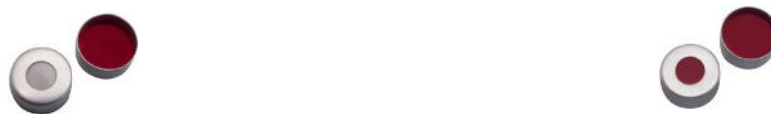
5.3.7 High Temperature Seals

- Total phthalate free closure system (TPF closure); elastomer and halogen free septa
- Viton is resistant to a large number of corrosive organic substances; it has a high thermal and chemical resistance; main field of application in the petrochemical industry



| Art. No. | BV 11 0604 | BV 11 0875 | BV 11 0918 | BV 11 0135 | BV 11 0134 |
|--------------------------|--|---|---|---|---|
| Cap: | Aluminum Crimp Cap, clear lacquered, 5,5mm hole, with roll groove | Aluminum Crimp Cap, clear lacquered, 5,5mm hole | Aluminum Crimp Cap, clear lacquered, 5,5mm hole | Aluminum Crimp Cap, clear lacquered, 5,5mm hole | Aluminum Crimp Cap, clear lacquered, 5,5mm hole |
| Septa: | PTFE virginal | PTFE virginal (add. TPF O-ring) | Silicone white/Aluminum foil silver | Viton 1A | Viton 1A |
| Hardness: | 53° shore A | 53° shore A | 50° shore A | 70° shore A | 70° shore A |
| Thickness: | 0,25mm | 0,25mm | 1,3mm | 1,0mm | 1,5mm |
| Applicable up to: | -200 °C bis +260 °C | | -40 °C bis +220 °C | | -40 °C bis +240 °C |
| 100 pcs. per PE-Bag | | | | | |

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

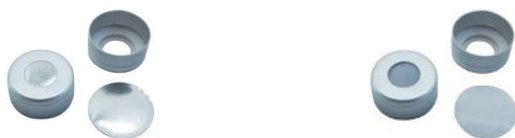


| Art. No. | BV 11 0798 | BV 11 0715 |
|---------------------|--|----------------------------------|
| Cap: | Magnetic Crimp Cap, silver lacquered, 5mm hole | |
| Septa: | Silicone white/PTFE red | PTFE red/Silicone white/PTFE red |
| Hardness: | 45° shore A | 45° shore A |
| Thickness: | 1,3mm | 1,0mm |
| 100 pcs. per PE-Bag | | |

5.3.9 Trace analysis and TPF closure systems

Total Phthalat Free (TPF) Seals with assembled aluminum liner (BV 11 0979)

- Septa material free of any elastomers and halogens; therefore no contamination of the sample by plasticizers, Silicone or Butyl rubbers and PTFE/FEP/ TEF materials
- Recommended for GC/MS and LC/MS applications
- The additional ring which is assembled above the aluminum liner achieves an excellent tightness and inertness of the complete combination seal
- Suitable for storing of standards or reactive substances which would normally corrode the septum material



| Art. No. | BV 11 0979 | BV 11 0980 |
|--|---|--|
| Cap: | Aluminum Crimp Cap, clear lacquered, 5,5mm hole, with roll groove | |
| Septa: | Aluminum Septa (additional sealing by TPF O-ring) | PTFE virginal, 0,25mm (additional sealing by TPF O-ring) |
| Hardness: | 53° shore A | |
| Thickness: | 0,1mm | 0,25mm |
| Packed per 100 pieces in plasticizer-free glass vial | | |

Application areas:

- Analytic of elastomers und plastomers
- Phthalate analysis
- Analytic of fluorinated, halogenated organic compounds
- VOC (volatile organic compounds) analysis
- Analytic of polymerisation catalysts
- Analytic of silicones und silicates



5.4 Septa 11mm Aluminum Crimp Seals ND11 (Cont.)

- Please note that the diameter of the septa is designed to match our cap design. We cannot guarantee an optimal press-fit of the septa in caps of other manufacturers.
- Further septa made of other materials are available upon request.



| Art. No. | SE 11 0120 | SE 11 0693 | SE 11 0121 | SE 11 0083 | SE 11 0091 | SE 11 0827 |
|-----------------------|-------------------------|-------------------------|----------------------------------|---|--------------|--------------------------------------|
| Septa: | Silicone white/PTFE red | Silicone cream/PTFE red | PTFE red/Silicone white/PTFE red | Silicone white/PTFE blue, cross-slit | Viton, black | Silicone white/Aluminum foil, silver |
| Hardness: | 45° shore A | 55° shore A | 45° shore A | 55° shore A | 70° shore A | 50° shore A |
| Thickness: | 1,3mm | 1,5mm | 1,0mm | 1,5mm | 1,0mm | 1,3mm |
| 1.000 pcs. per PE-Bag | | | | | | |



| Art. No. | SE 11 0099 | SE 11 0080 | SE 11 0788 | SE 11 0081 | SE 11 0381 |
|-----------------------|---------------|---|----------------------|-----------------------|---------------------------------|
| Septa: | PTFE virginal | Natural Rubber red-orange/TEF transparent | RedRubber/PTFE beige | Butyl cream/PTFE grey | PTFE grey/Butyl cream/PTFE grey |
| Hardness: | 53° shore A | 60° shore A | 45° shore A | 55° shore A | 55° shore A |
| Thickness: | 0,20mm | 1,0mm | 1,0mm | 1,3mm | 1,3mm |
| 1.000 pcs. per PE-Bag | | | | | |

5.5 Aluminum Crimp Caps ND11

- Aluminium crimp caps are available in clear lacquer, green lacquer, red lacquer, blue lacquer and gold lacquer as standard
- Other colours can be supplied on request



| Art. No. | BK 11 0123 | BK 11 0126 | BK 11 0127 | BK 11 0125 | BK 11 0128 |
|-----------------------|--|--|--|---|---|
| Cap: | 11mm Aluminum Crimp Cap, clear lacquered, 5,5mm hole | 11mm Aluminum Crimp Cap, green lacquered, 5,5mm hole | 11mm Aluminum Crimp Cap, red lacquered, 5,5mm hole | 11mm Aluminum Crimp Cap, blue lacquered, 5,5mm hole | 11mm Aluminum Crimp Cap, gold lacquered, 5,5mm hole |
| 1.000 pcs. per PE-Bag | | | | | |

5.6 Special 2in1 Kits Aluminum Crimp Seals ND11

- Each combination of a crimp neck vial ND11 is now available with any 11mm crimp cap listed in the catalogue as a practical 2in1 kit!

100 Vials and 100 Seals per Box



5.7 Crimp Neck Vials ND11 with pre-crimped Aluminum Seals ND11

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

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.**



The Universal Autosampler Vial

- Universally usable vials for almost all autosamplers, even for those with robotic handling.
- Vials can also be crimped with a standard 11mm Aluminum Crimp Seal, as the two snapping lips have the same height as a crimp neck

6.1 Snap Ring Vials ND11, wide opening



| SR 11 0200 | SR 11 0201 | SR 11 1037 | SR 11 0202 |
|--|---|--|---|
| 1,5ml Snap Ring Vial,, 32 x 11,6mm, clear glass, 1st hydrol. class, wide opening | 1,5ml Snap Ring Vial,, 32 x 11,6mm, clear glass, 1st hydrol. class, wide Opening, label + filling lines | 1,5ml Snap Ring Vial,, 32 x 11,6mm, amber glass, 1st hydrol. class, wide opening | 1,5ml Snap Ring Vial,, 32 x 11,6mm, amber glass, 1st hydrol. class, wide Opening, label + filling lines |
| SILANIZED SR 11 0200s | SILANIZED SR 11 0201s | SILANIZED SR 11 1037s | SILANIZED SR 11 0202s |
| R. vol. < 100 µl | R. vol. < 100 µl | R. vol. < 100 µl | |
| 100 pcs. per PP-Box | | | |

6.1.3 Micro-Inserts for Vials with wide opening



| ME 06 0218 | ME 06 0361 | ME 06 0362 | ME 06 0232 |
|---|--|--|--|
| 0,25ml Micro-Insert, 31 x 6mm, clear glass, 1st hydrol. class, 15mm top | 0,3ml Micro-Insert, 31 x 6mm, clear glass, 1st hydrol. class, 12mm top | 0,35ml Micro-Insert, 31 x 6mm, clear glass, 1st hydrol. class, flat bottom | 0,25ml Micro-Insert, 29 x 5,7mm, clear glass, 1st hydrol. class, with assembled plastic spring |
| SILANIZED ME 06 0218s | SILANIZED ME 06 0361s | SILANIZED ME 06 0362s | SILANIZED ME 06 0232s |
| R. vol. < 4 µl | R. vol. < 4 µl | R. vol. < 8 µl | R. vol. < 4 µl |
| 10 x 100 pcs. per PP-Box | | | |

6.1.2 Snap Ring Mikroliter Vials ND11



| SR 11 0684 SR 11 0685 | SR 11 2054 SR 11 2055 | SR 11 1560 SR 11 1561 | SR 11 2052 SR 11 2053 | SR 11 1312 SR 11 1322 | SR 11 0857 SR 11 0858 | SR 11 1092 | SR 11 0474 | SR 11 0856 |
|--|---|---|---|---|---|---|--|---|
| Snap Ring Vial with integrated 0,2ml Micro-Insert, 32 x 11,6mm, clear glass, (amber glass) 1. hydrol. class, with small micro-insert | Snap Ring Vial with integrated 0,2ml Micro-Insert, 32 x 11,6mm, clear glass, (amber glass) 1. hydrol. class, writing patch and filling lines, with small micro-insert | Snap Ring Vial with integrated 0,3ml Micro-Insert, 32 x 11,6mm, clear glass, (amber glass) 1. hydrol. class, with wide micro-insert | Snap Ring Vial with integrated 0,3ml Micro-Insert, 32 x 11,6mm, clear glass, (amber glass) 1. hydrol. class, writing patch and filling lines, with widel micro-insert | 1,1ml Mikroliter Snap Ring Vial 32 x 11.6mm clear glass, (amber glass) 1.hydrol. class, with solid glass bottom | 1,1ml Microliter Snap Ring Vial 32 x 11.6mm clear glass, (amber glass) 1.hydrol. class, with rounded glass bottom | 0,3ml PP Snap Ring Micro-Vial, transparent, 32 x 11.6mm | TPX Snap Ring Vial, clear, 32 x 11.6mm, with integrated 0.2ml Glass Micro-Insert, 15mm top | 0,7ml PP Snap Ring Micro-Vial, transparent, 32x11.6mm |
| "Base Bond" | "Base Bond" | "Base Bond" | "Base Bond" | | | | | |
| R. vol. < 1 µl | R. vol. < 1 µl | R. vol. < 3 µl | R. vol. < 3 µl | R. vol. < 8 µl | R. vol. < 15 µl | R. vol. < 4 µl | R. vol. < 4 µl | R. vol. < 25 µl |
| 100 pcs. per PP-Box | | | | | | 100 per PE-Bag | | |

6.2 PE Snap Ring Seals ND11

- Snap Caps in the design of an aluminum crimp cap; therefore also suitable for robots
- Fast and easy to close and open
- Snap ring vials ND11 can alternatively be closed with aluminum crimp seals ND11
- In standard snap ring caps are in transparent and blue available!
- Further colored snap ring seals upon request

6.2.1 PE Snap Ring Seals ND11, with transparent cap



| Art. No. | SN 11 0518 | SN 11 0800 | SN 11 0171 | SN 11 0168 | SN 11 0170 | SN 11 0911 | SC 11 1194 |
|------------|---|----------------------|----------------------------|-------------------------|----------------------------------|---|--------------------------|
| Cap: | PE snap ring cap, transparent, 6mm hole | | | | | | PE Cap |
| Septa: | Natural Rubber red/orange/TEF transparent | RedRubber/PTFE beige | RedRubber/PTFE transparent | Silicone white/PTFE red | PTFE red/Silicone white/PTFE red | Silicone white/PTFE blue, cross-slit | thinned penetration area |
| Hardness: | 60° shore A | 45° shore A | 45° shore A | 45° shore A | 45° shore A | 55° shore A | |
| Thickness: | 1,0mm | 1,0mm | 1,0mm | 1,0mm | 1,0mm | 1,0mm | |

100 pcs. per PE-Bag

6.2.2 PE Snap Ring Seals ND11, with blue cap



| Art. No. | SN 11 0519 | SN 11 0801 | SN 11 0706 | SN 11 0520 | SN 11 0521 | SN 11 0853 | SC 11 1169 |
|------------|---|----------------------|----------------------------|-------------------------|----------------------------------|---|--------------------------|
| Cap: | PE snap ring cap, transparent, 6mm hole | | | | | | PE Cap |
| Septa: | Natural Rubber red/orange/TEF transparent | RedRubber/PTFE beige | RedRubber/PTFE transparent | Silicone white/PTFE red | PTFE red/Silicone white/PTFE red | Silicone white/PTFE blue, cross-slit | thinned penetration area |
| Hardness: | 60° shore A | 45° shore A | 45° shore A | 45° shore A | 45° shore A | 55° shore A | |
| Thickness: | 1,0mm | 1,0mm | 1,0mm | 1,0mm | 1,0mm | 1,0mm | |

100 pcs. per PE-Bag

6.3 Septa 10,5mm for Snap Ring Seals ND11



| Art. No. | SE 11 0513 | SE 11 0515 | SE 11 0514 | SE 11 0516 |
|------------|--|-------------------------|----------------------------------|---|
| Septa: | Natural Rubber red-range/TEF transparent | Silicone white/PTFE red | PTFE red/Silicone white/PTFE Red | Silicone white/PTFE blue, cross-slit |
| Hardness: | 60° shore A | 45° shore A | 45° shore A | 55° shore A |
| Thickness: | 1,0mm | 1,3mm | 1,0mm | 1,0mm |

1.000 pieces

Further septa and PE Snap Ring Seals ND11 in other colours available on request!

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

- Wide opening allows easy filling with viscous materials
- With closed screw caps ND13 ideal for storage
- Each vial and cap combination is now available as a practical 2in1 kit!!



7.1 Screw Neck Vials ND13 and appropriate Micro-Inserts



| GW 13 0454 | GW 13 0456 | GW 13 0455 | GW 13 0457 | GW 13 1283 | ME 13 0458 | FE 13 0459 |
|--|---|--|---|---|--|--|
| 4ml Screw Neck Vial, 45 x 14.7mm, clear glass, 1st hydrol. class | 4ml Screw Neck Vial, 45 x 14.7mm, clear glass, 1st hydrol. class, label + filling lines | 4ml Screw Neck Vial, 45 x 14.7mm, amber glass, 1st hydrol. class | 4ml Screw Neck Vial, 45 x 14.7mm, amber glass, 1st hydrol. class, label + filling lines | 3,5ml Mikroliter- Screw Neck Vial, 45 x 14.7mm, clear glass, 1st hydrol. class | 0,3ml MicroInsert, 40 x 6mm, clear glass, 1st hydrol. class, 15mm top Metal Spring required! | Spring 50 x 7.5mm for Micro-Insert ME 13 0458 |
| R. vol. < 400 µl | R. vol. < 400 µl | R. vol. < 400 µl | R. vol. < 400 µl | R. vol. < 15 µl | R. vol. < 9 µl | |
| 100 pcs. per PP-Box | | | | | 10 x100 pieces | 10 x100 pieces |

7.2 PP Screw Seals ND13, black with hole



| Art. No. | SV 13 0476 | SV 13 0477 | SV 13 0487 | SV 13 0806 | SV 13 0478 | SV 13 0479 |
|---------------------|--|-----------------------------|--------------------------|-----------------------------|--|---------------------------------------|
| Cap: | Polypropylene Screw Cap, black, 8.5mm centre hole | | | | | |
| Septa: | Natural Rubber red orange/TEF transparent | Silicone white/ PTFE red | Butyl ceme/ PTFE grey | Silicone cream/ PTFE red | PTFE red/ Silicone white/ PTFE red | Silicone white/ PTFE blue, slit |
| Hardness | 60° shore A | 45° shore A | 55° shore A | 55° shore A | 45° shore A | 55° shore A |
| Thickness: | 1,3mm | 1,3mm | 1,3mm | 1,5mm | 1,0mm | 1,0mm |
| 100 pcs. per PE-Bag | | | | | | |

7.3 PP Screw Seals ND13, black, closed top



| Art. No. | SV 13 0488 | SV 13 0489 | SV 13 0805 |
|---------------------|--|---------------------|-------------------------|
| Cap: | Polypropylene Screw Cap, black, closed top | | |
| Septa: | Natural Rubber red-orange/TEF transparent | Butyl red/PTFE grey | Silicone cream/PTFE red |
| Hardness | 60° shore A | 55° shore A | 55° shore A |
| Thickness: | 1,3mm | 1,6mm | 1,5mm |
| 100 pcs. per PE-Bag | | | |

7.4 Septa 12mm

- Further septa made of other materials and/or available in other thicknesses!



| Art. No. | SE 12 0100 | SE 12 0481 | SE 12 0482 | SE 12 0485 | SE 12 0486 | SE 12 0460 |
|-----------|---------------|---|-----------------------|-------------------------|----------------------------------|--------------------------------|
| Septa | PTFE virginal | Natural Rubber red-orange/TEF transparent | Butyl cream/PTFE grey | Silicone white/PTFE red | PTFE red/Silicone white/PTFE red | Silicone white/PTFE blue, slit |
| Hardness | 53° shore A | 60° shore A | 55° shore A | 45° shore A | 45° shore A | 55° shore A |
| Thickness | 0,25mm | 1,0mm | 1,3mm | 1,3mm | 1,0mm | 1,0mm |

1.000 pieces pro PE-Beutel

7.5 PP Screw Caps ND13



| Art. No. | SK 13 0483 | SK 13 0484 | SK 13 0803 | SK 13 0804 |
|----------|---|--|---|--|
| Cap | 13mm Polypropylene Screw Cap , black, 8.5mm centre hole | 13mm Polypropylene Screw Cap , black, closed top | 13mm Polypropylene Screw Cap , white, 8.5mm centre hole | 13mm Polypropylene Screw Cap , white, closed top |

1.000 pcs. per PE-Bag

7.6 Special 2in1 Kits Screw Neck ND13

- Each combination of a screw thread vial ND13 is now available with any ND13 screw cap listed in the catalogue as a practical 2in1 kit!

100 Vials and 100 Seals per Box



7.7 Screw Thread Vials ND13, with pre-assembled screw cap ND13

- Pre-screwed vials reduce the risk of contamination of the vials in the laboratory. Furthermore, special applications (e.g. in the tobacco industry) may require a pre-sealed vial.



8. Screw Neck ND15

- Screw Neck Vials for storage purposes made out of 1st hydrol. class glass.
- For sample volumes from 800 µl to 12000 µl
- Wide opening for safe filling
- Seals available with many different septa materials



8.1 Screw Neck Vials ND15



| GW 15 0636 | GW 15 0831 | GW 15 0637 | GW 15 0876 |
|---|---|--|--|
| 8ml Screw Neck Vial, 15-425, 61 x 16.6mm, clear glass, 1st hydrol. class | 8ml Screw Neck Vial, 15-425, 61 x 16.6mm, amber glass, 1st hydrol. class | 12ml Screw Neck Vial, 15-425, 66 x 18.5mm, clear glass, 1st hydrol. class | 12ml Screw Neck Vial, 15-425, 66 x 18.5mm, amber glass, 1st hydrol. class |
| R. vol. 800 µl | R. vol. 800 µl | R. vol. 800 µl | R. vol. 800 µl |
| 100 pcs. per Box | | | |

8.2 PP Screw Seals ND15, black, closed top

- On the sample side, the aluminium foil with its outstanding chemical properties protects the sample, the soft inner core of PE foam provides the elasticity in the cap
- Our PP Screw Cap can be combined with any of the septa listed below



| Art. No. | SV 15 0594 | SV 15 0638 | SV 15 0884 | SV 15 0878 | SV 15 1327 |
|---------------------|--|-------------------------|--------------------|---|-----------------|
| Cap: | PP Screw Cap, black, closed top | | | | |
| Septa: | Natural Rubber redorange/TEF transparent | Butyl red/ PTFE grey | Viton 1A, black | Silicone white/Aluminum foil silver | Butyl dark grey |
| Hardness | 60° shore A | 55° shore A | 70° shore A | 50° shore A | 48° shore A |
| Thickness: | 1,3mm | 1,6mm | 1,0mm | 1,3mm | 2mm |
| 100 pcs. per PE-Bag | | | | | |

8.3 Septa 14mm and PP Screw Seals ND15



| Art. No. | SE 14 0883 | SE 14 0882 | SE 14 0881 | SE 14 0879 | SE 14 1326 | SK 15 0747 | SK 15 0746 |
|----------------------------|------------------------------------|-----------------|-------------------------|---|--------------------|---|--|
| Septa / Caps | PTFE virginal, both sides plain | Viton 1A, black | Butyl red/ PTFE grey | Silicone white/ Aluminum foil silver | Butyl dark grey | PP Screw Cap 15-425, black, with 9mm hole | PP Screw Cap 15-425, black, closed top |
| Hardness | 53° shore D | 70° shore A | 55° shore A | 50° shore A | 48° shore A | | |
| Thickness: | 0,25mm | 1,0mm | 1,6mm | 1,3mm | 2mm | | |
| 1.000 pieces pro PE-Beutel | | | | | | | |

9. Shell Vials 1ml, 2ml and 4ml and appropriate Micro-Inserts

- A convenient to use and inexpensive bottle/cap combination.
- Star-shaped diaphragm allows easy penetration of the PE stopper.
- Recommended for use in HPLC.
- Shell Vials with the corresponding stoppers can also be supplied as a 2in1 KIT



9.1 Shell Vials 1ml and appropriate Micro-Insert



| FK 08 0562 | FK 08 0563 | FK 08 0564 | ME 05 0540 |
|--|---|---|--|
| 1ml Shell Vial, 35 x 7.8mm, clear glass; 6mm PE Plug, transparent | 1ml Shell Vial, 40 x 8.2mm, clear glass; 8mm PE Plug, transparent (without insertion barrier) | 1ml Shell Vial, 40 x 8.2mm, amber glass; 8mm PE Plug, transparent (without insertion barrier) | 0.1ml Micro-Insert, 34 x 5mm, clear glass, 1st hydrolytic class, 13mm top |
| 100 pcs. per PP-Box | | | 10 x100 pieces per PP-Box |

9.2 Shell Vials 2ml and appropriate Micro-Insert



| FK 11 0567 | FK 11 0568 | ME 06 0218 | ME 06 0361 | ME 06 0362 |
|---|---|---|--|--|
| 2ml Shell Vial, 31.5 x 11.6mm, clear glass; 12mm PE Plug, transparent | 2ml Shell Vial, 31.5 x 11.6mm, amber glass; 12mm PE Plug, transparent | 0.25ml Micro-Insert, 31 x 6mm, clear glass, 1st hydrol. class, 15mm top | 0,3ml Micro-Insert, 31 x 6mm, clear glass, 1st hydrol. class, 12mm top | 0,35ml Micro-Insert, 31 x 6mm, clear glass, 1st hydrol. class, flat bottom |
| 100 pcs. per PP-Box | | 10 x100 pieces per PP-Box | | |

9.3 Shell Vials 4ml and appropriate Micro-Insert



| FK 15 0569 | FK 15 0570 | ME 06 0541 |
|--|--|--|
| 4ml Shell Vial, 44.6 x 14.65mm, clear glass; 15mm PE Plug, transparent | 4ml Shell Vial, 44.6 x 14.65mm, amber glass; 15mm PE Plug, transparent | 0,3ml Micro-Insert, 43,45 x 6mm, 1st hydrol. class, 13mm top |
| 100 pcs. per PP-Box | | 10 x100 pieces per PP-Box |

10. Snap Cap Vials ND18 + ND22

- Easy to handle and inexpensive storage vials with push-on Snap Caps
- Caps and Vials separately obtainable.
- Quickly and easily to reopen and reseal.
- No liners are required in the cap.
- For storage of powders and solids.



10.1 Snap Cap Vials ND18 + ND22



| SF 18 0189 | SF 18 0190 | SF 22 0191 | SF 22 0192 |
|---|--|--|--|
| 5ml Snap Cap Vial ND18, 40 x 20mm, clear glass, 3st hydrol. class | 10ml Snap Cap Vial ND18, 50 x 22mm, clear glass, 3st hydrol. class | 15ml Snap Cap Vial ND22, 48 x 26mm, clear glass, 3st hydrol. class | 25ml Snap Cap Vial ND22, 65 x 26mm, clear glass, 3st hydrol. class |
| Volume of capacity 9,1ml | Volume of capacity 14ml | Volume of capacity 19ml | Volume of capacity 25ml |
| Residual volume 0,3ml | Residual volume 0,5ml | Residual volume 0,6ml | Residual volume 0,6ml |
| for SD 18 0067 | for SD 18 0067 | for SD 22 0068 | for SD 22 0068 |
| 100 pcs. per PP-Box | | | |

10.2 Appropriate PE Snap Caps ND18 + ND22, transparent, closed top

- Snap Caps are available in many other sizes
- For larger purchase quantities, our snap Caps can also be obtained in other colors



| Art. No. | SD 18 0067 | SD 22 0068 |
|---------------------|---|---|
| Description | 18mm PE Snap Cap, 19.8 x 5.2mm, transparent, closed top, for vials ND18 | 22mm PE Snap Cap, 23.5 x 5.5mm, transparent, closed top, for vials ND22 |
| 100 pcs. per PE-Bag | | |

10.3 2in1Kits (snap cap vial including snap cap)

| Art. No. | KP 18 1273 | KP 22 1431 | KP 22 1432 | KP 22 1397 | KP 28 1398 | KP 28 1367 | KP 28 1377 |
|------------|--|---|---|--|---|---|---|
| Kit Descr. | 2in1 Kit: 3ml Snap Cap Vial, 30x19mm, clear glass, 1. hydrol.class; incl. Snap Cap ND18 | 2in1 Kit: 20ml Snap Cap Vial, 70x25mm, clear glass, 3st hydrol. class, incl. Snap Cap ND22 | 2in1 Kit: 20ml Snap Cap Vial, 55x27mm, clear glass, 3st hydrol. class, incl. Snap Cap ND22 | 2in1 Kit: 30ml S Snap Cap Vial, , 75x28mm, clear glass, 1. hydrol. class; incl. Snap Cap ND22 | 2in1 Kit: 40ml Snap Cap Vial, 80x30mm, clear glass, 3st hydrol. class, incl. Snap Cap ND28 | 2in1 Kit: 40ml Snap Cap Vial, 80x30mm, clear glass, 3st hydrol. class, incl. Snap Cap ND28 | 2in1 Kit: 100ml Snap Cap Vial, 145x34mm, clear glass, 3st hydrol. class, incl. Snap Cap ND28 |
| | 200 pcs. per cardboard box | 200 pcs. per cardboard box | 200 pcs. per cardboard box | 200 pcs. per cardboard box | 200 pcs. per cardboard box | 200 pcs. per cardboard box | 100 pcs. per cardboard box |

11. Headspace Precision Thread Vials and Closures ND18

- The times when precision thread vials were mainly used on instruments with magnetic transport mechanism are over. In order to exclude difficulties and risks of a crimping process, instrument manufacturers are striving to make the closing process of the sample bottle and the associated tightness safer and more reproducible.
- PerkinElmer has now added precision thread vials to its product range for all TurboMatrix 16, 40 and 110 autosamplers built after 01.09.2006.
- This means that almost all current headspace autosamplers (Agilent, CTC, Gerstel, PerkinElmer, Shimadzu, Varian) now offer the possibility of using these vials, which can be used universally for headspace + SPME. Another advantage is the thinner septa compared to the crimp caps, which are easier and more gentle on the needle to penetrate.



11.1 Headspace Precision Thread Vials ND18



| HS 18 0233 | HS 18 0348 | HS 18 0234 | HS 18 1183 | HS 18 0349 |
|--|--|--|--|--|
| 10ml Precision Thread Vial ND18, 46 x 22.5mm, clear glass, 1st hydrol. class, rounded bottom | 10ml Precision Thread Vial ND18, 46 x 22.5mm, amber glass, 1st hydrol. class, rounded bottom | 20ml Precision Thread Vial ND18, 75,5 x 22,5mm, clear glass, 1st hydrol. class, rounded bottom | 20ml Precision Thread Vial ND18, 75,5 x 22,5mm, clear glass, 1st hydrol. class, label + filling lines rounded bottom | 20ml Precision Thread Vial ND18, 75,5 x 22,5mm, Amber glass, 1st hydrol. class, rounded bottom |
| R. vol. 800 µl | R. vol. 800 µl | R. vol. 800 µl | R. vol. 800 µl | R. vol. 800 µl |

100 pcs. per PP-Box

11.2 Magnetic Universal Screw Seals ND18 for Precision Thread Vials



| Art. No. | SV 18 1287 | SV 18 0575 | SV 18 0177 | SV 18 0854 | SV 18 0576 | SV 18 0920 | SV 18 0960 |
|------------|--|--------------------------------------|--------------------------|-------------------------------------|-------------------------|--|---------------------|
| Cap: | Magnetic Screw Cap silver, 8mm centre hole | | | | | | |
| Septa: | Silicone blue/PTFE clear (moulded septa) | Silicone blue transparent/PTFE white | Silicone white/PTFE blue | Silicone white/Aluminum foil silver | Silicone white/PTFE red | HighTEMP Septa (HTS), Silicone dark-red/PTFE | Butyl red/PTFE grey |
| Hardness | 40° shore A | 45° shore A | 55° shore A | 50° shore A | 45° shore A | 45° shore A | 55° shore A |
| Thickness: | 3mm | 1,3mm | 1,5mm | 1,3mm | 1,3mm | 3,0mm | 1,6mm |

100 pcs. per PE-Bag

11.3 Septa 17.5mm for Magnetic Universal Screw Seals ND18



| Art. No. | SE 17 1280 | SE 17 0708 | SE 17 0707 | SE 17 0591 | SE 17 0855 | SE 17 0919 | SE 17 0584 |
|------------|--|-------------------------|--------------------------------------|--------------------------|-------------------------------------|--|---------------------|
| Septa: | Moulded septa, silicone blue/PTFE transp., 40°shore A, 3.0mm | Silicone white/PTFE red | Silicone blue transparent/PTFE white | Silicone white/PTFE blue | Silicone white/Aluminum foil silver | High Temperature Septa (HTS), Silicone dark-red/PTFE | Butyl red/PTFE grey |
| Hardness | | 45° shore A | 45° shore A | 55° shore A | 50° shore A | 45° shore A | 55° shore A |
| Thickness: | | 1,3mm | 1,3mm | 1,5mm | 1,3mm | 3,0mm | 1,6mm |

1.000 pcs. per PE-Bag

12. Headspace-Vials ND20 + ND18

Headspace Vials might differ in:

- Volume (5ml, 10ml, 20ml)
- Rounded or flat bottom
- Bevelled top or flat DIN Crimp Neck/Screw Neck
- Length of the Neck (instrument specific)
- Clear/Amber Glass
- Upon request with a barcode label



12.1 General overview Headspace Vials ND18 + ND20



| Art. No.: | HS 20 0238 HS 20 1435* | HS 20 0239 HS 20 0352 | HS 20 0207 | HS 18 0931 | HS 20 0354 | HS 20 0355 |
|-------------|---|--|--|--|--|---|
| Descr.: | 5ml Headspace Vial, 38.2 x 22mm, clear glass, 1st hydrol. class (* DIN Crimp Neck) | 20ml Headspace Vial, 75.5 x 23mm, clear glass, 1st hydrol. class, (amber glass) | 20ml Headspace Vial, 75.5 x 23mm, clear glass, 1st hydrol. class, label + filling lines | 20ml Headspace Vial 75.5 x 23mm, clear glass, 1st hydrol. class, with screw thread ND18 | 5ml Crimp Neck Vial, 38 x 20mm, clear glass, 1st hydrol. class | 10ml Crimp Neck Vial, 54.5 x 20mm, clear glass, 1st hydrol. class |
| Features: | HS-Crimp Neck, rounded bottom | HS-Crimp Neck, rounded bottom | HS-Crimp Neck, rounded bottom | Screw Neck ND18, rounded bottom | DIN Crimp Neck, flat bottom | DIN Crimp Neck, flat bottom |
| Fill Cap.: | 9,4ml | 22ml | 22ml | 21,2ml | 8ml | 12,2ml |
| Res. Vol.: | 800µl | 800µl | 800µl | 800µl | 800µl | 800µl |
| Useable on: | PerkinElmer | PerkinElmer, Tekmar | PerkinElmer, Tekmar | PerkinElmer | Varian | Varian |

100 pcs. per PP-Box



| Art. No.: | HS 20 0235 | HS 20 1672 | HS 20 0236 | HS 20 0302 HS 20 0350 | HS 20 0237 HS 20 0351 | HS 20 0353 HS 20 0732 | HS 20 0996 |
|-------------|--|---|--|---|---|--|---|
| Descr.: | 10ml Headspace Vial, 46 x 22.5mm, clear glass, 1st hydrol. class | 20ml Headspace Vial, 75.5 x 22.5mm, clear glass, 1st hydrol. class (10ml Vial HS 20 1680) | 20ml Headspace Vial, 75.5 x 22.5mm, clear glass, 1st hydrol. class | 10ml Headspace Vial, 46 x 22.5mm, clear glass, 1st hydrol. class (amber glass) | 20ml Headspace Vial, 75.5 x 22.5mm, clear glass, 1st hydrol. class (amber glass) | 20ml SPME Vial, 75.5 x 22.5mm, clear glass, 1st hydrol. class (amber glass) | 5ml Headspace Vial, 38,2 x 21,7mm, clear glass, 1st hydrol. class |
| Features: | DIN Crimp Neck, flat bottom | HS-Crimp Neck, flat bottom | DIN Crimp Neck, flat bottom | DIN Crimp Neck, rounded bottom | DIN Crimp Neck, rounded bottom | Special Crimp Neck, rounded bottom | HS-Crimp Neck, flat bottom |
| Fill Cap.: | 11,7ml | 21,2ml | 21,2ml | 12,3ml | 20,9ml | 21,2ml | 9,4ml |
| Res. Vol.: | 800µl | 800µl | 800µl | 800µl | 800µl | 800µl | 800µl |
| Useable on: | Agilent, Carlo Erba, Dani, Fisons, | Agilent, Carlo Erba, Dani, Fisons, | Agilent, Carlo Erba, Dani, Fisons, | CTC PAL (Varian, Gerstel, Atas, Shimadzu, TriPlus HS) | CTC PAL (Varian, Gerstel, Atas, Shimadzu, TriPlus HS) | SPME Flasche für CTC PAL | Metrohm |

12.2 Screw Neck ND18

- For headspace analysis or as sample storage vials
- PP Screw Seals ND18
- With our variety of septa we will find a customized solution for you



| Artikel | HS 18 0931 | Compatibility Overview | | |
|--------------------------|--|--------------------------|---|---|
| Description: | 20ml Headspace-Vial 75.5 x 23mm, clear glass, 1st hydrol. class | PerkinElmer | HS40/ HS100/ HS101TurboMatrix HS16/ HS40/ HS40XL/ S40Trap/HS110/ HS110Trap | x |
| Filling Capacity: | 21,2ml | Spark | Alias | x |
| Residual Volume: | 800µl | Teledyne Tekmar | 7000/ 7000HT/7050/ HT3 | x |
| | 100 pcs. per PP-Box | Thermo Scientific | Trace 1300 Series | x |

12.2.1 PP Screw Seals ND18

- For headspace analysis or as sample storage vials
- With our variety of septa we will find a customized solution for you



| Art. No. | SV 18 1076 | SV 18 1107 | SV 18 1177 | SV 18 0898 | SV 18 1036 | SV 18 1345 |
|---------------------|--------------------------------|---|------------------------------|--|---------------------------------|--------------------|
| Useable for: | Headspace | | | | Storage | |
| Cap: | PP SC, black, 12mm hole, GL 18 | | | | PP SC, black, closed top, GL 18 | |
| Septa: | Butyl red/ PTFE grey | Silicone transparent blue/PTFE white, 1.3mm | Silicone white/ PTFE blue | Silicone white/ Aluminum foil, silver | Butyl red/ PTFE grey | Butyl dark grey |
| Hardness: | 55° shore A | 45° shore A | 55° shore A | 50° shore A | 55° shore A | 48° shore A |
| Thickness: | 1,6mm | 1.3mm | 1,5mm | 1,3mm | 1,6mm | 3mm |
| | 100 pcs. per PE-Bag | | | | | |

12.2.2 Septa 16mm and Screw Seals ND18



| Art. No. | SE 16 0894 | SE 16 0892 | SE 16 1003 | SE 16 0851 | SE 16 1295 | SK 18 0888 | SK 18 0889 |
|-----------------------|--|-----------------|-------------------------|--|--------------------|---|--|
| Septa/ cap | Natural Ruber red orange/ TEF transp. | Viton, black | Butyl red/ PTFE grey | Silicone white/ Aluminum foil silver | Butyl dark grey | PP Screw Cap ND18, black, with hole | PP Screw Cap ND18, black, closed top |
| Hardness: | 60° shore A | 70° shore A | 55° shore A | 50° shore A | 48° shore A | | |
| Thickness: | 1,3mm | 1,0mm | 1,6mm | 1,3mm | 3mm | | |
| | 1.000 pcs. Per PE-Bag | | | | | 1.000 pcs. per PE-Bag | |

- Further septa available in other materials and thicknesses
- PP Screw Cap ND18 also available in white!

Overview of available cap types ND20

- Wide range of vials and seals required to cope with the large number of devices available on the market
- Besides the vial length and the tube diameter, the neck length also plays a major role when selecting a suitable ND20 headspace vial, since these are designed depending on the instrument
- For the selection of a suitable closure, the type of cap is very important in addition to the special requirements for the sealing disc (purity, hardness, thickness, etc.). The transport mechanism from the sampler to the analyser must be considered here in the first instance and thus ensures an initial pre-selection.

- Different characteristics compared
- Various colour coatings for easy sample differentiation
- Tamper-evident perforated caps to prevent manipulation and/or contamination of the septum during transport of the samples

| Aluminum crimp cap | Headspace-cap | Centre tear off cap | Flip-off Cap | Complete tear-off cap | Magnetic crimp cap | Magnetic crimp cap | Magnetic Bi-Metal Cap |
|--------------------|---|--|--------------|--------------------------|--|--------------------|-----------------------|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| 10mm hole | 8mm hole | 8mm hole | 8mm hole | | 5mm hole | 8mm hole | 8mm hole |
| | Pressure release cap; comparable with patented PerkinElmer Seal | Tamper evident crimp cap: Centre-Tear-Off part | | Tamper evident crimp cap | CE HS500/ HS800/ CTC500/ Fisons HS500/ HS800 | CTC Combi PAL | CTC Combi PAL |

Basically each of the above mentioned Cap can be combined with a septa of your choice! The cap selection in the following chapter only represents our standard range.

12.3 Crimp Seals ND20

12.3.1 Butyl Seals

- Temperature resistant from -40°C to 120°C
- Due to missing PTFE lamination only suitable for uncritical analyses

- Inexpensive combination closure
- The moulded septa is purer and denser compared to a conventional punching sept



| Art. No. | BV 20 0648 | BV 20 0647 | BV 20 0810 | BV 20 0811 | BV 20 0852 | BV 20 0813 | BV 20 1987 | BV 20 1988 |
|---------------------|---|--|--------------------------------------|--|--------------------------------------|--------------------------------------|--------------------------------------|-------------------------------------|
| Cap: | Alu Crimp Cap, clear lacquered, 10mm hole | Headspace-Cap, Clear lacquered, 8mm hole | Centre tear-off cap, clear lacquered | Complete tear-off cap, clear lacquered | Magnetic Crimp Cap, silver, 5mm hole | Magnetic Crimp Cap, silver, 8mm hole | Magnetic Bimetal Cap, blue, 8mm hole | Magnetic Bimetal Cap, red, 8mm hole |
| Septa: | Moulded septa Butyl, grey, 55° shore A, 3,0mm | | | | | | | |
| 100 pcs. per PE-Bag | | | | | | | | |

12.3.2 Butyl/PTFE Seals

- Temperature resistant from -40°C to 120°C

- Complete PTFE lamination extends the range of applications to include more critical analysis



| Art. No. | BV 20 0157 | BV 20 0248 | BV 20 0814 | BV 20 0572 | BV 20 0392 | BV 20 0654 | BV 20 0223 | BV 20 1989 |
|---------------------|---|--|--------------------------------------|--|--------------------------------------|--------------------------------------|--------------------------------------|-------------------------------------|
| Cap: | Alu Crimp Cap, clear lacquered, 10mm hole | Headspace-Cap, Clear lacquered, 8mm hole | Centre tear-off cap, clear lacquered | Complete tear-off cap, clear lacquered | Magnetic Crimp Cap, silver, 5mm hole | Magnetic Crimp Cap, silver, 8mm hole | Magnetic Bimetal Cap, blue, 8mm hole | Magnetic Bimetal Cap, red, 8mm hole |
| Septa: | Moulded septa Butyl/PTFE grey, 50° shore A, 3,0mm | | | | | | | |
| 100 pcs. per PE-Bag | | | | | | | | |

12.3.3 Pharma-Fix Seals (Butyl/PTFE)

- **Special Septa:** Special, moulded Butyl/PTFE liner that is only laminated with PTFE in the contact area towards the sample. On the glass rims the elastic Butyl achieves a very tight seal.
- Temperature resistant from -40°C up to 120°C .



| Art. No. | BV 20 0145 | BV 20 0249 | BV 20 0573 | BV 20 0144 | BV 20 0300 | BV 20 0686 | BV 20 0222 | BV 20 1990 |
|---------------------|--|--|--------------------------------------|--|--------------------------------------|--------------------------------------|--------------------------------------|-------------------------------------|
| Cap: | Alu Crimp Cap, clear lacquered, 10mm hole | Headspace-Cap, Clear lacquered, 8mm hole | Centre tear-off cap, clear lacquered | Complete tear-off cap, clear lacquered | Magnetic Crimp Cap, silver, 5mm hole | Magnetic Crimp Cap, silver, 8mm hole | Magnetic Bimetal Cap, blue, 8mm hole | Magnetic Bimetal Cap, red, 8mm hole |
| Septa: | Pharma-Fix-Septa, Butyl/PTFE, 50° shore A, 3,0mm | | | | | | | |
| 100 pcs. per PE-Bag | | | | | | | | |



Crimpers and decapper you will find on pages

12.3.4 Silicone blue transparent/PTFE white and transparent PTFE Seals

- Temperature resistant from -60°C to 200°C
- Soft septa for easy penetration
- Purest synthetic rubber, therefore used for critical analyses



| Art. No. | BV 20 0133 | BV 20 0244 | BV 20 0574 | BV 20 0113 | BV 20 0395 | BV 20 0712 | BV 20 1923 | BV 20 1751 |
|---------------------|--|--|--------------------------------------|--|--------------------------------------|--------------------------------------|---|-------------------------------------|
| Cap: | Alu Crimp Cap, clear lacq., 10mm hole | Headspace-Cap, clear lacquered, 8mm hole | Centre tear-off cap, clear lacquered | Complete tear-off cap, clear lacquered | Magnetic Crimp Cap, silver, 5mm hole | Magnetic Crimp Cap, silver, 8mm hole | Magnetic Bimetal Cap, blue, 8mm hole | Magnetic Bimetal Cap, red, 8mm hole |
| Septa: | Silicone blue transparent/PTFE white, 45° shore A, 3,0mm | | | | | | Silicone blue transparent/ PTFE transparent, 45° shore A, 3,0mm | |
| 100 pcs. per PE-Bag | | | | | | | | |

12.3.5 Silicone white/PTFE beige

- Silicone septa completely laminated with PTFE
- Temperature resistant from -60°C to 200° C
- Often used on instruments of Shimadzu



| Art. No. | BV 20 0640 | BV 20 0641 | BV 20 0926 | BV 20 0927 | BV 20 0928 | BV 20 0645 | BV 20 0642 | BV 20 1670 |
|---------------------|---|--|--------------------------------------|--|--------------------------------------|--------------------------------------|--------------------------------------|-------------------------------------|
| Cap: | Alu Crimp Cap, clear lacq., 10mm hole | Headspace-Cap, clear lacquered, 8mm hole | Centre tear-off cap, clear lacquered | Complete tear-off cap, clear lacquered | Magnetic Crimp Cap, silver, 5mm hole | Magnetic Crimp Cap, silver, 8mm hole | Magnetic Bimetal Cap, blue, 8mm hole | Magnetic Bimetal Cap, red, 8mm hole |
| Septa: | Silicone white/PTFE beige, 45° shore A, 3,0mm | | | | | | | |
| 100 pcs. per PE-Bag | | | | | | | | |

12.3.6 Silicone white/PTFE white Seals (HT-Quality)

- Purest synthetic rubber, therefore used for critical analyses
- Silicone natural/PTFE beige corresponds the improved Agilent HT



| Art. No. | BV 20 0907 | BV 20 0908 | BV 20 1991 | BV 20 1992 | BV 20 1993 | BV 20 0909 | BV 20 0910 | BV 20 1994 |
|---------------------|--|--|--------------------------------------|--|--------------------------------------|--------------------------------------|--------------------------------------|-------------------------------------|
| Cap: | Alu Crimp Cap, clear lacq., 10mm hole | Headspace-Cap, clear lacquered, 8mm hole | Centre tear-off cap, clear lacquered | Complete tear-off cap, clear lacquered | Magnetic Crimp Cap, silver, 5mm hole | Magnetic Crimp Cap, silver, 8mm hole | Magnetic Bimetal Cap, blue, 8mm hole | Magnetic Bimetal Cap, red, 8mm hole |
| Septa: | Silicone white/PTFE white, 45° shore A, 3,2mm (HT-Quality) | | | | | | | |
| 100 pcs. per PE-Bag | | | | | | | | |

12.3.7 Silicone white/PTFE beige Seals (ZeroPeak Quality)



| Art. No. | BV 20 0815 | BV 20 0719 | BV 20 1995 | BV 20 1996 | BV 20 1997 | BV 20 0838 | BV 20 1502 | BV 20 1959 |
|---------------------|--|--|--------------------------------------|--|--------------------------------------|--------------------------------------|--------------------------------------|-------------------------------------|
| Cap: | Alu Crimp Cap, clear lacq., 10mm hole | Headspace-Cap, clear lacquered, 8mm hole | Centre tear-off cap, clear lacquered | Complete tear-off cap, clear lacquered | Magnetic Crimp Cap, silver, 5mm hole | Magnetic Crimp Cap, silver, 8mm hole | Magnetic Bimetal Cap, blue, 8mm hole | Magnetic Bimetal Cap, red, 8mm hole |
| Septa: | ZeroPeak Septa Silikon natural/PTFE beige, 38° shore A, 3,0mm (improved HT-Quality) | | | | | | | |
| 100 pcs. per PE-Bag | | | | | | | | |

12.3.8 Silicone White/Aluminum foil, silver

- Completely with aluminium foil laminated silicone sept
- Often used on instruments of PERKINELMER
- The same chemical and physical properties like PTFE laminated septa
- Temperature resistant from -60°C to 220°



| Art. No. | BV 20 0525 | BV 20 0527 | BV 20 0830 | BV 20 0526 | BV 20 0731 | BV 20 0839 | BV 20 0823 | BV 20 1998 |
|---------------|--|--|--------------------------------------|--|--------------------------------------|--------------------------------------|--------------------------------------|-------------------------------------|
| Cap: | Alu Crimp Cap, clear lacq., 10mm hole | Headspace-Cap, clear lacquered, 8mm hole | Centre tear-off cap, clear lacquered | Complete tear-off cap, clear lacquered | Magnetic Crimp Cap, silver, 5mm hole | Magnetic Crimp Cap, silver, 8mm hole | Magnetic Bimetal Cap, blue, 8mm hole | Magnetic Bimetal Cap, red, 8mm hole |
| Septa: | Silicone white/Aluminium foil, silver, 50° shore A, 3,0mm | | | | | | | |
| | 100 pcs. per PE-Bag | | | | | | | |

12.3.9 HTS Silicone dark-red/PTFE Seal

- New closure system with our HTS-Septa dark red/PTFE for high temperature areas in headspace analysis
- Temperature resistant from -60°C to 300°



| Art. No. | BV 20 0923 | SE 20 0917 |
|---------------|---|-----------------------|
| Cap: | Magnetic Crimp Cap, silver, 5mm hole | |
| Septa: | High temperature septa (HTS), silicone dark-red/PTFE, 45° shore A, 3.0mm | |
| | 100 pcs. per PE-Bag | 1.000 pcs. per PE-Bag |



12.3.10 Magnetic Seals for SPME Vials HS 20 0353 and HS 20 0732

- To facilitate penetration in the sensitive SPME phase, it is necessary to use thinner septa than the 3.0mm thick septa normally used in headspace
- In addition, our Article BV 20 0699 is based on a thinned teflon barrier, as the PTFE lamination is the most difficult part of the septa to penetrate.
- The ultra-thin full-surface aluminium foil of our article BV 20 0930 offers ideal protection, even against highly aggressive filling materials; combined with the only 1.3mm thin, high-purity white silicone, the Septa is very gentle to the needle
- Viton - see article BV 20 0816 - with its outstanding chemical and physical properties does not require any barrier, as it has a very good resistance to acids, oils and petrol. Temperature resistant from -40°C to 240°C, for a short time Viton even withstands temperature loads of 300°C!



| Art. No. | BV 20 0699 | BV 20 0816 | BV 20 0930 |
|--------------------|--------------------------------------|-----------------|--------------------------------------|
| Cap: | Magnetic Crimp Cap, silver, 8mm hole | | |
| Septa: | Silicone white/PTFE blue | Viton 1A, black | Silicone white/Aluminium foil silver |
| Hardness: | 55° shore A | 70° shore A | 50° shore A |
| Thickness : | 1,5mm | 1,0mm | 1,3mm |
| | 100 pcs. per PE-Bag | | |



| Art. No. | HS 20 0353 | HS 20 0732 |
|---------------------|--|--|
| Description: | 20ml SPME Vial, 75.5 x 22.5mm, clear glass, 1st hydr.class | 20ml SPME Vial, 75.5 x 22.5mm, amber glass, 1st hydr.class |
| Features: | rounded bottom, special crimp neck | |
| | SPME Vial for CTC PAL | |
| | 100 pcs. per PP-Box | |

12.4 Septa +Stopper ND20



| Art. No. | SE 20 0646 | SE 20 0156 | SE 20 0143 | SE 20 0087 | SE 20 1214 | SE 20 0700 | SE 20 0524 |
|-----------------------|---------------------------|--------------------------------|--|----------------------------------|--|--------------------------|-------------------------------------|
| Septa: | moulded septa Butyl, grey | moulded septa Butyl/PTFE, grey | Pharma-Fix moulded septa, (Butyl/PTFE) | Silicone blue transp./PTFE white | Pharma-Fix-septa, Silicone blue/PTFE transparent | Silicone white/PTFE blue | Silicone white/Aluminum foil silver |
| Hardness: | 55° shore A | 50° shore A | 50° shore A | 45° shore A | 45° shore A | 55° shore A | 50° shore A |
| Thickness: | 3,0mm | 3,0mm | 3,0mm | 3,0mm | 3,0mm | 1,5mm | 3,0mm |
| 1.000 pcs. per PE-Bag | | | | | | | |



| Art. No. | SE 20 0093 | SE 20 0639 | SE 20 0906 | SE 20 0724 | SE 20 0917 | SE 20 0608 | SE 20 0445 |
|-------------------------|-----------------|--|---------------------------------------|---|-----------------------------------|---|-------------------------------------|
| Septa: | Viton 1A, black | Silicone white/PTFE beige (HT Quality) | Silicon white/PTFE white (HT Quality) | ZeroPEAK Silicon natural/PTFE beige (improved HT Quality) | HTS Septa, Silicone dark-red/PTFE | 20mm UltraClean Silicone stopper, transparent | 20mm Butyl stopper, grey, Brombutyl |
| Hardness: | 70° shore A | 45° shore A | 45° shore A | 38° shore A | 45° shore A | 37° shore A | 45° shore A |
| Thickness: | 1,0mm | 3,0mm | 3,2mm | 3,0mm | 3,0mm | | |
| 1.000 pieces pro PE-Bag | | | | | | 100 pcs. per PE-Bag | |

12.5 Transport or intermediate seal for HS-edge/ rolled edge ND20 (Wash vial cap ND20)

- 20mm seal often used for washing vials for instruments
- Inexpensive and practical intermediate seal when taking samples outside on site
- Cap height of 8.4mm suitable for HS bottles with bevelled HS crimp neck
- Cap height of 9.1mm for headspace vials with DIN crimp neck.



| Art. No. | SN 20 0903 | SN 20 0933 | SN 20 0934 | SN 20 0935 | SN 20 0936 | SN 20 0937 | SN 20 0938 |
|---------------------|---|--|--------------------------------------|---|--|--------------------------------------|---|
| Cap: | | 20mm PE-Cap, transparent, cap height 8,4mm, 4,3mm hole | | | 20mm PE-Cap, transparent, cap height 9,1mm, 4,3mm hole | | PE-Cap, transparent, cap height 9,1mm, 6mm hole |
| Septa: | Natural Rubber red-orange/TEF transparent | Butyl cream/PTFE grey | Silicone transparent blue/PTFE white | Natural Rubber red-orange/TEF transparent | Butyl cream/PTFE grey | Silicone transparent blue/PTFE white | Silicone transparent blue/PTFE white cross-slit |
| Hardness: | 60° shore A | 55° shore A | 45° shore A | 60° shore A | 55° shore A | 45° shore A | 45° shore A |
| Thickness: | 1,3mm | 1,3mm | 1,3mm | 1,3mm | 1,3mm | 1,3mm | 1,3mm |
| 100 pcs. per PE-Bag | | | | | | | |

12.5.1 Septa 19,5mm for Washer Bottle Caps



| Art. No. | SE 19 0902 | SE 19 0939 | SE 19 0940 | SE 19 0941 |
|----------------------|---|-----------------------|--------------------------------------|---|
| Septa: | Natural Rubber red-orange/TEF transparent | Butyl cream/PTFE grey | Silicone transparent blue/PTFE white | Silicone transparent blue/PTFE white cross-slit |
| Hardness: | 60° shore A | 55° shore A | 45° shore A | 45° shore A |
| Thickness: | 1,3mm | 1,3mm | 1,3mm | 1,3mm |
| 1.000 pcs per PE-Bag | | | | |

13. Screw Neck ND24 (EPA)

The vials are preferentially used on instruments of the following manufacturers: Agilent, Dionex, Shimadzu, Tekmar, Thermo Scientific, Varian

- Broad range of EPA Vials in clear and amber glass manufactured out of Schott Fiolax tubings
- Packed in a certified class 100,000 clean room
- Volumes of 20ml, 30ml, 40ml and 60ml available.
- Optional: All types of EPA Vials can be delivered against a small surcharge with a certificate of cleanliness that might especially be needed for TOC analysis.
- New: EPA vials can also be pre-sealed with a screw cap of your choice



13.1 Screw Neck Vials ND24 (EPA)



Deutsche
Akkreditierungsstelle
D-PL-14415-01-00



| Art. No.: | GW 24 0240 | GW 24 0344 | GW 24 0241 | GW 24 0345 | GW 24 0242 | GW 24 0346 | GW 24 0243 | GW 24 0347 |
|------------------|---|---|---|---|---|---|--|--|
| Descr.: | 20ml EPA Screw Neck Vial, 57 x 27.5mm, clear glass, 1st hydrol. class | 20ml EPA Screw Neck Vial, 57 x 27.5mm, amber glass, 1st hydrol. Class | 30ml EPA Screw Neck Vial, 72,5 x 27,5mm, clear glass, 1st hydrol. class | 30ml EPA Screw Neck Vial, 72,5 x 27,5mm, amber glass, 1st hydrol. class | 40ml EPA Screw Neck Vial, 95 x 27,5mm, clear glass, 1st hydrol. Class | 40ml EPA Screw Neck Vial, 95 x 27,5mm, amber glass, 1st hydrol. class | 60ml EPA Screw Neck Vial, 140 x 27,5mm, clear glass, 1st hydrol. class | 60ml EPA Screw Neck Vial, 140 x 27,5mm, amber glass, 1st hydrol. class |
| Filling Capacity | 23,3 | 23,3 | 31,1 | 31,1 | 42,9 | 42,9 | 64,4 | 64,4 |
| Residual Volume | 0,5 | 0,5 | 0,7 | 0,7 | 0,7 | 0,7 | 0,7 | 0,7 |

100 pcs. per PP-Box

13.2 PP Screw Seals ND24

- Ready to use combination seals; no timeconsuming and “tricky” assembly.
- Available as closed top screw seals or with centre hole in white 24-400 caps.
- Broad variety of different septa materials for almost all applications.
- Also UltraBond Seals ND24 are offered, i.e. that the cap and the Silicone/PTFE liner of these seals form an inseparable unit avoiding the problem of liners falling out of the cap. This 100% firm fit of the liner is achieved by a patented process that requires no adhesives, but instead changes the molecular structure of both components to achieve the fixation.
- We optionally supply our EPA screw caps with a TOC cleanliness certificate.

13.2.1 PP Screw Seals ND24, with hole



| Art. No. | SV 24 0552 | SV 24 1720 | SV 24 0175 <i>ZeroPeak Septa</i> | SV 24 0904 | SV 24 0956 | SV 24 0174 <i>UltraBond</i> |
|---------------------|--------------------------------|--|--|--|--|---|
| Cap: | PP Screw Cap, white, 15mm hole | | | | | |
| Septa: | Butyl red/ PTFE grey | Silicone white/ PTFE beige (EPA Quality) | <i>ZeroPeak Septa</i> Siliconenature/ PTFE transparent, (EPA Quality) | Silicone white/ aluminium foil silver | Silicone nature /PTFE beige, cross-slit | Silicone nature /PTFE beige (EPA Quality) |
| Hardness | 55° shore A | 45° shore A | 38° shore A | 50° shore A | 45° shore A | 45° shore A |
| Thickness: | 2,5mm | 3,2mm | 3,0mm | 3,0mm | 3,2mm | 3,2mm |
| 100 pcs. per PE-Bag | | | | | | |

13.2.2 PP Screw Seals ND24, closed top



| Art. No. | SV 24 0553 | SV 24 1721 | SV 24 0291 <i>ZeroPeak Septa</i> | SV 24 0905 | SV 24 1323 | SV 24 0292 <i>UltraBond</i> |
|---------------------|------------------------------------|--|--|--|-----------------|---|
| Cap: | PP Schraubkappe, weiß, geschlossen | | | | | |
| Septa: | Butyl red/ PTFE grey | Silicone white/ PTFE beige (EPA Quality) | <i>ZeroPeak Septa</i> Siliconenature/ PTFE transparent, (EPA Quality) | Silicone white/ aluminium foil silver | Butyl dark grey | Silicone nature /PTFE beige (EPA Quality) |
| Hardness | 55° shore A | 45° shore A | 38° shore A | 50° shore A | 48° shore A | 45° shore A |
| Thickness: | 2,5mm | 3,2mm | 3,0mm | 3,0mm | 3,0mm | 3,2mm |
| 100 pcs. per PE-Bag | | | | | | |

13.3 Septa 22mm



| Art. No. | SE 22 0480 | SE 22 1719 | SE 22 0217 | SE 22 0714 | SE 22 0817 |
|-----------------------|-------------------------|--|---|---|--------------------------------------|
| Septa: | Butyl red/ PTFE grey | Silicone white/ PTFE beige (EPA Quality) | <i>ZeroPeak Septa</i> Silicone nature/ PTFE transparent, (EPA Quality) | Silikon white/ PTFE blue cross-slit (only unassembled) | Silikon white/ aluminum silver |
| Hardness | 55° shore A | 45° shore A | 38° shore A | 55° shore A | 50° shore A |
| Thickness: | 2,4mm | 3,2mm | 3,0mm | 1,5mm | 3,0mm |
| 1.000 pcs. per PE-Bag | | | | | |

13.4 PP Screw Cap ND24



| Art. No. | SK 24 0247 | SK 24 0246 |
|-----------------------|--|---|
| Cap: | PP Screw Cap 24mm, white, 15mm hole, thread 24-400 | PP Screw Cap 24mm, white, closed top, thread 24-400 |
| 1.000 pcs. per PE-Bag | | |

14. Vial Racks and Storage Boxes

- Easy handling and transportation of sample vials
- Filling visible because of transparent acrylic material.
- Stable standing position because of solid construction
- Stack stability because of silicone base.

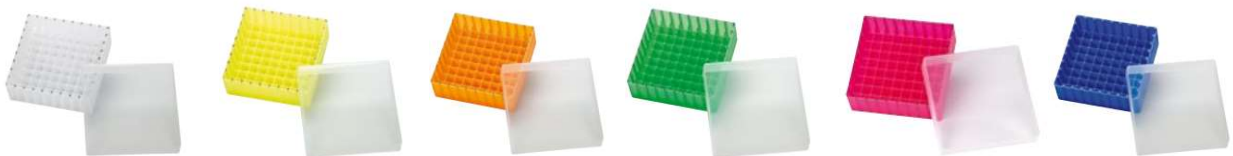


14.1 Vial Racks



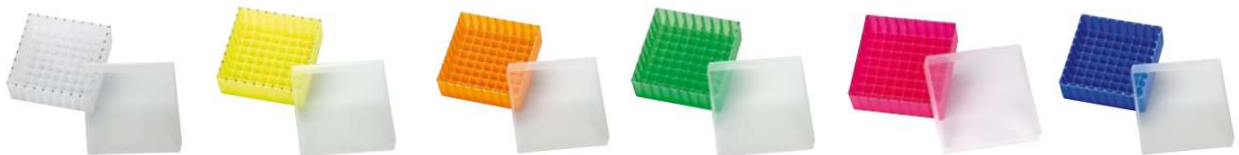
| Art. No. | VR 12 1675 | VR 15 1676 |
|--------------------|---|---|
| Description: | PP Vial-Rack, (200 x 105 x 17mm), for 1.5ml vials, 50 cavities, blue, stackable | PP Vial-Rack, (230 x 117 x 28mm), for 4ml vials, 50 cavities, blue, stackable |
| 1 piece per PE-Bag | | |

14.2 PP Storage Boxes for 1.5ml Sample Vials (81 cavities)



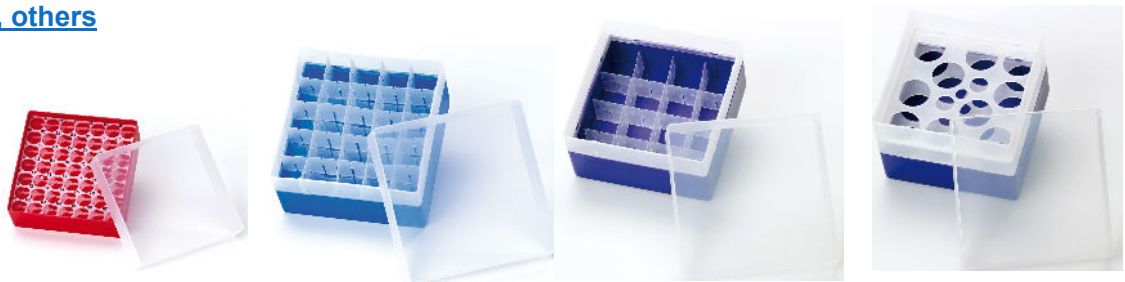
| Art. No. | VR 12 1730 | VR 12 1728 | VR 12 1726 | VR 12 1729 | VR 12 1727 | VR 12 1725 |
|--------------------|--|------------|------------|------------|------------|------------|
| Description: | PP Storage Box for 1,5ml (1,8ml, 2ml) vials or 2ml shell vials, with cover (130 x 130 x 45mm), 81 cavities with alphanumeric coding of all 4 margins as well as the cavities at the bottom | | | | | |
| 1 piece per PE-Bag | | | | | | |

14.3 PP Storage Boxes for 1.5ml Sample Vials (100 cavities)



| Art. No. | VR 12 1736 | VR 12 1734 | VR 12 1732 | VR 12 1735 | VR 12 1733 | VR 12 1731 |
|--------------------|---|------------|------------|------------|------------|------------|
| Description: | PP Storage Box for 1,5ml (1,8ml, 2ml) vials or 2ml shell vials, with cover (136 x 136 x 45mm), 100 cavities | | | | | |
| 1 piece per PE-Bag | | | | | | |

14.4 PP Storage Boxes, others



| Art. No. | VR 15 1858 | VR 20 1887 | VR 24 1999 | VR 24 2000 |
|--------------------|---|--|---|---|
| Description: | PP Storage Box for 4ml vials or 4ml shell vials, red, with cover (130 x 130 x 52mm), 49 cavities with alphanumeric coding at the cavities | PP Storage Box for 5ml, 10ml and 20ml Headspace-Vials, blue, with cover (130 x 130 x 102mm), 25 cavities | PP Storage Box for 20ml EPA-Vials, violet, with cover (130 x 130 x 80mm), 16 cavities | PP Storage Box for 30ml and 40ml EPA-Vials, violet, with cover (130 x 130 x 105mm), 10 cavities |
| 1 piece per PE-Bag | | | | |

15. HPLC Certified Plastic Disposable Syringes, non-sterile with Luer-Lock und Luer Slip

HPLC certified, non sterile disposable syringes made of solvent robust polypropylene for all syringe filter applications.

- Syringes manufactured according to ISO 13485 (Medical devices)
- Luer Lock manufactured according to ISO 594-2/DIN EN 1707
- Two-part, all-plastic construction made of a chemically resistant, inert polypropylene.
- No rubber plunger seals or silicone lubricants that may cause sample contamination.
- Free of latex, free of plasticizers, free of PVC.
- Safe functional back-stop feature.
- Easy to read permanent graduations.
- All Luer Lock syringes have centered tips.
- Available with Luer Lock and Luer Slip connections.



15.1 Plastic Disposable Syringes, non-sterile, with Luer-Lock



| Art. No. | ES 02 1218 | ES 05 1219 | ES 10 1220 | ES 20 1221 |
|---------------------|--|--|---|---|
| Description: | 2ml Disposable Syringes, non-sterile Luer-Lock | 5ml Disposable Syringes, non-sterile Luer-Lock | 10ml Disposable Syringes, non-sterile Luer-Lock | 20ml Disposable Syringes, non-sterile Luer-Lock |
| 100 pcs. per PE-Bag | | | | |

15.2 Plastic Disposable Syringes, non-sterile, with Luer-Slip



| Art. No. | ES 02 1222 | ES 05 1223 | ES 10 1224 | ES 20 1225 |
|---------------------|--|--|---|---|
| Description: | 2ml Disposable Syringes, non-sterile, Luer-Sip | 5ml Disposable Syringes, non-sterile, Luer-Sip | 10ml Disposable Syringes, non-sterile, Luer-Sip | 20ml Disposable Syringes, non-sterile, Luer-Sip |
| 100 pcs. per PE-Bag | | | | |

16. HPLC Syringe filters

- Ultrasonic welded HPLC syringe filters with high-quality polypropylenousings for sample volumes from 1.0ml to 100ml. An improved welding technique ensures a significantly increased pressure resistance of the PP housings of up to 7 bar
- For direct identification our filters are labelled with the respective membrane type and pore size
- The Luer-Lock inlet (female) ensures easy and safe installation of the filter on the syringe
- CHROMA syringe filters are available in diameters of 15mm, 25mm and 30mm
- Pore sizes 0.2 μ m or 0.45 μ m
- On request with prefilter and/or as sterile version



Membrane Select-Guide

| Liquid solutions | | | Organic liquid | | Gaseous |
|---|---|---|-----------------|---------------------------|-------------------------------|
| Mechanically demanding alkaline samples | Biological samples, high predein absorption | Biological samples, low predeinabsorption | Organic solvent | Partially organic solvent | Even strongly oxidising gases |
| ↓ | ↓ | ↓ | ↓ | ↓ | ↓ |
| Nylon | CA Nylon | PES, RC, CA | Nylon, PTFE | RC, CA, PTFE | PTFE |

Which pore size for which application?

| HPLC | Sterile filtration |
|--------------|--------------------|
| ↓ | ↓ |
| 0,45 μ m | 0,2 μ m |

16.1 15mm HPLC Syringe Filter

- 15mm syringe filter for small sample volumes
- Dead volume < 0,25ml
- Operating pressure: 7 bar
- Effective filter area: 1,77cm²
- For direct identification our filters are labelled with the respective membrane type and pore size
- The Luer-Lock inlet (female) ensures easy and safe installation of the filter on the syringe



16.1.1 15mm HPLC Syringe filters - 0,20 μ m

| Art. No. | FI 17 0973 | FI 17 0967 | FI 17 0969 | FI 17 0971 | FI 17 0975 | FI 17 0961 |
|---------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|----------------------------|
| Description: | 15mm HPLC Syringe Filter | 15mm HPLC Syringe Filter | 15mm HPLC Syringe Filter | 15mm HPLC Syringe Filter | 15mm HPLC Syringe Filter | 15mm HPLC Syringe Filter |
| membrane: | PTFE | Cellulose Acetat (CA) | Nylon | PES | PVDF | Regenerated Cellulose (RC) |
| Pore Size: | 0,20 μ m | 0,20 μ m | 0,20 μ m | 0,20 μ m | 0,20 μ m | 0,20 μ m |
| 100 pcs. per PE-Bag | | | | | | |

16.1.2 15mm HPLC Spritzenfilter - 0,45 μ m

| Art. No. | FI 17 0974 | FI 17 0968 | FI 17 0970 | FI 17 0972 | FI 17 0976 | FI 17 0962 |
|---------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|----------------------------|
| Description: | 15mm HPLC Syringe Filter | 15mm HPLC Syringe Filter | 15mm HPLC Syringe Filter | 15mm HPLC Syringe Filter | 15mm HPLC Syringe Filter | 15mm HPLC Syringe Filter |
| membrane: | PTFE | Cellulose Acetat (CA) | Nylon | PES | PVDF | Regenerated Cellulose (RC) |
| Pore Size: | 0,45 μ m | 0,45 μ m | 0,45 μ m | 0,45 μ m | 0,45 μ m | 0,45 μ m |
| 100 pcs. per PE-Bag | | | | | | |

16.2 25mm HPLC Syringe Filter

- 25mm Syringe filter for sample volumes up to 100ml
- Dead volume < 0,65ml
- Operating pressure: max. 7 bar
- Effective filter area: 490mm²
- For direct identification our filters are labelled with the respective membrane type and pore size
- The Luer-Lock inlet (female) ensures easy and safe installation of the filter on the syringe



16.2.1 25mm HPLC Syringe Filter - 0,20µm

| Art. No. | FI 25 0417 | FI 25 0942 | FI 25 0421 | FI 25 0963 | FI 25 0965 | FI 25 0419 |
|---------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|----------------------------|
| Description: | 25mm HPLC Syringe Filter | 25mm HPLC Syringe Filter | 25mm HPLC Syringe Filter | 25mm HPLC Syringe Filter | 25mm HPLC Syringe Filter | 25mm HPLC Syringe Filter |
| membrane: | PTFE | Cellulose Acetat (CA) | Nylon | PES | PVDF | Regenerated Cellulose (RC) |
| Pore Size: | 0,20µm | 0,20µm | 0,20µm | 0,20µm | 0,20µm | 0,20µm |
| 100 pcs. per PE-Bag | | | | | | |

16.2.2 25mm HPLC Syringe Filter - 0,45µm

| Art. No. | FI 25 0418 | FI 25 0720 | FI 25 0383 | FI 25 0964 | FI 25 0966 | FI 25 0420 |
|---------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|----------------------------|
| Description: | 25mm HPLC Syringe Filter | 25mm HPLC Syringe Filter | 25mm HPLC Syringe Filter | 25mm HPLC Syringe Filter | 25mm HPLC Syringe Filter | 25mm HPLC Syringe Filter |
| membrane: | PTFE | Cellulose Acetat (CA) | Nylon | PES | PVDF | Regenerated Cellulose (RC) |
| Pore Size: | 0,45µm | 0,45µm | 0,45µm | 0,45µm | 0,45µm | 0,45µm |
| 100 pcs. per PE-Bag | | | | | | |

16.3 30mm HPLC Syringe Filter

- 30mm Syringe filter for sample volume > 100ml, or fast filtration
- Dead volume < 175µl
- Operating pressure: max. 7 bar
- Effective filter area: 707mm²
- For direct identification our filters are labelled with the respective membrane type and pore size
- The Luer-Lock inlet (female) ensures easy and safe installation of the filter on the syringe



16.3.1 30mm HPLC Syringe Filter - 0,20µm

| Art. No. | FI 30 1094 | FI 30 1096 | FI 30 1098 | FI 30 1099 | FI 30 1101 |
|---------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Description: | 30mm HPLC Syringe Filter | 30mm HPLC Syringe Filter | 30mm HPLC Syringe Filter | 30mm HPLC Syringe Filter | 30mm HPLC Syringe Filter |
| membrane: | PTFE | Cellulose Acetat (CA) | Nylon | PES | PVDF |
| Pore Size: | 0,20µm | 0,20µm | 0,20µm | 0,20µm | 0,20µm |
| 100 pcs. per PE-Bag | | | | | |

16.3.2 30mm HPLC Syringe Filter - 0,45µm

| Art. No. | FI 30 1095 | FI 30 1097 | FI 30 1000 | FI 30 1100 | FI 30 1102 |
|---------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Description: | 30mm HPLC Syringe Filter | 30mm HPLC Syringe Filter | 30mm HPLC Syringe Filter | 30mm HPLC Syringe Filter | 30mm HPLC Syringe Filter |
| membrane: | PTFE | Cellulose Acetat (CA) | Nylon | PES | PVDF |
| Pore Size: | 0,45µm | 0,45µm | 0,45µm | 0,45µm | 0,45µm |
| 100 pcs. per PE-Bag | | | | | |

17. GC Injection Port Septa

- Long-life, universal GC septums: for a minimum of 450 injections
- Suitable for temperatures of up to 400 °C
- With "Center Guide" for better needle guidance
- Low bleeding (outgassing of siloxanes)
- Excellent dissolving properties from the injection port
- Standard packaging of 25 pieces in resealable screw neck vial, on request also available in bulk packaging of 1,000 pieces



17.1 GC Injection Port Septa



| Art. No. | GC 07 0186 | GC 09 0182 | GC 10 0183 | GC 11 0184 | GC 17 0185 |
|---------------------|-----------------------|---|--|--|---|
| Description: | Shimadzu Stopfen, rot | 9,5mm High Performance GC Septa, red | 10mm High Performance GC Septa, red | 11mm High Performance GC Septa, red | 17mm High Performance GC Septa, red |
| Usable for: | Shimadzu, all models | Agilent (HP), 5700/5880 Series Varian, Injector Type: Packed Columns Varian (CP), alle Modelle Tracor, 550,560 Gow-Mac, Alle Modelle Finnigan, 9001, QCQ, GCQ, Trace2000 Antek Unicam, 4600 | Agilent (HP), 5890/6890 Series, 5700/ 5880 Series Varian, Injector Type: Packed Columns Injector Type: Split/ Splitless | Agilent (HP), 5890/6850/6890 Series, 5700/5880 Series, 5880A Series Varian, 3300, 3400, 3500, 3600, 3700, Vista (Split/Splitless) Gow-Mac, 6890 Series PerkinElmer, Sigma Series, 900, 990 8000 Series Autosys (XL) | Thermo Scientific Quest, Trace Fisons/ Carlo Erba 8000 Series Finnigan, GCQ w/Trace |

25 pcs. per Screw Neck Vial

17.2 GC Injection Port Septa



| Art. No. | GC 07 1784 | GC 09 0178 | GC 10 0179 | GC 11 0180 | GC 17 0181 |
|---------------------|-------------------------------|---|--|--|---|
| Description: | Shimadzu Stopfen, transparent | 9,5mm High Performance GC Septa, transparent | 10mm High Performance GC Septa, transparent | 11mm High Performance GC Septa, transparent | 17mm High Performance GC Septa, transparent |
| Usable for: | Shimadzu, alle Modelle | Agilent (HP), 5700/5880 Series Varian, Injector Type: Packed Columns Varian (CP), alle Modelle Tracor, 550,560 Gow-Mac, Alle Modelle Finnigan, 9001, QCQ, GCQ, Trace2000 Antek Unicam, 4600 | Agilent (HP), 5890/6890 Series, 5700/ 5880 Series Varian, Injector Type: Packed Columns Injector Type: Split/ Splitless | Agilent (HP), 5890/6850/6890 Series, 5700/5880 Series, 5880A Series Varian, 3300, 3400, 3500, 3600, 3700, Vista (Split/Splitless) Gow-Mac, 6890 Series PerkinElmer, Sigma Series, 900, 990 8000 Series Autosys (XL) | Thermo Scientific Quest, Trace Fisons/ Carlo Erba 8000 Series Finnigan, GCQ w/Trace |

25 pcs. per Screw Neck Vial

18. Injection Vials ND13

- High-quality injection bottles according to DIN/ISO made of tubular glass
- Production exclusively from glass of the 1st hydrolytic class
- Available in clear glass and amber glass
- Cleanroom-packed in a class 100,000 cleanroom, the "CleanPack" seal of quality guarantees this high quality standard



18.1 Injection Vials ND13



| Art. No. | RR 13 0304 | RR 13 0396 |
|---------------------|--|--|
| Description: | 2ml Injection Vial, 1. hydrol. class, clear glass, according to DIN/ISO | 2ml Injection Vial, 1. hydrol. class, amber glass, according to DIN/ISO |
| Dimension: | 35 x 16mm | 35 x 16mm |
| Content: | 2ml | 2ml |
| 352 pcs. per PP-Box | | |

18.2 Injection Stoppers ND13



| Art. No. | SE 13 0305 | SE 13 0670 |
|--------------|---|---|
| Description: | 13mm Injection Stopper, Brombutyl, grey | 13mm Freeze Drying Stopper, Brombutyl, grey |
| Hardness: | 45° shore A | |
| Pack: | 1.000 pieces per PE-Bag | 3.000 pieces per PE-Bag |

18.3 Crimp Caps ND13



| Art. No. | BK 13 0628 | BK 13 0303 | FO 13 0607 |
|-------------------------|--|--|---|
| Description: | 13mm Aluminium crimp cap, clear lacquered, complete tear-off | 13mm Aluminium crimp cap, clear lacquered, centre tear-off | 13mm Flip-Top/ Flip-Off Cap, red, centre tear-off |
| 1.000 pieces per PE-Bag | | | |

18.4 Crimp Seals ND13



| Art. No. | BV 13 1527 | BV 13 1876 |
|-----------------------|--|---|
| Descrip.: | 13mm Aluminium Crimp Cap, clear lacquered, centre hole; Butyl red/PTFE grey, 55° shore A, 1.6mm | 13mm Aluminium Crimp cap, silver lacquered, centre tear-off, Butyl red/PTFE grey, 55° shore A, 1.6mm |
| 100 pieces per PE-Bag | | |

19. Injection Vials ND20

- High-quality injection bottles according to DIN/ISO made of tubular glass
- Production exclusively from glass of the 1st hydrolytic class
- Available in clear glass and amber glass
- Cleanroom-packed in a class 100,000 cleanroom, the CleanPack" seal of quality
- guarantees this high quality standard



19.1 Injection Vial ND20, clear glass



| Art. No. | RR 20 0400 | RR 20 0316 | RR 20 0492 | RR 20 0549 |
|---------------------|---|--|--|--|
| Description: | 6ml Injection Vial, 1. hydrol. class, clear glass, according to DIN/ISO | 10ml Injection Vial, 1. hydrol. class, clear glass, according to DIN/ISO | 20ml Injection Vial, 1. hydrol. class, clear glass, according to DIN/ISO | 30ml Injection Vial, 1. hydrol. class, clear glass, according to DIN/ISO |
| Dimension: | 40 x 22mm | 45 x 24mm | 55 x 30mm | 75 x 30mm |
| Content: | 6ml | 10ml | 20ml | 30ml |
| Pack | 186 pcs. per PP-Box | 154 pcs. per PP-Box | 91 pcs. per PP-Box | upon request |

19.2 Injection Vial ND20, amber glass



| Art. No. | RR 20 0399 | RR 20 0251 | RR 20 0548 | RR 20 0550 |
|---------------------|---|--|--|--|
| Description: | 6ml Injection Vial, 1. hydrol. class, amber glass, according to DIN/ISO | 10ml Injection Vial, 1. hydrol. class, amber glass, according to DIN/ISO | 20ml Injection Vial, 1. hydrol. class, amber glass, according to DIN/ISO | 30ml Injection Vial, 1. hydrol. class, amber glass, according to DIN/ISO |
| Dimension: | 40 x 22mm | 45 x 24mm | 55 x 30mm | 75 x 30mm |
| Content: | 6ml | 10ml | 20ml | 30ml |
| Pack | 186 pcs. per PP-Box | 154 pcs. per PP-Box | 91 pcs. per PP-Box | upon request |

19. Injection Vials ND20 made of molded glass (cont.)

- High quality injection vials made of smelting glass according to DIN/ISO
- According to Article 3.2.1 of the European Pharmacopoeia PH, corresponds to glass type I. Eur.
- Dust and germfree packaging
- Clear glass and amber glass vials available
- Filling volume from 20ml - 100ml



19.3 Injection Vial ND20, clear glass (molded glass)



| Art. No. | RR 20 0405 | RR 20 0409 | RR 20 0385 | RR 20 0390 |
|---------------------|--|--|--|---|
| Description: | 20ml Injection Vial, 1. hydrol. class, clear glass, according to DIN/ISO | 30ml Injection Vial, 1. hydrol. class, clear glass, according to DIN/ISO | 50ml Injection Vial, 1. hydrol. class, clear glass, according to DIN/ISO | 100ml Injection Vial, 1. hydrol. class, clear glass, according to DIN/ISO |
| Dimension: | 58 x 32mm | 62 x 36mm | 73 x 42,5mm | 94,5 x 51,6mm |
| Content: | 20ml | 30ml | 50ml | 100ml |
| Pack | 252 pcs.per PE-foil | 90 pcs.per PE-foil | 90 pcs.per PE-foil | 88 pcs.per PE-foil |

19.4 Injection Vial ND20, amber glass (molded glass)



| Art. No. | RR 20 0406 | RR 20 0410 | RR 20 0411 | RR 20 0412 |
|---------------------|--|--|--|---|
| Description: | 20ml Injection Vial, 1. hydrol. class, amber glass, according to DIN/ISO | 30ml Injection Vial, 1. hydrol. class, amber glass, according to DIN/ISO | 50ml Injection Vial, 1. hydrol. class, amber glass, according to DIN/ISO | 100ml Injection Vial, 1. hydrol. class, amber glass, according to DIN/ISO |
| Dimension: | 58 x 32mm | 62 x 36mm | 73 x 42,5mm | 94,5 x 51,6mm |
| Content: | 20ml | 30ml | 50ml | 100ml |
| Pack | 252 pcs.per PE-foil | 90 pcs.per PE-foil | 90 pcs.per PE-foil | 88 pcs.per PE-foil |

19.5 Injection Stoppers ND20

- Suitable injection stoppers for injection vials made of tubular and smelting glass ND20



| Art. No. | SE 20 0250 | SE 20 0325 | SE 20 0210 | SE 20 0445 |
|--------------|---|---|---|--|
| Description: | 20mm Injection stopper, red-brown, Brombutyl, 48° Shore A | 20mm Injection stopper, grey, Chlorbutyl, 48° Shore A | 20mm Butyl stopper, red-brown, Brombutyl, 45° shore A | 20mm Butyl stopper, grey, Brombutyl, 45° shore A |
| Pack | 2.000 pcs. per PE-Bag | 2.000 pcs. per PE-Bag | 2.500 pcs. per PE-Bag | 2.000 pcs. per PE-Bag |

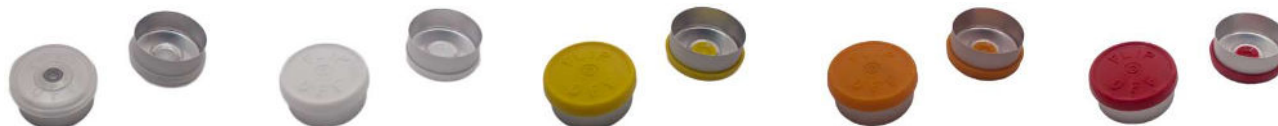


| Art. No. | SE 20 1509 | SE 20 0107 | SE 20 0608 | SE 20 0143 |
|--------------|---|---|--|---|
| Description: | 20mm Freeze Drying Plug, light grey, Bromobutyl | 20mm Injection stopper, Butyl/PTFE, grey, 47° shore A | 20mm UltraClean Silicone Stopper, transparent, 37° shore A | 20mm Pharma-Fix Septa, Butyl/PTFE, 50° shore A, 3,0mm |
| Pack | 1.700 pcs. per PE-Bag | 5.000 pcs. per PE-Bag | 1.000 pcs. per PE-Bag | 1.000 pcs. per PE-Bag |

19.6 Aluminum Crimp Cap ND20

19.6.1 Flip-Off - Centre Tear-Off Crimp Caps ND20 (tamper-evident crimp caps)

- Tamper-evident hole caps; tear-off plastic centre part prevents unauthorized manipulation of the samples
- Easier, faster and safer to open than conventional centre tear-off caps with aluminum centre part
- Available from stock in various colors to enable sample differentiation



| Art. No. | FO 20 0281 | FO 20 0551 | FO 20 0280 | FO 20 0577 | FO 20 0295 |
|----------|---|---|--|--|---|
| Descr. | 20mm flip-off cap, centre tear-off, transparent | 20mm flip-off cap, centre tear-off, white | 20mm flip-off cap, centre tear-off, yellow | 20mm flip-off cap, centre tear-off, orange | 20mm flip-off cap, centre tear-off, red |



| Art. No. | FO 20 0597 | FO 20 0596 | FO 20 0282 | FO 20 0422 | FO 20 0598 |
|----------|--|--|---|--|---|
| Descr. | 20mm flip-off cap, centre tear-off, lavender | 20mm flip-off cap, centre tear-off, violet | 20mm flip-off cap, centre tear-off, dark-blue | 20mm flip-off cap, centre tear-off, blue | 20mm flip-off cap, centre tear-off, turquoise |



| Art. No. | FO 20 0600 | FO 20 0309 | FO 20 0599 | FO 20 0595 | FO 20 1044 |
|----------|--|---|--|---|--|
| Descr. | 20mm flip-off cap, centre tear-off, dark-green | 20mm flip-off cap, centre tear-off, green | 20mm flip-off cap, centre tear-off, yellow-green | 20mm flip-off cap, centre tear-off, black | 20mm flip-off cap, centre tear-off, Grey |

1.000 pcs. Per PE-Bag

19.7 Aluminum Crimp Caps ND20 (Cont.)

19.7.1 Centre Tear-Off Crimp Caps ND20 (tamper-evident crimp caps)

- Tamper-proof caps with holes; tear-off aluminum centre part prevents unwanted manipulation of the samples
- Available from stock in various colors to enable sample differentiation



| Art. No. | BK 20 0275 | BK 20 0276 | BK 20 0277 | BK 20 0278 | BK 20 0279 |
|-------------------------|---|--|--|---|---|
| Description: | 20mm Aluminum Crimp Cap, clear lacquered, centre-tear-off | 20mm Aluminum Crimp Cap, blue lacquered, centre-tear-off | 20mm Aluminum Crimp Cap, gold lacquered, centre-tear-off | 20mm Aluminum Crimp Cap, green lacquered, centre-tear-off | 20mm Aluminum Crimp Cap, red lacquered, centre-tear-off |
| 1.000 pieces per PE-Bag | | | | | |

19.7.2 Complete Tear-Off Crimp Caps ND20 (tamper-evident crimp caps)

- Tamper-evident cap, which can be open completely by using a tear-off part and predetermined breaking lines on the side



| Art. No. | BK 20 0019 | BK 20 0109 | BK 20 0110 | BK 20 0111 | BK 20 0112 |
|-------------------------|---|---|---|--|--|
| Description: | 20mm Aluminum Crimp Cap, clear lacquered, complete tear-off | 20mm Aluminum Crimp Cap, green lacquered, complete tear-off | 20mm Aluminum Crimp Cap, red lacquered, complete tear-off | 20mm Aluminum Crimp Cap, blue lacquered, complete tear-off | 20mm Aluminum Crimp Cap, gold lacquered, complete tear-off |
| 1.000 pieces per PE-Bag | | | | | |

19.7.3 Flip Tear-Up Caps ND20

- Tamper-evident cap, which can be open completely by using a tear-off part and predetermined breaking lines on the side



| Art. No. | FT 20 1060 | FT 20 0378 | FT 20 0423 |
|-------------------------|--|--|---|
| Description: | 20mm Flip Tear Up Cap, complete tear-off white | 20mm Flip Tear Up Cap, complete tear-off red | 20mm Flip Tear Up Cap, complete tear-off blue |
| 1.000 pieces per PE-Bag | | | |

20 Infusion Vial ND32



- High-quality infusion vials according to DIN/ISO made of tubular glass
- Dust and germ-free packaging
- Clear glass and amber glass vials available
- Filling volumes from 70ml - 1000ml

20.1 Infusion Vial ND32, clear glass



| Art. No. | RR 32 0626 | RR 32 0414 | RR 32 0713 | RR 32 1048 |
|---------------------|---|---|---|--|
| Description: | 100ml Infusion Vial, 1. hydrol. class, clear glass, according to DIN/ISO | 250ml Infusion Vial, 1. hydrol. class, clear glass, according to DIN/ISO | 500ml Infusion Vial, 2. hydrol. class, clear glass, according to DIN/ISO | 1000ml Infusion Vial, 2. hydrol. class, clear glass, according to DIN/ISO |
| Dimension: | 104 x 49mm | 136 x 66mm | 177 x 78mm | 230 x 95mm |
| Content: | 100ml | 250ml | 500ml | 1000ml |
| Pack | 99 pcs. per tray | 35 pcs. per tray | 35 pcs. per tray | 1 pcs. per box |

20.2 Infusion Vial ND32, amber glass



| Art. No. | RR 32 1178 | RR 32 1443 | RR 32 1161 |
|---------------------|---|---|---|
| Description: | 100ml Infusion Vial, 1. hydrol. class, amber glass, according to DIN/ISO | 250ml Infusion Vial, 1. hydrol. class, amber glass, according to DIN/ISO | 500ml Infusion Vial, 2. hydrol. class, amber glass, according to DIN/ISO |
| Dimension: | 104 x 49mm | 136 x 66mm | 177 x 78mm |
| Content: | 100ml | 250ml | 500ml |
| Pack | 99 pcs. per tray | 35 pcs. per tray | 35 pcs. per tray |

20. Infusion Vials ND32 (Cont.)

20.3 Infusion Stoppers ND32



| Art. No. | SE 32 0694 | SE 32 1059 |
|-----------------------|--|---|
| Description: | 32mm Infusion stopper, Brombutyl, grey | 32mm Infusion stopper, Bromobutyl, red-brown, |
| 500 pieces per PE-Bag | | |

20.4 Crimp Caps ND32



| Art. No. | BK 32 1091 | FO 32 1275 | FO 32 1282 |
|-------------------------|---|--|--|
| Description: | 32mm aluminum crimp cap, clear lacquered, centre tear-off with flap | 32mm Flip-Off cap, red, centre tear-off | 32mm Flip-Off cap, green, centre tear-off |
| 1.000 pieces per PE-Bag | | | |

22 Crimper



- Easy and convenient handling
- Chemically resistant surface finish especially designed for the application in labs
- Hardened crimping jaws made of a special alloy that guarantees long life
- Adjustable in crimping pressure limitation by a screw in the handle
- Additionally all Chroma Globe Crimping Tools are adjustable in crimping height by screwing up or down the pressure block in the crimping head with a hexagon key.
- The crimper sizes depend on the inner diameter of the respective crimp caps

22.1 Crimper

22.1.1 Crimper for Aluminum Crimp Caps

- Crimper for aluminium crimp caps are designed for a variety of cap types. Following are the most common types of caps:
 - Standard aluminium crimp caps with hole
 - Headspace crimp caps with pressure release system
 - Centre tear-off caps
 - Complete tear-off cap

| Art. No. | CR 07 0020 | CR 08 0001 | CR 11 0003 | CR 13 0005 |
|-----------------|--------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Description: | Crimper for 7.5mm Aluminum Crimp Cap | Crimper for 8mm Aluminum Crimp Cap | Crimper for 11mm Aluminum Crimp Cap | Crimper for 13mm Aluminum Crimp Cap |
| 1 piece per Box | | | | |
| Art. No. | CR 20 0007 | CR 28 0009 | CR 30 0056 | CR 32 0010 |
| Description: | Crimper for 20mm Aluminum Crimp Cap | Crimper for 28mm Aluminum Crimp Cap | Crimper for 30mm Aluminum Crimp Cap | Crimper for 32mm Aluminum Crimp Cap |
| 1 piece per Box | | | | |



22.1.2 Crimper for Flip-Off Crimp Caps

- Flip-off Crimper are suitable for our tamper-evident flip-off caps with tear-off plastic centre part (see caps in chapter 16.6.1 on page 47)
- **Caution:** Meanwhile there are a number of crimped caps on the market that come very close to our flip-off caps in terms of their centre tear-off function and appearance. Please note that even the smallest deviations in cap geometry have an effect on the sealing properties of our Crimper. Therefore please pay attention to the "Flip-off" writing on the crimping caps

| Art. No. | CR 11 0021 | CR 13 0013 | CR 16 0062 | CR 20 0015 |
|-----------------|-------------------------------|-------------------------------|---------------------------------|-------------------------------|
| Description: | Crimper for 11mm Flip-off Cap | Crimper for 13mm Flip-off Cap | Crimper for 16.5mm Flip-off Cap | Crimper for 20mm Flip-off Cap |
| 1 piece per Box | | | | |
| Art. No. | CR 28 0025 | CR 30 0026 | CR 32 0444 | |
| Description: | Crimper for 28mm Flip-off Cap | Crimper for 30mm Flip-off Cap | Crimper for 32mm Flip-off Cap | |
| 1 piece per Box | | | | |




22. Crimper (Cont.)

22.1.3 Crimper for Combination Caps

| | |
|---------------------|-----------------------------------|
| Art. No. | CR 13 0545 |
| Description: | Crimper for 13mm combination caps |
| | 1 piece per Box |

22.1.4 Crimper for Flip-Tear-Up Crimp Caps

- Flip Tear Up Crimper are suitable for our tamper-evident Flip Tear Up Cap, which can be completely torn open on the side using a plastic tear-off part and predetermined breaking lines (complete tear-off function)
- Decapping tools are therefore not required

| | | | |
|---------------------|-----------------------------------|-----------------------------------|---|
| Art. No. | CR 13 0014 | CR 20 0016 | Cap Type (exemplary) |
| Description: | Crimper for 13mm Flip Tear Up Cap | Crimper for 20mm Flip Tear Up Cap |  |
| | 1 piece per Box | | |


22.1.5 Crimper for Flip-Top with flush sides Crimp Caps

| | | |
|---------------------|---|---|
| Art. No. | CR 20 0064 | Cap Type (exemplary) |
| Description: | Crimper for 20mm Flip top with flush sides crimp caps |  |
| | 1 piece per Box | |

22.1.6 Crimper for 3 pc Tear-Off Crimp Caps

| | | |
|---------------------|---|---|
| Art. No. | CR 28 0053 | Cap Type (exemplary) |
| Description: | Crimper for 28mm "3 pc Tear off" Crimp Caps |  |
| | 1 piece per Box | |

22.1.7 Crimper for Pump-Spray Crimp Caps (atomizers)

| | | | | |
|---------------------|---------------------------------------|---------------------------------------|-------------------------------------|---|
| Art. No. | CR 15 0022 | CR 16 0023 | CR 20 0024 | Cap Type (exemplary) |
| Description: | Crimper for 15,5mm "spray pump" Seals | Crimper for 16,5mm "spray pump" Seals | Crimper for 20mm "spray pump" Seals |  |
| | 1 piece per Box | | | |

22.2 Crimper for clean room applications

- The crimping/decapping mechanism is corrosion and heat resistant, making applications possible directly in the clean room
- Even multiple applications do not cause damage to the tool
- Available in sizes from 7,5mm - 32mm
- Crimpers and Decappers are available
- Can optionally be equipped with special handles for better grip (also autoclavable; temperature resistance up to 150° C)
- Adjustable in the flare pressure limitation by means of adjusting screw in the handle
- Additionally all CHROMA Crimpers are height adjustable in the crimp head



22.2.1 Crimper for Aluminium Crimp Caps

Crimper for aluminium crimp caps are designed for a variety of cap types. Following are the most common types of caps:

- Standard aluminium crimp caps with hole
- Headspace crimp caps with pressure release system
- Centre tear-off caps
- Complete tear-off cap

| Art. No. | CR 08 0253 | CR 11 0220 | CR 13 0221 | CR 20 0219 |
|--|------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Description: | Crimper for 8mm Aluminum Crimp Cap | Crimper for 11mm Aluminum Crimp Cap | Crimper for 13mm Aluminum Crimp Cap | Crimper for 20mm Aluminum Crimp Cap |
| sterilisable for clean room applications (please consider technical Data information below!) | | | | |
| 1 piece per Box | | | | |



| Art. No. | CR 28 0267 | CR 30 0271 | CR 32 0274 |
|--|-------------------------------------|-------------------------------------|-------------------------------------|
| Description: | Crimper for 28mm Aluminum Crimp Cap | Crimper for 30mm Aluminum Crimp Cap | Crimper for 32mm Aluminum Crimp Cap |
| sterilisable for clean room applications (please consider technical Data information below!) | | | |
| 1 piece per Box | | | |



22.2.2 Crimper for Flip-Off Crimp Caps

- Flip-off Crimper are suitable for our tamper-evident flip-off caps with tear-off plastic centre part (see caps in chapter 16.6.1 on page 48)
- Caution: Meanwhile, there are a number of crimp caps on the market that come very close to our flip-off caps in terms of their centre tear-off function and appearance. Please note that even the smallest deviations in cap geometry have an effect on the sealing properties of our flanging pliers. Therefore please pay attention to the "Flip-off" writing on the crimping caps.

| Art. No. | CR 13 0257 | CR 20 0263 | CR 28 0269 | CR 30 0273 | CR 32 0444 |
|--|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| Description: | Crimper for 13mm Flip-Off Cap | Crimper for 20mm Flip-Off Cap | Crimper for 28mm Flip-Off Cap | Crimper for 30mm Flip-Off Cap | Crimper for 32mm Flip-Off Cap |
| sterilisable for clean room applications (please consider technical Data information below!) | | | | | |
| 1 piece per Box | | | | | |



Technical data (clean room crimping tools):

Our cleanroom crimping tools ensure sample integrity in a cleanroom environment. The crimp/decapper mechanism is corrosion and heat resistant. The processes listed below, as well as various other low temperature applications, are safe for your new tool. Even repeated sterilisation for cleanroom applications will not damage the cleanroom crimp tool.


| Crimping tool: | Temperature: | Pressure: | Time period: |
|------------------|----------------|--|-----------------|
| not wrapped | 121°C 132°C | 1,05 bar = 105 kPa 2,07 bar = 207 kPa | 15 min 3 min |
| slightly wrapped | 132°C | 2,07 bar = 207 kPa | 8 min |
| strongly wrapped | 132°C | 2,07 bar = 207 kPa | 10 min |




22. Crimper for clean room applications (cont.)

22.2.3 Crimper for „Flip-Tear-Up“ Crimp Caps


- Flip Tear Up crimper are suitable for our tamper-evident Flip Tear Up Cap, which can be torn open completely by means of a plastic tear-off piece and predetermined breaking lines on the side (complete tear-off function)
- Decapper are therefore not required

| Art. No. | CR 13 0258 | CR 20 0265 | Cap Type (exemplary) |
|---------------------|--|--|---|
| Description: | Crimper for 13mm Flip Tear Up Cap, height adjustable | Crimper for 20mm Flip Tear Up Cap, height adjustable |  |
| | sterilisable for clean room applications | | |
| | 1 piece per Box | | |

22.2.4 Crimper for Flip-Top with flush sides Crimp Caps

| Art. No. | CR 20 0264 | Cap Type (exemplary) |
|---------------------|--|--|
| Description: | Crimper for 20mm Flip-off with flush sides, eight adjustable |  |
| | sterilisable for clean room applications | |
| | 1 piece per Box | |

22.2.5 Crimper for 3 pc Tear-Off Crimp Caps

| Art. No. | CR 28 0270 | Cap Type (exemplary) |
|---------------------|--|---|
| Description: | Crimper for 28mm „3 pc tear off“ Caps, height adjustable |  |
| | sterilisable for clean room applications | |
| | 1 piece per Box | |

22.2.6 Crimper for Pump-Spray Crimp Caps (atomizer))

| Art. No. | CR 15 0259 | CR 16 0260 | CR 18 0493 | CR 20 0266 | Cap Type (exemplary) |
|---------------------|--|--|--|--|---|
| Description: | Crimper for 15,5mm “Pump Spray closures, height adjustable | Crimper for 16,5mm “Pump Spray closures, height adjustable | Crimper for 18mm “Pump Spray closures, height adjustable | Crimper for 20mm “Pump Spray closures, height adjustable |  |
| | sterilisable for clean room applications | | | | |
| | 1 piece per Box | | | | |

22.3 Manual Decapping Tools

- Easy and convenient handling
- Chemical resistant powder coating
- High quality construction for durability and long life
- Adjustable in the crimping pressure limitation by means of adjusting screw in the handle

22.3.1 Decapper for Aluminum Crimp Caps

| Art. No. | DC 08 0002 | DC 11 0004 | DC 13 0006 | DC 20 0008 |
|-----------------|--------------|---------------|---------------|---------------|
| Description: | 8mm Decapper | 11mm Decapper | 13mm Decapper | 20mm Decapper |
| 1 piece per Box | | | | |

| Art. No. | DC 28 0011 | DC 30 0027 | DC 32 0012 |
|-----------------|---------------|---------------|---------------|
| Description: | 28mm Decapper | 30mm Decapper | 32mm Decapper |
| 1 piece per Box | | | |



22.3.2 Cleanroom Decappers for Aluminium Crimp Caps

| Art. No. | DC 08 0254 | DC 11 0255 | DC 13 0256 | DC 20 0262 |
|--|--|---|---|---|
| Description: | 8mm Decapper, sterilisable for clean room applications | 11mm Decapper, sterilisable for clean room applications | 13mm Decapper, sterilisable for clean room applications | 20mm Decapper, sterilisable for clean room applications |
| sterilisable for clean room applications | | | | |
| 1 piece per Box | | | | |



| Art. No. | DC 28 0268 | DC 30 0272 | DC 32 0231 |
|--|---|---|---|
| Description: | 28mm Decapper, sterilisable for clean room applications | 30mm Decapper, sterilisable for clean room applications | 32mm Decapper, sterilisable for clean room applications |
| sterilisable for clean room applications | | | |
| 1 piece per Box | | | |



22.3.3 Opening Pliers

- Simple and convenient handling
- Inexpensive alternative for decappers
- Made of stainless steel, therefore also sterilisable and autoclavable

| Art. No. | ÖS 08 0150 | ÖS 11 0151 | ÖS 13 0152 | ÖS 20 0070 | ÖS 30 0153 |
|--|--|---|---|---|---|
| Description: | 8mm opening pliers, sterilisable for clean room applications | 11mm opening pliers, sterilisable for clean room applications | 13mm opening pliers, sterilisable for clean room applications | 20mm opening pliers, sterilisable for clean room applications | 30mm opening pliers, sterilisable for clean room applications |
| sterilisable for clean room applications | | | | | |
| 1 piece per Bag | | | | | |



22.4 Manual Table Crimper

- Manually operated crimping and decapping tool
- **User-friendly handling**, the bottle is crimped or de-crimped by operating the hand lever handle
- **Exchangeable crimping and decapping heads** are available in almost 100 sizes (see chapter crimping and decapping heads on page 48f.)
- **No tools necessary** for changing the crimping heads
- Ideal use in combination with our CHROMA POWER CRIMPER, as the crimping and decapping heads fit on both machines
- Adjustable, constant and **reproducible crimping pressure**



22.4.1 Overview of our 6 available models

- Ideal use in combination with the CHROMA TABLE CRIMPER as the crimping and decapper heads fit on both units



Steel Version



Granite Version



Stainless Steel Version

| Art. No. | TC 00 0312 | TC 00 0212 | TC 00 0310 | TC 00 0531 | TC 00 0311 | TC 00 0213 |
|---------------------|--|--|--|--|--|--|
| Description: | Manual Table Crimper with large work space | Manual Table Crimper with small work space | Manual Table Crimper with large work space | Manual Table Crimper with small work space | Manual Table Crimper with large work space | Manual Table Crimper with small work space |
| Work space: | Steel 25,45 x 30,5cm | Steel 20,3 x 25,4cm | Granite 25,45 x 30,5cm | Granite 20,3 x 25,4cm | Stainless Steel 25,45 x 30,5cm | Stainless Steel 20,3 x 25,4cm |
| Height: | 45,72cm | 35,56cm | 48,90cm | 38,75cm | 45,72cm | 35,56cm |
| Weight: | 9,5 kg | 7,4 kg | 10,9 kg | 8,4 kg | 9,5 kg | 7,4 kg |

1 piece per Box

22.5 Pneumatic Crimping Tool

22.5.1 Pneumatic Hand-held Crimping Tool

- Crimping and decapping tool, operated by compressed air (6.2bar = 90psi minimum net pressure)
- **Easy handling**; just by pushing the button the vial is crimped or decapped
- **Exchangeable crimping and decapping heads** are available in almost 100 sizes (see chapter 18.5.1.1 crimping and decapping heads on page 58f.)
- No tools necessary for **changing the crimping heads**
- Ideal use in combination with our CHROMA POWER CRIMPER, as the crimping and decapping heads fit on both machines
- Adjustable, constant and **reproducible crimping pressure**



| Art. No. | PC 00 0066 | PC 00 0578 | PC 00 0592 |
|---------------------|---|--|---|
| Description: | Pneumatic Basic Crimping Tool, including pressure regulator, safety valve and Nylon (PA) twisted hose (Basic version) | Hanging device with balancer For pneumatic crimping tool (Optional) | Stand, foot pedal and compressed air hose for pneumatic crimping tool (Optional) |

1 piece per Box



22.5.2 Crimping Heads for Pneumatic Crimping Tool and Table Crimper

- Exchangeable crimping and decapping heads for CHROMA table crimper and/or CHROMA POWER CRIMPER
- With about 100 different sizes we cover almost every need (separate sale)
- No tools are required to change to another size or device.

22.5.2.1. Crimping Heads for Aluminum Crimp Caps



| Art. No. | CR 07 0028 | CR 08 0029 | CR 11 0030 | CR 13 0031 | CR 20 0032 | CR 28 0044 | CR 30 0033 | CR 32 0034 |
|----------|---------------------------------|-------------------------------|---------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Descr: | C-Head for 7.5mm Alu Crimp Caps | C-Head for 8mm Alu Crimp Caps | C-Head for 7.5mm Alu Crimp Caps | C-Head for 13mm Alu Crimp Caps | C-Head for 20mm Alu Crimp Caps | C-Head for 20mm Alu Crimp Caps | C-Head for 20mm Alu Crimp Caps | C-Head for 32mm Alu Crimp Caps |

1 piece per Box

22.5.2.2. Crimping Heads for Flip-off Crimp Caps



| Art. No. | CR 13 0036 | CR 16 0063 | CR 20 0037 | CR 28 0038 | CR 30 0057 | CR 32 0039 |
|----------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| Descr: | C-Head for 13mm Flip-off Crimp Cap | C-Head for 13mm Flip-off Crimp Cap | C-Head for 20mm Flip-off Crimp Cap | C-Head for 28mm Flip-off Crimp Cap | C-Head for 30mm Flip-off Crimp Cap | C-Head for 32mm Flip-off Crimp Cap |

1 piece per Box

22.5.2.3 Other Crimping Heads



| Art. No. | CR 13 0048 | CR 20 0049 | CR 32 0059 | CR 28 0061 | CR 28 0054 |
|----------|--|--|--|--|--|
| Descr: | C-Head for 13mm FLIP TEAR UP Crimp Cap | C-Head for 13mm FLIP TEAR UP Crimp Cap | C-Head for 32mm FLIP TEAR UP Crimp Cap | C-Head for 28mm Short Tear off Crimp Cap | C-Head for 28mm 3pc Tear Off Crimp Cap |

1 piece per Box



| Art. No. | CR 15 0050 | CR 16 0051 | CR 20 0052 | CR 20 0065 |
|----------|--|--|--------------------------------------|---|
| Descr: | C-Head for 15,5mm PUMP SPRAY Crimp Cap | C-Head for 16,5mm PUMP SPRAY Crimp Cap | C-Head for 20mm PUMP SPRAY Crimp Cap | C-Head for 20mm Flip top with flush sides Crimp Cap |

1 piece per Box

22.5.2.4 Decapping Heads



| Art. No. | DC 08 0040 | DC 11 0041 | DC 13 0042 | DC 20 0043 | DC 28 0045 | DC 30 0046 | DC 32 0047 |
|----------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Descr: | D-Head for 8mm Alu Crimp Caps | D-Head for 11mm Alu Crimp Caps | D-Head for 13mm Alu Crimp Caps | D-Head for 20mm Alu Crimp Caps | D-Head for 28mm Alu Crimp Caps | D-Head for 30mm Alu Crimp Caps | D-Head for 32mm Alu Crimp Caps |

1 piece per Box

22.6 Vertical Pneumatic Crimping Tool

- Crimping and decapping tool operated by compressed air
- **User-friendly handling**, the vial is crimped or decapped by pressing the release button
- **Exchangeable crimping and decapping heads** (sold separately) for the following sizes and cap types
- **No tools are required** to change to another size or type of cap
- **Space-saving installation** by using a suspension device; spring balancer compensates the weight and guarantees smooth and precise closing or opening
- Adjustable, constant and **reproducible crimping pressure**



| Art. No. | VC 00 0368 | VC 00 0729 |
|-----------------|--|--|
| Description: | Vertical pneumatic crimping machine; includes the basic unit and a pressure reducer, a safety valve and a suitable compressed air hose | Hanging device with spring balancer for vertical pneumatic crimping tool |
| 1 piece per Box | | |

22.6.1 Crimping Heads for Vertical Pneumatic Crimping Tool

- Crimping heads are available for Standard Aluminum Crimp Cap and Flip-Off Crimp Cap in sizes 8mm - 20mm
- Sorted by size below



| Art. No. | CV 08 0369 | CV 11 0371 | CV 13 0373 | CV 13 0374 | CV 20 0376 | CV 20 0377 |
|-----------------|-------------------------------|--------------------------------|--------------------------------|------------------------------------|--------------------------------|------------------------------------|
| Description: | C-Head for 8mm Alu Crimp Caps | C-Head for 11mm Alu Crimp Caps | C-Head for 13mm Alu Crimp Caps | C-Head for 13mm Flip-off Crimp Cap | C-Head for 20mm Alu Crimp Caps | C-Head for 20mm Flip-off Crimp Cap |
| 1 piece per Box | | | | | | |

22.6.2 Decapping Heads for Vertical Pneumatic Crimping Tool

- Decapping heads for Aluminum Crimp Cap are available in the sizes 8mm - 20mm
- Sorted by size below



| Art. No. | DV 08 0370 | DV 11 0372 | DV 13 0375 | DV 20 0391 |
|-----------------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Description: | D-Head for 8mm Alu Crimp Caps | D-Head for 11mm Alu Crimp Caps | D-Head for 13mm Alu Crimp Caps | D-Head for 20mm Alu Crimp Caps |
| 1 piece per Box | | | | |



23 Screw Neck Vials and Seals for Storage Purposes

- Screw Neck Vials for storage purposes made out of 1st hydrol. class glass.
- Vials with different volumes are available.
- Clear and amber Vials.
- Seals with different septa materials.

23.1 Screw Neck Vials for Storage Purposes



| Art. No. | GW 08 0193 | GW 08 0799 | GW 13 0454 | GW 13 0455 | GW 15 0636 GW 15 0831 | GW 15 0637 GW 15 0876 |
|----------------------|---|---|--|--|--|---|
| Thread: | 8-425 | 8-425 | 13-425 | 13-425 | 15-425 | 15-425 |
| Description: | 1.5ml Screw Neck Vial, 32 x 11.6mm, clear glass, 1st hydrol. class, small opening | 1.5ml Screw Neck Vial, 32 x 11.6mm, amber glass, 1st hydrol. class, small opening | 4ml Screw Neck Vial, 45 x 14.7mm, clear glass, 1st hydrol. Class | 4ml Screw Neck Vial, 45 x 14.7mm, Amber glass, 1st hydrol. Class | 8ml Screw Neck Vial, 61 x 16.6mm, clear glass, (amber glass), 1. hydrol. class | 12ml Screw Neck Vial, 66 x 18.5mm, clear glass, (amber glass), 1. hydrol. class |
| Filling volume (ml) | 1,9 | 1,9 | 5 | 5 | 8,9 | 12 |
| Residual volume (µl) | <110 | <110 | <400 | <400 | 800 | 800 |

100 pieces per Box



| Art. No. | GW 18 1078 | GW 20 1012 GW 20 2209 | GW 24 0240 GW 24 0344 | GW 24 0241 GW 24 0345 | GW 24 0242 GW 24 0346 | GW 24 0243 GW 24 0347 |
|----------------------|---|--|---|---|---|--|
| Thread: | 18-400 | 20-400 | 24-400 | 24-400 | 24-400 | 24-400 |
| Description: | 16ml Screw Neck Vial, 71 x 20.6mm, clear glass, 1st hydrol. Class | 20ml Screw Neck Vial, 86 x 22.5mm, clear glass, (amber glass), 1st hydrol. Class | 20ml EPA Screw Neck Vial, 57 x 27.5mm, clear glass, (amber glass), 1. hydrol. class | 30ml EPA Screw Neck Vial, 72.5 x 27.5mm, clear glass, (amber glass), 1. hydrol. class | 40ml EPA Screw Neck Vial, 95 x 27.5mm, clear glass, (amber glass), 1. hydrol. class | 60ml EPA Screw Neck Vial, 140x27.5mm, clear glass, (amber glass), 1. hydrol. class |
| Filling volume (ml) | 17,4 | 24,5 | 23,3 | 31,1 | 42,9 | 64,4 |
| Residual volume (µl) | 0,8 | 0,8 | 0,5 | 0,7 | 0,7 | 0,7 |

100 pieces per Box

23.1 PP Screw Seals for Storage Vials

- Seals available with numerous septa materials
- Cost-effective seal variations with maximum tightness

23.1.2 PP Screw Seals for ND8, ND13, ND15, ND18, ND20 and ND24



| | | | | |
|---------------------|--|--------------------------|---------------------------|-----------------------------|
| Art. No. | SV 08 0760 | SV 08 0767 | SV 08 1001 | SV 08 0762 |
| Thread 8-425 | | | | |
| Cap: | Polypropylen Screw Cap, black, closed top | | | |
| Septa | Natural Rubber red orange/ TEF transparent | RedRubber/ PTFE beige | Butyl cream/ PTFE grey | Silicone white/ PTFE red |
| Hardness: | 60° shore A | 45° shore A | 55° shore A | 45° shore A |
| Thickness: | 1,3mm | 1,0mm | 1,3mm | 1,3mm |
| 100 pcs. per PE-Bag | | | | |



| | | | | |
|----------------------|--|---------------------------|-----------------------------|--------------------|
| Art. No. | SV 13 0488 | SV 13 0489 | SV 13 0805 | SV 13 1329 |
| Thread 13-425 | | | | |
| Cap: | Polypropylen Screw Cap, black, closed top | | | |
| Septa | Natural Rubber red orange/ TEF transparent | Butyl cream/ PTFE grey | Silicone white/ PTFE red | Butyl dark-grey |
| Hardness: | 60° shore A | 55° shore A | 55° shore A | 48° shore A |
| Thickness: | 1,3mm | 1,3mm | 1,5mm | 2mm |
| 100 pcs. per PE-Bag | | | | |



| | | | | | |
|----------------------|--|-------------------------|--------------------|---|--------------------|
| Art. No. | SV 15 0594 | SV 15 0638 | SV 15 0884 | SV 15 0878 | SV 15 1327 |
| Thread 15-425 | | | | | |
| Cap: | Polypropylen Screw Cap, black, closed top | | | | |
| Septa | Natural Rubber red orange/ TEF transparent | Butyl red/ PTFE grey | Viton 1A, black | Silicone white/ Aluminum foil silver | Butyl dark-grey |
| Hardness: | 60° shore A | 55° shore A | 70° shore A | 50° shore A | 48° shore A |
| Thickness: | 1,3mm | 1,6mm | 1,0mm | 1,3mm | 2mm |
| 100 pcs. per PE-Bag | | | | | |

23.1.2 PP Screw Seals for Storage Vials (Cont.)



| | | | |
|----------------------|---|-------------------------|-----------------|
| Art. No. | SV 18 1300 | SV 18 1303 | SV 18 1304 |
| Thread 18-400 | | | |
| Cap: | Polypropylen Screw Cap, black, closed top | | |
| Septa | Butyl red/PTFE grey | Silicone white/PTFE red | Butyl dark-grey |
| Hardness: | 55° shore A | 55° shore A | 48° shore A |
| Thickness: | 1,6mm | 1,5mm | 3mm |
| 100 pcs. per PE-Bag | | | |



| | | | |
|----------------------|---|---------------------------|-----------------------------|
| Art. No. | SV 20 1017 | SV 20 1021 | SV 20 1330 |
| Thread 20-400 | | | |
| Cap: | Polypropylen Screw Cap, white, closed top | | |
| Septa | Natural Rubber red-orange/ TEF transparent | Butyl cream/ PTFE grey | Silicone white/ PTFE red |
| Hardness: | 60° shore A | 55° shore A | 45° shore A |
| Thickness: | 1,3mm | 1,3mm | 1,3mm |
| 100 pcs. per PE-Bag | | | |



| | | | | |
|----------------------|---|---|-----------------|--|
| Art. No. | SV 24 0553 | SV 24 0905 | SV 24 1323 | SV 24 0291 |
| Thread 24-400 | | | | |
| Cap: | Polypropylen Screw Cap, white, closed top | | | |
| Septa | Butyl red/PTFE grey | Silicone white/ Aluminum foil silver | Butyl dark-grey | Silicon nature/ PTFE beige (EPA Qualität) |
| Hardness: | 55° shore A | 50° shore A | 48° shore A | 45° shore A |
| Thickness: | 2,4mm | 3,0mm | 3mm | 3,2mm |
| 100 pcs. per PE-Bag | | | | |

24. Washer Bottles

As the sensitivity of the analytical instruments increases, the cleaning and rinsing process of the syringe, which takes the sample from the autosampler vial and then injects it, becomes more and more important. To prevent carry-over from one sample to another, the syringe must be rinsed after each injection. The bottles in which the solvent for rinsing is provided are the so-called wash bottles.



24.1 Washer Bottles



| Art. No. | GW 13 0454 | HS 20 0235 | HS 20 0354 | HS 20 0302 |
|---------------------------|--|--|--|--|
| Description: | 4ml Screw Neck Vial, 45 x 14.7mm, clear glass, 1st hydrol. class | 10ml Headspace-Vial, 46 x 22.5mm, clear glass, 1st hydrol. class, flat bottom | 5ml Crimp Neck Vial, 38 x 20mm, clear glass, 1st hydrol. class, flat bottom | 10ml Crimp Neck Vial, 46 x 22.5mm, clear glass, 1st hydrol. class, rounded bottom |
| Washer Bottle for: | Agilent: 7673, 7683 PerkinElmer: Waste + Wash Vial | Thermo Finnigan: AS2000, AS300, A200S | Varian: 8400, 8410 | Varian: CTC PAL Shimadzu: AOC-5000 |

100 pcs. per PP-Box

24.2 Washer Bottles Seals

- On request numerous septa variants are available!
- Below are the most common wash bottle seals



| Art. No. | SV 13 0477 | SK 13 0483 SE 12 0100 | SN 20 0903 | SN 20 0938 | SN 20 0937 |
|-------------------------|---|---|---|---|---|
| Cap: | 13mm Polypropylen Screw Cap black, 8,5mm hole | 13mm Polypropylen Screw Cap black, 8,5mm hole (SK 13 0483) | 20mm PE Cap, transparent, 4,3mm hole, cap height 8,4mm | 20mm PE Cap, transparent, 6mm hole, cap height 9,1mm | 20mm PE Cap, transparent, 4,3mm hole, cap height 9,1mm |
| Septa: | Silicone white/ PTFE red | 12mm Septa, PTFE virginal, 53° shore D,0,25mm (SE 12 0100) | Natural Rubber Red-orange/ TEF transparent | Silicone blue transp./ PTFE white, cross-slit | Silicone blue transp./ PTFE white |
| Hardness: | 55° shore A | 53° shore D | 60° shore A | 45° shore A | 45° shore A |
| Thickness: | 1,3mm | 0,25mm | 1,3mm | 1,3mm | 1,3mm |
| Washer Seal for: | | | Varian: 8400, 8410; | Varian: CTC | Varian: CTC, 8400, 8410 Thermo Finnigan: A200S Shimadzu: AOC-5000 |

100 pcs. per PE-Bag

25. Septa for Schott Screw Caps GL14 – GL45

- Washed replacement septa for thread screw cap GL14-GL45
- Especially for Schott ScrewCap made of Silicone white/ PTFE beige in 3,2mm thickness or of Butyl red/ PTFE grey with 2,5mm thickness

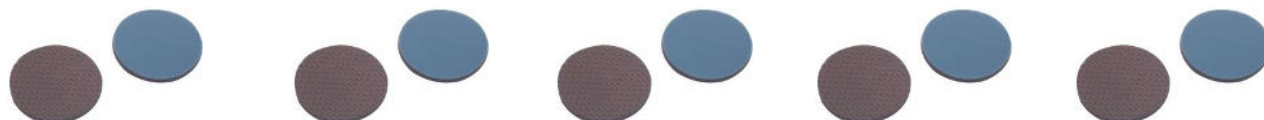


25.1 Septa for Schott Screw Caps Silicone white/PTFE beige



| Art. No. | SE 12 0986 | SE 16 0849 | SE 23 0987 | SE 30 0988 | SE 43 0738 |
|------------|---|---|---|---|---|
| Thread | GL14 | GL18 | GL25 | GL32 | GL45 |
| Septa: | 12,5mm Septa, Silicon nature/PTFE beige | 16,7mm Septa, Silicon nature/PTFE beige | 23,4mm Septa, Silicon nature/PTFE beige | 30,3mm Septa, Silicon nature/PTFE beige | 43,2mm Septa, Silicon nature/PTFE beige |
| Hardness: | 45° shore A | 45° shore A | 45° shore A | 45° shore A | 55° shore A |
| Thickness: | 3,2mm | 3,2mm | 3,2mm | 3,2mm | 3,2mm |
| | 1.000 pieces per PE-Bag | | | | 500 pieces per PE-Bag |

25.2 Septa for Schott screw Caps Butyl rot/PTFE grau



| Art. No. | SE 12 0989 | SE 16 0990 | SE 23 0991 | SE 30 0992 | SE 43 0993 |
|-------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| Thread | GL14 | GL18 | GL25 | GL32 | GL45 |
| Septa: | 12,9mm Septa, Butyl red/PTFE grey | 16,7mm Septa, Butyl red/PTFE grey | 23,4mm Septa, Butyl red/PTFE grey | 30,3mm Septa, Butyl red/PTFE grey | 43,2mm Septa, Butyl red/PTFE grey |
| Hardness: | 55° shore A | 55° shore A | 55° shore A | 55° shore A | 55° shore A |
| Thickness : | 1,6mm | 1,6mm | 2,5mm | 2,5mm | 2,5mm |
| | 1.000 pieces per PE-Bag | | | | 500 pieces per PE-Bag |

26. Special Products

- Special products can be carried out in every area of our delivery programme
- Special products are not necessarily stock items and may therefore require certain minimum purchase quantities

26.1 Special Vials



| Art. No. | RR 11 0472 | KG 09 1237 | RR 11 2034 | FB 22 1315 | GW 40 1040 |
|--------------|--|--|---|---|---|
| Description: | 2.5ml Crimp Neck Vial, 41 x 11.6mm, clear glass, 1st hydrol. class, wide opening | 2.5ml Short Thread Vial, 41 x 11.6mm, clear glass, 1st hydrol. class, wide opening | 4ml Crimp Neck Vial, 45 x 14,7mm, clear glass, 1st hydrolytic class, wide opening | 13ml Shell Vial, 48 x 22mm, clear glass, 1st hydrol. class, Special bottom for NIR measurements | 100ml Cylindrical glass,, 93,5 x 49mm, clear glass, 3st hydrol. class, Thread DIN40 |
| Size: | 41,1 x 11,6mm | 41,1 x 11,6mm | 45 x 14,7 | 48 x 22mm, | 93,5 x 49mm |
| Volume: | 2,7 | 2,7 | 4,1 | 13 | 115,5 |
| | 100 pcs. per Box | | | | 63 Stück |

26.2 Culture Tubes

- **NEW:** Culture tubes and matching GL18 PP Screw Seals with inexpensive autoclavable sealing septa made of butyl or butyl/PTFE
- Optionally available as practical 2in1 kits (100 vials and 100 seals per carton)



| Art. No. | GW 18 1338 |
|--------------|---|
| Description: | 12ml Culture Tubes GL18, 100 x 16mm, clear glass, 3st hydrol. class |
| Size: | 100 x 16mm, |
| Volume: | 800µl |
| | 100 pcs. per Box |

| Art. No. | SV 18 1296 | SV 18 1339 |
|------------|--|--|
| Cap: | PP Screw Cap, black, closed top for Culture Tubes (GL18) | PP Screw Cap, black, closed top for Culture Tubes (GL18) |
| Septa: | Butyl dark-grey | Butyl red/PTFE grey |
| Hardness: | 48° shore A | 55° shore A |
| Thickness: | 3,0mm | 2,4mm |
| | 100 pcs. per PE-Bag | |

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