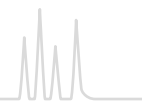




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Technical data of vials

Except for the snap cap vials for storage of powdery samples and the blow-molded glass 70209.1, the vials of our program are made from 1st hydrolytic class glass. The dimensions stated in this catalog with respect to vial diameter and height are exact values. Please note that other suppliers often list rounded values (e.g., 12 x 32 mm instead of 11.6 x 32 mm), the actual dimensions are, however, identical due to the required fit in the instrument. Our data concerning the volume are defined realistically usable volumes, not calculated values. For reasons of safety we state rather low values. Here, too, deviations of data of other suppliers may occur, which either use the calculated volume (e.g., 2 mL instead of 1.5 mL) or a defined, realistically usable volume in the upper range (e.g., 1.8 mL instead of 1.5 mL). For suitability of certain vial types on instruments of the most important manufacturers please refer to the autosampler compatibility list at the end of this chapter.

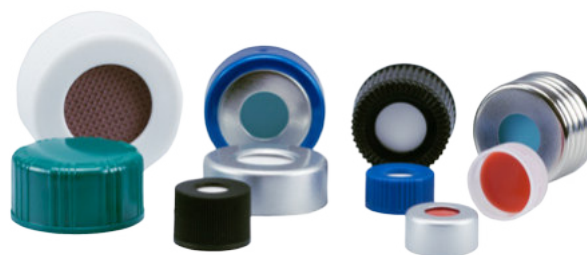
Closure selection in GC/HPLC

The choice of the best closure depends on certain features of the instrument (needle type/design, transportation mechanism of the autosampler, etc.) as well as on the requirements of the application (temperature, sensitivity of the analysis, single/multiple injections, etc.) and thus is more complicated and more individual than selection of the correct vial type.

Basically the following recommendations can be made:

- Due to the relatively thick and blunt HPLC needles, only Silicone/PTFE closures, either with or without slit, should be used in combination with them
- Screw closures N 9 are universally suitable on most autosamplers, convenient in handling and available in a broad selection of different cap colors and septum materials. They fulfill all requirements with regard to tightness and analytical purity for GC as well as for HPLC. Due to the relatively thin septa penetration is safe and easy. Crimp closures N 11 are also universally suitable with regard to autosampler compatibility, however, they are not as safe and convenient in their closing technique as the screw closures N 9.
- Snap ring closures N 11 should only be used in HPLC, as the punctual compacting pressure of the septum against the vial rim by the four pins in the cap does not achieve the same level of tightness as the evenly applied pressure through a circular thread or by crimping.

- For sensitive analyses only high purity Silicone/PTFE closures can be used; if additionally there is a need for minimal coring during penetration, a PTFE/Silicone/PTFE septum (sandwich septum) is recommendable.
- Cap colors may be used for marking (sample marking/lab marking/shift marking). However, please consider that some autosamplers work with photocells which may not be able to recognize transparent caps.
- For sample storage closed top screw closures (without center hole) should be used. Generally, these also need an elastomeric liner for sealing vials with liquid samples tightly.



- Due to their artificially reduced cap height screw caps N 9 don't have a standardized thread design. Therefore, it is recommendable only to use vials and closures from one source of supply, in order to ensure a harmonious and tight matching of both components.
- Replacement septa are partially available, however, in case of manual assembly you have the risk of contamination with skin fat/sweat and of a possible wrong side orientation. Therefore we highly recommend only to use ready assembled closures, where the liner perfectly matches the cap and has been automatically inserted under strict hygienic conditions.
- Normally ready assembled closures should be suitable for all types of needles, provided the proper type of septum has been selected. Nevertheless, there might be cases where usage of bonded closures (cap and liner form an inseparable unit) can be recommendable. Example: blunt HPLC needle, however, due to the risk of sample loss/concentration changes no septa with slit can be used. In order to avoid that the unslit septum is pushed into the vial by the needle, you use a bonded closure with unslit septum.
- The following table shows the different physical and chemical properties of the various elastomeric septa materials:



Septa Guide

| | Temperature resistance from/to | Analytical purity | Fragmentation due to hardness and molecular structure (coring) | Hardness (needle penetration) | Resealability (in case of multiple injections) |
|------------------------|--------------------------------|-------------------|----------------------------------------------------------------|------------------------------------|------------------------------------------------|
| PTFE virginal | -200 °C / 260 °C | very high | | very hard (but very thin material) | no resealability |
| Natural rubber / PTFE | -40 °C / 120 °C | low | high, big particles | very hard | high |
| Red Rubber / TEF (FEP) | -40 °C / 110 °C | medium | medium | medium hard | medium |
| Butyl | -40 °C / 120 °C | medium | medium | medium hard | medium |
| Butyl / PTFE | -40 °C / 120 °C | medium | medium | medium hard | medium |
| Silicone / PTFE | -60 °C / 200 °C | high | low to medium | soft | low to medium |
| PTFE / Silicone / PTFE | -60 °C / 200 °C | high | very low | soft | very low |

Certificates

Upon request we can issue (batch related) certificates of conformity for all vials, inserts and closures, if this is required for your own ISO documentation.

Samples

Sample packs of all vials and closures can be requested at any time. The sample packs contain 5 pieces of the respective product. These can be requested cost-free with the REF number of the respective product plus the addition ".MUSTER" (e.g., 1 x 70201HP.MUSTER = 1 sample pack with five vials of 70201HP).



Example for a sample pack with five vials



Example for a sample pack with five screw closures

Packaging



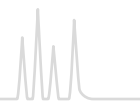
Vials: normally packed with 100 pieces in a PP box, bottom part being shrink-wrapped



Closures: normally packed with 100 pieces in a resealable PE zip lock bag



Vial Kits with 100 vials and closures each (for all vials 11.6 x 32 mm)



Literature

The following literature, which contains vials and caps, can be requested free of charge under the indicated KAT no.

Brochure vials and caps (English): KATEN200010

Link to the PDF download: www.mn-net.com/vials

Chromatography catalog (English): KATEN200001

Link to the PDF download: www.mn-net.com → Chromatography → Customer Services → Catalog download

Poster autosampler vials and caps (English): KATEN200086

Brochure crimping tools (English): KATEN200100

Link to the PDF download: www.mn-net.com/vials → Vial accessories

Poster "Optimal crimping" (German/English): KATDE/EN200153

Link to the PDF download: www.mn-net.com/vials → Vial accessories

Website guide

Up-dated product range vials and caps:

www.mn-net.com/vials

VialFinder as translation tool for cross-references:

www.mn-net.com/vialfinder

General literature on chromatography products (PDF download):

www.mn-net.com/chroma → Customer services → Catalog download

Instructions for manual crimping tools (PDF download):

www.mn-net.com/manualcrimper (left pane)

Instructions for electronic crimping tools (PDF download):

www.mn-net.com/electroniccrimper (left pane)

Current edition of the "Chroma-News" as well as their archive:

www.mn-net.com/chroma (right pane)

Decision tool for selecting the most optimal crimping tool for your own user profile (PDF download):

www.mn-net.com/vials → Vial accessories (containers, crimping tools) → blue marked link to PDF Download in the yellow box on top of the section

Translation tool for cross-references: the VialFinder at www.mn-net.com/vialfinder

The VialFinder is a database-driven translation tool for cross-references of instrument manufacturers and suppliers of consumables worldwide. The VialFinder immediately shows all options available from MACHEREY-NAGEL for the product of interest. The Finder shows 1:1 matches (in bold type) as well as possible alternative products (in normal type) that – in spite of technical differences to the indicated product – are suitable for the application. The corresponding link on the product description will lead you to the appropriate product page on our website that will give information on technical product features as well as possible illustrations of the product. In case you cannot find your part number via the VialFinder, please send your inquiry by e-mail to vials@mn-net.com providing us with all product information you may have. We will then check, if we can offer an equivalent product.



Miscellaneous

Should you need more information concerning this product range, you can ask for our separate brochure "Vials and caps" (KATEN200010), which – among others – features 1:1 drawings of all glass products.

Except where explicitly mentioned, septa are assembled ready to use. Septa beneath or beside a cap are shown for illustration purposes only, and they are pictured upside down.

All drawings in this chapter are scale 1:2.

General remarks

All information is subject to technical changes. All product data are subject to the currently valid specifications.

Contacts

Aside from your known contacts of our sales team you can also contact product management for technical questions at: vials@mn-net.com



Crimp neck vials and caps N 8

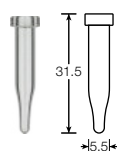


★ Key features

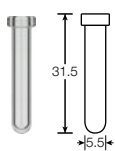
- 0.2–0.8 mL usable volume
- Adapter required for use in an autosampler
- Available with flat, round or conical bottom
- Economic closure versions: three-layer septum Natural rubber / Butyl / TEF or two-layer septum Red Rubber / FEP
- For more demanding analyses: high purity Silicone / PTFE septa

Ordering information

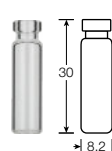
Crimp neck vials N 8



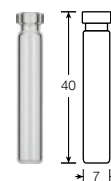
70286



70282



70251



702002

| Type of vial | Usable volume | (Illustrations scale 1:2) OD x height | Pack of | REF |
|---------------------|---------------|------------------------------------------|---------|--------|
| Clear, conical | 0.2 mL | 5.5 x 31.5 mm | 100 | 70286 |
| Clear, round bottom | 0.3 mL | 5.5 x 31.5 mm | 100 | 70282 |
| Clear, flat bottom | 0.8 mL | 8.2 x 30 mm | 100 | 70251 |
| Clear, flat bottom | 0.7 mL | 7 x 40 mm | 100 | 702002 |

Ready assembled crimp closures N 8 and plain crimp caps N 8



| Cap description | Septa description | Thickness | Pack of | REF |
|----------------------------------------------|---------------------------------------------------|-----------|---------|---------|
| N 8 aluminium crimp cap, silver, center hole | PTFE virginal, white | 0.25 mm | 100 | 70283 |
| N 8 aluminium crimp cap, silver, center hole | Natural rubber / Butyl red-orange / TEF colorless | 1.0 mm | 100 | 70252.1 |
| N 8 aluminium crimp cap, silver, center hole | Red Rubber / FEP colorless | 1.0 mm | 100 | 702025 |
| N 8 aluminium crimp cap, silver, center hole | Silicone white / PTFE red | 1.0 mm | 100 | 70289 |
| N 8 aluminium crimp cap, silver, center hole | PTFE red / Silicone white / PTFE red | 1.0 mm | 100 | 702878 |
| N 8 aluminium crimp cap, silver, center hole | no liner | – | 100 | 702800 |

Crimping tools N 8

| Description | Pack of | REF |
|----------------------------------------------------------|---------|--------|
| Manual crimper (standard) for 8 mm aluminium crimp caps | 1 | 735126 |
| Manual decapper (standard) for 8 mm aluminium crimp caps | 1 | 735408 |
| Manual ergonomic crimper for 8 mm aluminium crimp caps | 1 | 735208 |



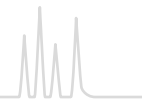
Manual crimper (standard)



Manual ergonomic crimper



Screw neck vials and caps N 8



Screw neck vials and caps N 8

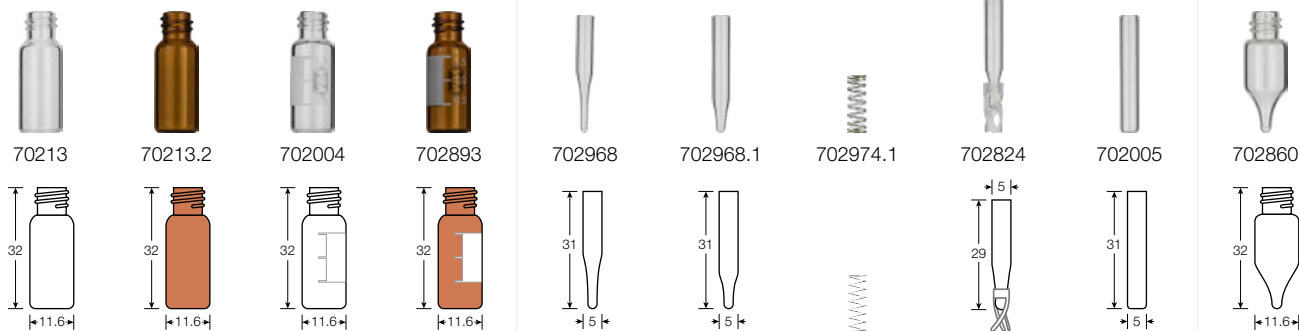
★ Key features

- Are among the oldest vial types for HPLC and GC (besides crimp neck vials N 11)
- More and more replaced by screw neck vials N 9, which are easier to fill due to the wide opening compared to screw neck vials N 8 with small opening
- Due to the cap design not universally usable on all autosamplers in GC and HPLC – however, often used on instruments of VWR (Merck®) / Hitachi, Varian®, Knauer, Gilson®, Shimadzu® and others
- In combination with closed top screw closures also used for sample storage (see page 120)
- Now also available as practical Vial Kits with 100 vials and closures each



Ordering information

Screw neck vials N 8, small opening (8-425 thread), and compatible inserts



| Type of vial | Usable volume | (Illustrations scale 1:2) OD x height | Pack of | REF |
|------------------------------------------------------------|---------------|------------------------------------------|---------|-----------|
| Clear, flat bottom | 1.5 mL | 11.6 x 32 mm | 100 | 70213 |
| Amber, flat bottom | 1.5 mL | 11.6 x 32 mm | 100 | 70213.2 |
| Clear, flat bottom, label and scale | 1.5 mL | 11.6 x 32 mm | 100 | 702004 |
| Amber, flat bottom, label and scale | 1.5 mL | 11.6 x 32 mm | 100 | 702893 |
| Insert for small opening vials, clear, conical, 15 mm tip | 0.1 mL | 5 x 31 mm | 100 | 702968* |
| Insert for small opening vials, clear, conical, 9 mm tip | 0.15 mL | 5 x 31 mm | 100 | 702968.1* |
| Metal spring for conical inserts 5 x 31 mm | – | – | 100 | 702974.1 |
| Insert for small opening vials, clear, with plastic spring | 0.1 mL | 5 x 29 mm | 100 | 702824 |
| Insert for small opening vials, clear, flat bottom | 0.25 mL | 5 x 31 mm | 100 | 702005 |
| Micro-vial, clear, conical | 1.1 mL | 11.6 x 32 mm | 100 | 702860 |

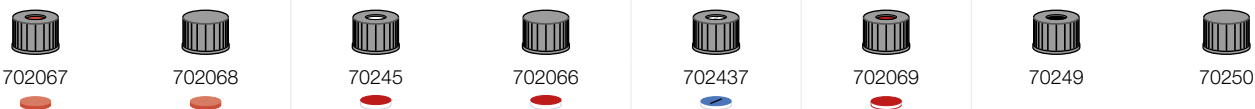
* Optionally you may use metal springs 702974.1 in combination with these products to push them up in the vial.

Screw neck vials and caps N 8



Ordering information

Ready assembled screw closures N 8 and plain screw caps N 8



| Cap description | Septa description | Thickness | Pack of | REF |
|--------------------------------------|--------------------------------------|-----------|---------|--------|
| N 8 PP screw cap, black, center hole | Red Rubber / FEP colorless | 1.3 mm | 100 | 702067 |
| as above, but with closed top | Red Rubber / FEP colorless | 1.3 mm | 100 | 702068 |
| N 8 PP screw cap, black, center hole | Silicone white / PTFE red | 1.3 mm | 100 | 70245 |
| as above, but with closed top | Silicone white / PTFE red | 1.3 mm | 100 | 702066 |
| N 8 PP screw cap, black, center hole | Silicone white / PTFE blue, slit | 1.0 mm | 100 | 702437 |
| N 8 PP screw cap, black, center hole | PTFE red / Silicone white / PTFE red | 1.0 mm | 100 | 702069 |
| N 8 PP screw cap, black, center hole | no liner | - | 100 | 70249 |
| as above, but with closed top | no liner | - | 100 | 70250 |

N 8 Septa for screw caps N 8

| Material | Illustration | Thickness | Pack of | REF |
|----------------------------------------------|--------------|-----------|---------|--------|
| Septum N 8, PTFE virginal, white | | 0.25 mm | 100 | 70261 |
| Septum N 8, Red Rubber / FEP colorless | | 1.3 mm | 100 | 702070 |
| Septum N 8, Silicone white / PTFE red | | 1.3 mm | 100 | 70248 |
| Septum N 8, Silicone white / PTFE blue, slit | | 1.0 mm | 100 | 702481 |

Vial Kits screw neck N 8

Packs of 100 vials and 100 closures, each

Closure →



70245



702437



702067

Vial ↓



702238



702247



702246

70213:
1.5 mL, clear, flat bottom

70213.2:
1.5 mL, amber, flat bottom

702249

702251

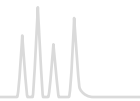
702248

Other Vial Kits on request.





Screw neck vials and caps N 9



Screw neck vials and caps N 9

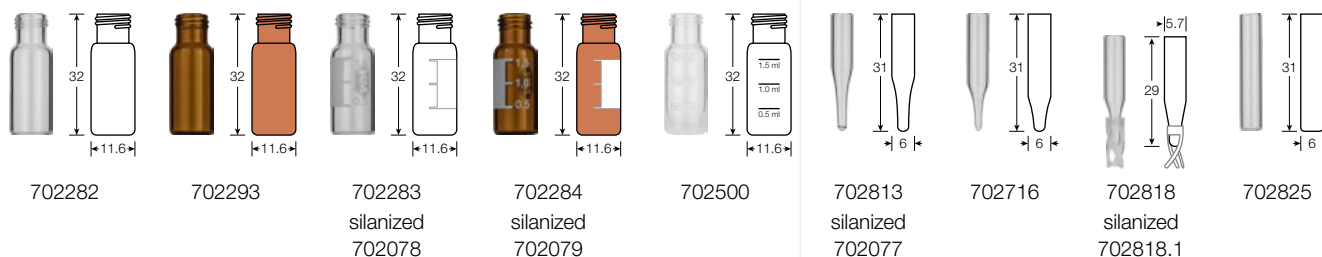


★ Key features

- Can be used on almost all HPLC and GC autosamplers
- Large range of vials and closures
- Also available as bonded closures (advantage: thick (blunt) HPLC needles cannot push the septum into the vial)
- Also available as convenient Vial Kits with 100 vials and 100 caps and as presealed vial-closure combinations
- Now also 1.5 mL polypropylene vials N 9 for special applications (e.g., IC, CE, etc.)

Ordering information

Screw neck vials N 9, wide opening (short thread), and compatible inserts



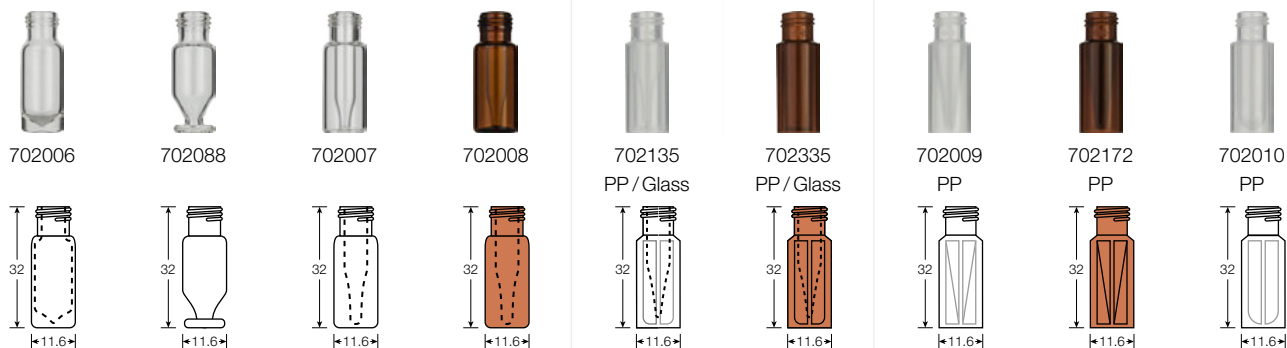
| Type of vial | Usable volume | (Illustrations scale 1:2) | | |
|-----------------------------------------------------------|---------------|---------------------------|---------|----------|
| | | OD x height | Pack of | REF |
| Clear, flat bottom | 1.5 mL | 11.6 x 32 mm | 100 | 702282 |
| Amber, flat bottom | 1.5 mL | 11.6 x 32 mm | 100 | 702293 |
| Clear, flat bottom, label and scale | 1.5 mL | 11.6 x 32 mm | 100 | 702283 |
| as above, silanized | 1.5 mL | 11.6 x 32 mm | 100 | 702078 |
| Amber, flat bottom, label and scale | 1.5 mL | 11.6 x 32 mm | 100 | 702284 |
| as above, silanized | 1.5 mL | 11.6 x 32 mm | 100 | 702079 |
| Polypropylene, transparent, with filling lines | 1.5 mL | 11.6 x 32 mm | 100 | 702500 |
| Insert for wide opening vials, clear, conical, 15 mm tip | 0.2 mL | 6 x 31 mm | 100 | 702813 |
| as above, silanized | 0.2 mL | 6 x 31 mm | 100 | 702077 |
| Insert for wide opening vials, clear, conical, 12 mm tip | 0.25 mL | 6 x 31 mm | 100 | 702716 |
| Insert for wide opening vials, clear, with plastic spring | 0.1 mL | 5.7 x 29 mm | 100 | 702818 |
| as above, silanized | 0.1 mL | 5.7 x 29 mm | 100 | 702818.1 |
| Insert for wide opening vials, clear, flat bottom | 0.3 mL | 6 x 31 mm | 100 | 702825 |

Screw neck vials and caps N 9



Ordering information

Screw neck micro-vials N 9, wide opening (short thread)



| Type of vial | Usable volume | OD x height | Pack of | REF |
|--------------------------------------------------------------------------------------|---------------|--------------|---------|---------|
| Micro-vial, clear, 15 µL funnel in solid glass bottom | 1.1 mL | 11.6 x 32 mm | 100 | 702006 |
| Micro-vial, clear, conical, with round pedestal glass plate | 1.1 mL | 11.6 x 32 mm | 100 | 702088 |
| Micro-vial, clear, with integrated 0.2 mL insert | 0.2 mL | 11.6 x 32 mm | 100 | 702007 |
| Micro-vial, amber, with integrated 0.2 mL insert | 0.2 mL | 11.6 x 32 mm | 100 | 702008 |
| Micro-vial, polypropylene, transparent, with integrated 0.2 mL glass insert, conical | 0.2 mL | 11.6 x 32 mm | 100 | 702135* |
| Micro-vial, polypropylene, amber, with integrated 0.2 mL glass insert, conical | 0.2 mL | 11.6 x 32 mm | 100 | 702335* |
| Micro-vial, polypropylene, transparent, with inner cone | 0.3 mL | 11.6 x 32 mm | 100 | 702009 |
| Micro-vial, polypropylene, amber, with inner cone | 0.3 mL | 11.6 x 32 mm | 100 | 702172 |
| Micro-vial, polypropylene, transparent, with round bottom insert | 0.7 mL | 11.6 x 32 mm | 100 | 702010 |

* upon request also available with an integrated silanized glass insert

Pre-assembled vial-insert combinations with screw neck N 9

| Vial description | Insert description | Pack of | REF |
|-------------------------------------------------------------|-----------------------------------------------------------------------|---------|--------|
| Vial 702282: 1.5 mL, clear, flat bottom | with pre-assembled micro-insert 702813: 0.2 mL, conical, 15 mm tip | 100 | 702177 |
| Vial 702283: 1.5 mL, clear, flat bottom, label and scale | with pre-assembled micro-insert 702813: 0.2 mL, conical, 15 mm tip | 100 | 702178 |
| Vial 702284: 1.5 mL, amber, flat bottom, label and scale | with pre-assembled micro-insert 702813: 0.2 mL, conical, 15 mm tip | 100 | 702179 |

Further pre-assembled vial-insert combinations on request

Bonded screw closures N 9 (septum firmly connected with the cap; cannot be removed)



| Cap description | Septa description | Thickness | Pack of | REF |
|--------------------------------------------|-----------------------------------|-----------|---------|--------|
| N 9 PP bonded screw cap, blue, center hole | Red Rubber / TEF colorless | 1.0 mm | 100 | 702028 |
| N 9 PP bonded screw cap, blue, center hole | Silicone beige / PTFE white | 1.3 mm | 100 | 702026 |
| N 9 PP bonded screw cap, blue, center hole | Silicone beige / PTFE white, slit | 1.3 mm | 100 | 702027 |



Screw neck vials and caps N 9



Ordering information

Ready assembled screw closures N 9

| Cap description | Septa description | Thickness | Pack of | REF |
|---------------------------------------------|--------------------------------------|-----------|---------|----------|
| N 9 PP screw cap, transparent, center hole | PTFE virginal, white | 0.25 mm | 100 | 702029 |
| N 9 PP screw cap, blue, center hole | PTFE virginal, white | 0.25 mm | 100 | 702031 |
| N 9 PP screw cap blue, closed top | PTFE virginal, white | 0.25 mm | 100 | 702032 |
| N 9 PP screw cap, transparent, center hole | Red Rubber / FEP colorless | 1.0 mm | 100 | 702030 |
| N 9 PP screw cap, blue, center hole | Red Rubber / FEP colorless | 1.0 mm | 100 | 702732 |
| N 9 PP screw cap, black, center hole | Red Rubber / FEP colorless | 1.0 mm | 100 | 702080 |
| N 9 PP screw cap, red, center hole | Red Rubber / FEP colorless | 1.0 mm | 100 | 702081 |
| N 9 PP screw cap, green, center hole | Red Rubber / FEP colorless | 1.0 mm | 100 | 702082 |
| N 9 PP screw cap, yellow, center hole | Red Rubber / FEP colorless | 1.0 mm | 100 | 702147 |
| N 9 PP screw cap blue, closed top | Red Rubber / FEP colorless | 1.0 mm | 100 | 702033 |
| N 9 PP screw cap, transparent, center hole | Silicone white / PTFE red | 1.0 mm | 100 | 702287 |
| N 9 PP screw cap, blue, center hole | Silicone white / PTFE red | 1.0 mm | 100 | 702287.1 |
| N 9 PP screw cap, black, center hole | Silicone white / PTFE red | 1.0 mm | 100 | 702036 |
| N 9 PP screw cap, red, center hole | Silicone white / PTFE red | 1.0 mm | 100 | 702037 |
| N 9 PP screw cap, green, center hole | Silicone white / PTFE red | 1.0 mm | 100 | 702038 |
| N 9 PP screw cap, yellow, center hole | Silicone white / PTFE red | 1.0 mm | 100 | 702107 |
| N 9 magnetic screw cap, silver, center hole | Silicone white / PTFE red | 1.0 mm | 100 | 702155 |
| N 9 PP screw cap blue, closed top | Silicone white / PTFE red | 1.0 mm | 100 | 702034 |
| N 9 PP screw cap, transparent, center hole | Silicone white / PTFE blue, slit | 1.0 mm | 100 | 702288 |
| N 9 PP screw cap, blue, center hole | Silicone white / PTFE blue, slit | 1.0 mm | 100 | 702288.1 |
| N 9 PP screw cap, black, center hole | Silicone white / PTFE blue, slit | 1.0 mm | 100 | 702039 |
| N 9 PP screw cap, red, center hole | Silicone white / PTFE blue, slit | 1.0 mm | 100 | 702040 |
| N 9 PP screw cap, green, center hole | Silicone white / PTFE blue, slit | 1.0 mm | 100 | 702083 |
| N 9 PP screw cap, yellow, center hole | Silicone white / PTFE blue, slit | 1.0 mm | 100 | 702109 |
| N 9 PP screw cap, transparent, center hole | PTFE red / Silicone white / PTFE red | 1.0 mm | 100 | 702286 |
| N 9 PP screw cap, blue, center hole | PTFE red / Silicone white / PTFE red | 1.0 mm | 100 | 702035 |
| N 9 PP screw cap, black, center hole | PTFE red / Silicone white / PTFE red | 1.0 mm | 100 | 702158 |
| N 9 PP screw cap, red, center hole | PTFE red / Silicone white / PTFE red | 1.0 mm | 100 | 702084 |
| N 9 PP screw cap, green, center hole | PTFE red / Silicone white / PTFE red | 1.0 mm | 100 | 702085 |
| N 9 PP screw cap, yellow, center hole | PTFE red / Silicone white / PTFE red | 1.0 mm | 100 | 702159 |
| N 9 PP screw cap, transparent, center hole | no liner | - | 100 | 702160 |
| N 9 PP screw cap, blue, center hole | no liner | - | 100 | 702161 |
| N 9 PP screw cap, black, center hole | no liner | - | 100 | 702162 |
| N 9 PP screw cap, red, center hole | no liner | - | 100 | 702163 |
| N 9 PP screw cap, green, center hole | no liner | - | 100 | 702164 |
| N 9 PP screw cap, yellow, center hole | no liner | - | 100 | 702165 |

Screw neck vials and caps N 9



Ordering information

N 9 septa for screw caps N 9

| Material | Illustration | Thickness | Pack of | REF |
|----------------------------------|--------------|-----------|---------|--------|
| PTFE virginal, white | | 0,25 mm | 100 | 702043 |
| Red Rubber / FEP colorless | | 1.0 mm | 100 | 702041 |
| Silicone white / PTFE red | | 1.0 mm | 100 | 702042 |
| Silicone white / PTFE blue, slit | | 1.0 mm | 100 | 702148 |

Vial Kits screw neck N 9

Packs of 100 vials and 100 closures, each

| | Closure → | | | | |
|--------------------------------------------------------|-----------|----------|--------|--------|--------|
| | | | | | |
| Vial ↓ | 702287.1 | 702288.1 | 702732 | 702026 | 702027 |
| 702282: 1.5 mL, clear, flat bottom | 702201 | 702204 | 702207 | | 702244 |
| 702283: 1.5 mL, clear, flat bottom, label and scale | 702202 | 702205 | 702208 | 702211 | 702213 |
| 702284: 1.5 mL, amber, flat bottom, label and scale | 702203 | 702206 | 702209 | 702212 | 702214 |
| 702009: 0.3 mL, PP, transparent, with inner cone | | 702226 | | | |

Other Vial Kits on request.



Vial Kit with screw neck vials and closures N 9



Pre-sealed vial-closure combination

Ordering information

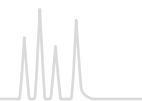
Pre-sealed vial-closure combinations with screw neck N 9

| Vial description | Closure description | Pack of | REF |
|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|---------|--------|
| Pre-sealed vials 702282: 1.5 mL screw neck vial N 9, 11.6 x 32 mm, clear, flat bottom, wide opening | pre-screwed with 702732: N 9 PP screw cap, blue, center hole, Red Rubber/FEP colorless, 1.0 mm | 100 | 702857 |
| Pre-sealed vials 702283: 1.5 mL screw neck vial N 9, 11.6 x 32 mm, clear, flat bottom, wide opening, label and scale | pre-screwed with 702732: N 9 PP screw cap, blue, center hole, Red Rubber/FEP colorless, 1.0 mm | 100 | 702858 |
| Pre-sealed vials 702282: 1.5 mL screw neck vial N 9, 11.6 x 32 mm, clear, flat bottom, wide opening | pre-screwed with 702287.1: N 9 PP screw cap, blue, center hole, Silicone white/PTFE red, 1.0 mm | 100 | 702874 |
| Pre-sealed vials 702283: 1.5 mL screw neck vial N 9, 11.6 x 32 mm, clear, flat bottom, wide opening, label and scale | pre-screwed with 702288.1: N 9 PP screw cap, blue, center hole, Silicone white/PTFE blue, slit, 1.0 mm | 100 | 702863 |
| Pre-sealed vials 702284: 1.5 mL screw neck vial N 9, 11.6 x 32 mm, amber, flat bottom, wide opening, label and scale | pre-screwed with 702288.1: N 9 PP screw cap, blue, center hole, Silicone white/PTFE blue, slit, 1.0 mm | 100 | 702873 |
| Pre-sealed vials 702283: 1.5 mL screw neck vial N 9, 11.6 x 32 mm, clear, flat bottom, wide opening, label and scale | pre-screwed with 702026: N 9 PP bonded screw cap, blue, center hole, Silicone beige / PTFE white, 1.3 mm | 100 | 702864 |

Other pre-sealed vial-closure combinations on request.



Screw neck vials and caps N 10



Screw neck vials and caps N 10

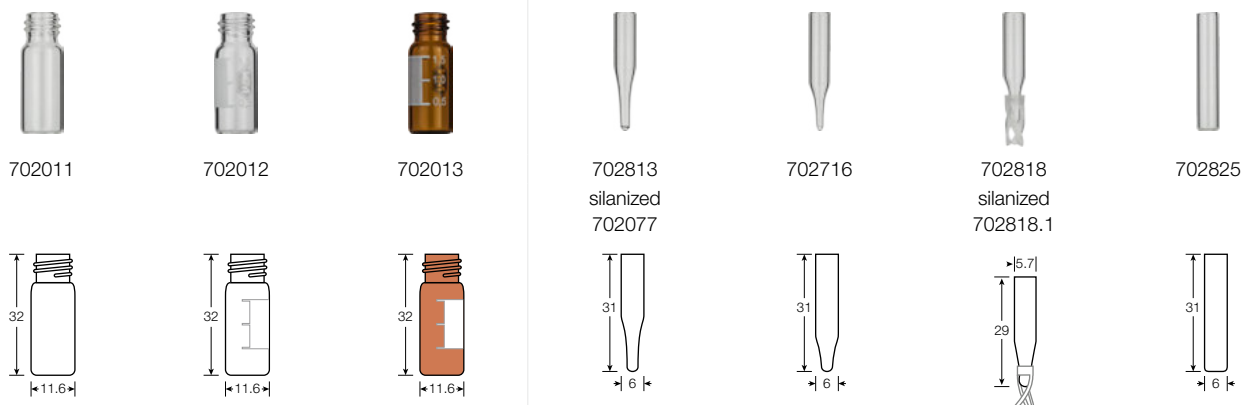


★ Key features

- Wide opening for easy filling
- Due to the cap height not universally suitable for all instruments
- Large range of bonded screw closures for a safe penetration (septa firmly connected with the cap; cannot be removed)
- Often used on Jasco, Shimadzu® and PerkinElmer® instruments
- On request also available as convenient Vial Kits with 100 vials and 100 caps

Ordering information

Screw neck vials N 10, wide opening (10-425 thread), and compatible inserts



| Type of vial | Usable volume | (Illustrations scale 1:2) OD x height | Pack of | REF |
|-----------------------------------------------------------|---------------|------------------------------------------|---------|----------|
| Clear, flat bottom | 1.5 mL | 11.6 x 32 mm | 100 | 702011 |
| Clear, flat bottom, label and scale | 1.5 mL | 11.6 x 32 mm | 100 | 702012 |
| Amber, flat bottom, label and scale | 1.5 mL | 11.6 x 32 mm | 100 | 702013 |
| Insert for wide opening vials, clear, conical, 15 mm tip | 0.2 mL | 6 x 31 mm | 100 | 702813 |
| as above, silanized | 0.2 mL | 6 x 31 mm | 100 | 702077 |
| Insert for wide opening vials, clear, conical, 12 mm tip | 0.25 mL | 6 x 31 mm | 100 | 702716 |
| Insert for wide opening vials, clear, with plastic spring | 0.1 mL | 5.7 x 29 mm | 100 | 702818 |
| as above, silanized | 0.1 mL | 5.7 x 29 mm | 100 | 702818.1 |
| Insert for wide opening vials, clear, flat bottom | 0.3 mL | 6 x 31 mm | 100 | 702825 |

Screw closures N 10 and plain screw caps N 10



| Cap description | Septa description | Thickness | Pack of | REF |
|-----------------------------------------------|--------------------------------------|-----------|---------|--------|
| N 10 PP bonded screw cap*, black, center hole | Red Rubber / TEF colorless | 1.0 mm | 100 | 702044 |
| N 10 PP bonded screw cap*, black, center hole | Silicone white / PTFE beige | 1.5 mm | 100 | 702045 |
| N 10 PP bonded screw cap*, black, center hole | Silicone white / PTFE red | 1.0 mm | 100 | 702046 |
| N 10 PP bonded screw cap*, black, center hole | Silicone white / PTFE blue, slit | 1.5 mm | 100 | 702047 |
| N 10 PP screw cap, black, center hole | PTFE red / Silicone white / PTFE red | 1.0 mm | 100 | 702048 |
| N 10 PP screw cap, black, center hole | no liner | - | 100 | 702049 |

* Septum firmly connected with the cap, cannot be removed.



Crimp neck vials and caps N 11

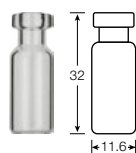


★ Key features

- Broad variety of standard crimp neck vials (with small or wide opening), as well as crimp neck micro-vials for smaller sample volumes
- Economic closures: Natural rubber / TEF (2 layers), Natural rubber / Butyl / TEF (3 layers) and Red Rubber / FEP (2 layers)
- For more demanding analyses: analytically pure Silicone / PTFE septa with lower fragmentation
- Magnetic closure: REF 702879 for use on CTC GC PAL
- Manual and electronic crimping tools for vials N 11 can be found on pages 113 and 134–135

Ordering information

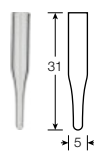
Crimp neck vials N 11, small opening, and compatible inserts



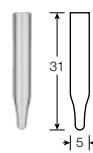
70201CG



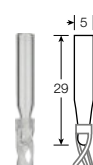
70214CG



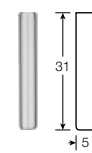
702968



702968.1



702824



702005

| Type of vial | Usable volume | (Illustrations scale 1:2) OD x height | Pack of | REF |
|------------------------------------------------------------|---------------|------------------------------------------|---------|-----------|
| Clear, flat bottom, small opening | 1.5 mL | 11.6 x 32 mm | 100 | 70201CG |
| Amber, flat bottom, small opening | 1.5 mL | 11.6 x 32 mm | 100 | 70214CG |
| Insert for small opening vials, clear, conical, 15 mm tip | 0.1 mL | 5 x 31 mm | 100 | 702968* |
| Insert for small opening vials, clear, conical, 9 mm tip | 0.15 mL | 5 x 31 mm | 100 | 702968.1* |
| Insert for small opening vials, clear, with plastic spring | 0.1 mL | 5 x 29 mm | 100 | 702824 |
| Insert for small opening vials, clear, flat bottom | 0.25 mL | 5 x 31 mm | 100 | 702005 |

* Optionally you may use metal springs 702974.1 in combination with these products to push them up in the vial.



MACHEREY-NAGEL CHROMABOND® QuEChERS

The “Quick Easy Cheap Effective Rugged Safe” method

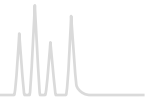
- High throughput, because of an easy handling and time-saving procedure
- Useful for sample preparation of many pesticides (“multi method”)
- Broad range of applications for different food
- Low solvent amounts
- High reproducibility and recovery rates
- No need for chlorinated solvents



More information from page 57 onwards as well as online at www.mn-net.com/quechers



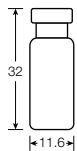
Crimp neck vials and caps N 11



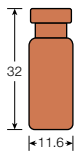
Crimp neck vials N 11, wide opening, and compatible inserts



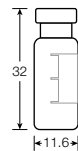
70201HP



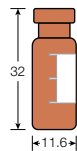
70201HP.2



702885
silanized
702075



702892
silanized
702076



702813
silanized
702077



702716



702818
silanized
702818.1



702825



| Type of vial | Usable volume | (Illustrations scale 1:2) OD x height | Pack of | REF |
|-----------------------------------------------------------|---------------|------------------------------------------|---------|-----------|
| Clear, flat bottom, wide opening | 1.5 mL | 11.6 x 32 mm | 100 | 70201HP |
| Amber, flat bottom, wide opening | 1.5 mL | 11.6 x 32 mm | 100 | 70201HP.2 |
| Clear, flat bottom, wide opening, label and scale | 1.5 mL | 11.6 x 32 mm | 100 | 702885 |
| as above, silanized | 1.5 mL | 11.6 x 32 mm | 100 | 702075 |
| Amber, flat bottom, wide opening, label and scale | 1.5 mL | 11.6 x 32 mm | 100 | 702892 |
| as above, silanized | 1.5 mL | 11.6 x 32 mm | 100 | 702076 |
| Insert for wide opening vials, clear, conical, 15 mm tip | 0.2 mL | 6 x 31 mm | 100 | 702813 |
| as above, silanized | 0.2 mL | 6 x 31 mm | 100 | 702077 |
| Insert for wide opening vials, clear, conical, 12 mm tip | 0.25 mL | 6 x 31 mm | 100 | 702716 |
| Insert for wide opening vials, clear, with plastic spring | 0.1 mL | 5.7 x 29 mm | 100 | 702818 |
| as above, silanized | 0.1 mL | 5.7 x 29 mm | 100 | 702818.1 |
| Insert for wide opening vials, clear, flat bottom | 0.3 mL | 6 x 31 mm | 100 | 702825 |



Optimal crimping

For an optimal crimp result the crimping tool needs to be adjusted to:

- Type and height of the vial's crimp neck
- Thickness and hardness of the septa
- Properties of the cap (type, material)

For doing so, please refer to the instruction manual of the individual tool.

Permanent control of the crimp result and thus of the crimping tool settings is necessary.

Incorrect crimping can be recognized by the following features:



Cap deformation



Pulled up edge of the center hole



Strong formation of wrinkles



Convex looking liner



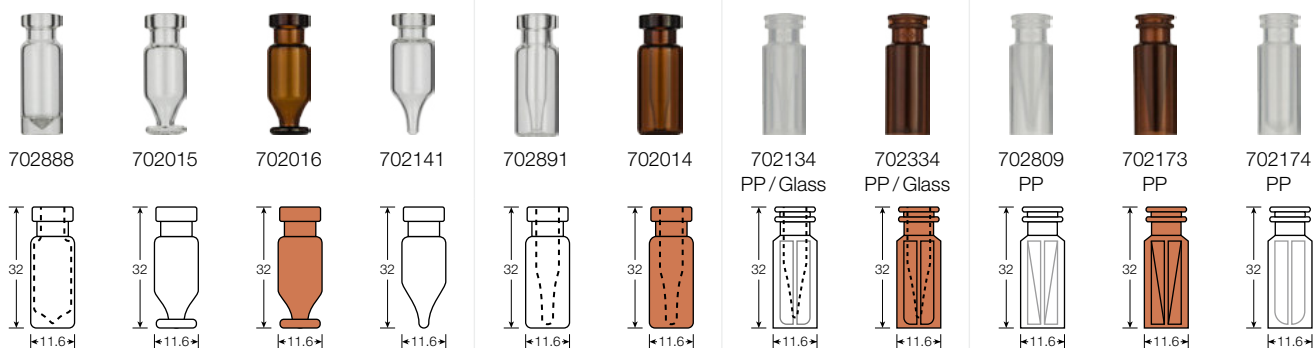
Cap can be turned with only low expenditure of power

Crimp neck vials and caps N 11



Ordering information

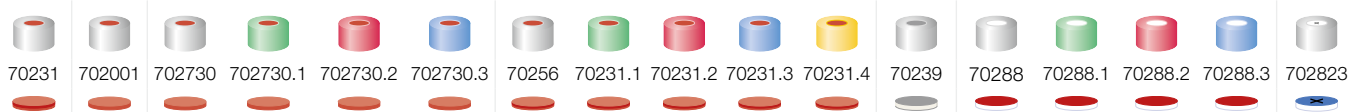
Crimp neck micro-vials N 11



| Type of vial | Usable volume | OD x height | Pack of | REF |
|-----------------------------------------------------------------------------------------|---------------|--------------|---------|---------|
| Micro-vial, clear, flat bottom 15 µL funnel in solid glass bottom | 1.1 mL | 11.6 x 32 mm | 100 | 702888 |
| Micro-vial, clear, conical, with round pedestal glass plate | 1.1 mL | 11.6 x 32 mm | 100 | 702015 |
| Micro-vial, amber, conical, with round pedestal glass plate | 1.1 mL | 11.6 x 32 mm | 100 | 702016 |
| Micro-vial, clear, conical | 1.1 mL | 11.6 x 32 mm | 100 | 702141 |
| Micro-vial, clear, with integrated 0.2 mL insert | 0.2 mL | 11.6 x 32 mm | 100 | 702891 |
| Micro-vial, amber, with integrated 0.2 mL insert | 0.2 mL | 11.6 x 32 mm | 100 | 702014 |
| Micro-vial, polypropylene, transparent, with integrated 0.2 mL glass insert, conical | 0.2 mL | 11.6 x 32 mm | 100 | 702134* |
| Micro-vial, polypropylene, amber, with integrated 0.2 mL glass insert, conical | 0.2 mL | 11.6 x 32 mm | 100 | 702334* |
| Micro-vial, polypropylene, transparent, with inner cone | 0.3 mL | 11.6 x 32 mm | 100 | 702809 |
| Micro-vial, polypropylene, amber, with inner cone | 0.3 mL | 11.6 x 32 mm | 100 | 702173 |
| Micro-vial, polypropylene, transparent, with round bottom insert | 0.7 mL | 11.6 x 32 mm | 100 | 702174 |

* upon request also available with an integrated silanized glass insert

Ready assembled aluminium crimp closures N 11



| Cap description | Septa description | Thickness | Pack of | REF |
|-----------------------------------------------|---------------------------------------------------|-----------|---------|----------|
| N 11 aluminium crimp cap, silver, center hole | Natural rubber / Butyl red-orange / TEF colorless | 1.3 mm | 100 | 70231 |
| N 11 aluminium crimp cap, silver, center hole | Natural rubber red-orange / TEF colorless | 1.0 mm | 100 | 702001 |
| N 11 aluminium crimp cap, silver, center hole | Red Rubber / FEP colorless | 1.0 mm | 100 | 702730 |
| N 11 aluminium crimp cap, green, center hole | as above | 1.0 mm | 100 | 702730.1 |
| N 11 aluminium crimp cap, red, center hole | as above | 1.0 mm | 100 | 702730.2 |
| N 11 aluminium crimp cap, blue, center hole | as above | 1.0 mm | 100 | 702730.3 |
| N 11 aluminium crimp cap, silver, center hole | Natural rubber / Butyl red-orange / TEF colorless | 1.0 mm | 100 | 70256 |
| N 11 aluminium crimp cap, green, center hole | as above | 1.0 mm | 100 | 70231.1 |
| N 11 aluminium crimp cap, red, center hole | as above | 1.0 mm | 100 | 70231.2 |
| N 11 aluminium crimp cap, blue, center hole | as above | 1.0 mm | 100 | 70231.3 |
| N 11 aluminium crimp cap, gold, center hole | as above | 1.0 mm | 100 | 70231.4 |
| N 11 aluminium crimp cap, silver, center hole | PTFE gray / Butyl beige / PTFE gray | 1.3 mm | 100 | 70239 |
| N 11 aluminium crimp cap, silver, center hole | Silicone white / PTFE red | 1.3 mm | 100 | 70288 |
| N 11 aluminium crimp cap, green, center hole | as above | 1.3 mm | 100 | 70288.1 |
| N 11 aluminium crimp cap, red, center hole | as above | 1.3 mm | 100 | 70288.2 |
| N 11 aluminium crimp cap, blue, center hole | as above | 1.3 mm | 100 | 70288.3 |
| N 11 aluminium crimp cap, silver, center hole | Silicone white / PTFE blue, cross-slit | 1.5 mm | 100 | 702823* |

N 11 PE cap, transparent, closed top, with thin piercing area



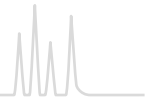
100

702401

* upon request also available with a green, red or a blue crimp cap



Crimp neck vials and caps N 11



Ordering information

Ready assembled crimp closures N 11



| Cap description | Septa description | Thickness | Pack of | REF |
|------------------------------------------------------------|------------------------------------------------------|-----------|---------|----------|
| N 11 aluminium crimp cap, silver, center hole | PTFE red / Silicone white / PTFE red | 1.0 mm | 100 | 702995 |
| N 11 aluminium crimp cap, green, center hole | as above | 1.0 mm | 100 | 702995.1 |
| N 11 aluminium crimp cap, red, center hole | as above | 1.0 mm | 100 | 702995.2 |
| N 11 aluminium crimp cap, blue, center hole | as above | 1.0 mm | 100 | 702995.3 |
| N 11 aluminium crimp cap, silver, center hole | Viton black | 1.0 mm | 100 | 702146 |
| N 11 magnetic crimp cap, gold, center hole | Silicone white / PTFE red | 1.0 mm | 100 | 702879 |
| N 11 aluminium crimp cap, silver, center hole | PTFE virginal, white | 0.25 mm | 100 | 70284 |
| N 11 aluminium crimp cap, silver, roll groove, center hole | O-ring + aluminium septa, TPF (Total Phthalate Free) | 0.1 mm | 100 | 702175 |
| N 11 aluminium crimp cap, silver, center hole | no liner | - | 100 | 702801 |

N 11 Septa for crimp caps N 11

| Material | Illustration | Thickness | Pack of | REF |
|----------------------------|--------------|-----------|---------|--------|
| PTFE virginal, white | | 0.25 mm | 100 | 70262 |
| Red Rubber / FEP colorless | | 1.0 mm | 100 | 702065 |

Vial Kits crimp neck N 11

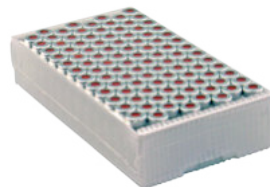
Packs of 100 vials and 100 closures, each

| | Closure → | | | |
|-----------------------------------------------------------|-----------|--------|--------|--------|
| | | | | |
| Vial ↓ | 70288 | 702995 | 70256 | 702001 |
| 70201HP: 1.5 mL, clear, flat bottom | 702215 | 702218 | 702222 | |
| 702885: 1.5 mL, clear, flat bottom, label and scale | 702216 | 702219 | 702223 | 702253 |
| 702892: 1.5 mL, amber, flat bottom, label and scale | 702217 | 702221 | 702224 | 702254 |

Other Vial Kits on request.



Vial Kit with crimp neck vials and closures N 11



Pre-sealed vial-closure combination



Ordering information

Pre-sealed vial-closure combinations with crimp neck N 11

| Vial description | Closure description | Pack of | REF |
|--------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|---------|----------|
| Pre-sealed vials 70201CG: 1.5 mL crimp neck vial N 11, 11.6 x 32 mm, clear, flat bottom, small opening | crimped with 70256: N 11 aluminium crimp cap, silver, center hole, Natural rubber / Butyl red-orange / TEF colorless, 1.0 mm | 100 | 702881 |
| Pre-sealed vials 70201HP: 1.5 mL crimp neck vial N 11, 11.6 x 32 mm, clear, flat bottom, wide opening | crimped with 70256: N 11 aluminium crimp cap, silver, center hole, Natural rubber / Butyl red-orange / TEF colorless, 1.0 mm | 100 | 702101HP |
| Pre-sealed vials 702892: 1.5 mL crimp neck vial N 11, 11.6 x 32 mm, amber, flat bottom, wide opening, label and scale | crimped with 70256: N 11 aluminium crimp cap, silver, center hole, Natural rubber / Butyl red-orange / TEF colorless, 1.0 mm | 100 | 702859 |
| Pre-sealed vials 70201HP: 1.5 mL crimp neck vial N 11, 11.6 x 32 mm, clear, flat bottom, wide opening | crimped with 702995: N 11 aluminium crimp cap, silver, center hole, PTFE red / Silicone white / PTFE red, 1.0 mm | 100 | 702867 |

Other pre-sealed vial-closure combinations on request.

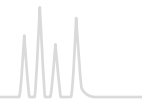
Ordering information

Crimping tools N 11

| Description | | Pack of | REF |
|---------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------|-----------|
| Manual crimper (standard), height adjustable, for 11 mm aluminium crimp caps |  | 1 | 735111 |
| Manual decapper (standard) for 11 mm aluminium crimp caps |  | 1 | 735911 |
| Manual decapper (plier style) for 11 mm and 20 mm aluminium crimp caps |  | 1 | 735911.20 |
| Manual ergonomic crimper for 11 mm aluminium crimp caps |  | 1 | 735211 |
| Manual ergonomic decapper for 11 mm aluminium crimp caps |  | 1 | 735311 |
| Electronic crimper for 11 mm aluminium crimp caps (battery-powered) |  | 1 | 735511 |
| Electronic decapper for 11 mm aluminium crimp caps (battery-powered) |  | 1 | 735611 |
| Electronic high power crimping tool with power supply | | 1 | 735700 |
| Crimping head for 11 mm crimp caps (aluminium, magnetic) | | 1 | 735711 |
| Decapping head for 11 mm crimp caps (aluminium, magnetic) | | 1 | 735811 |
| Stand for electronic crimping tools | | 1 | 735501 |
| Replacement battery 6.6 V, 8.6 Wh for 735511, 735611 | | 1 | 735500 |



Snap ring vials and caps N 11



Snap ring vials and caps N 11

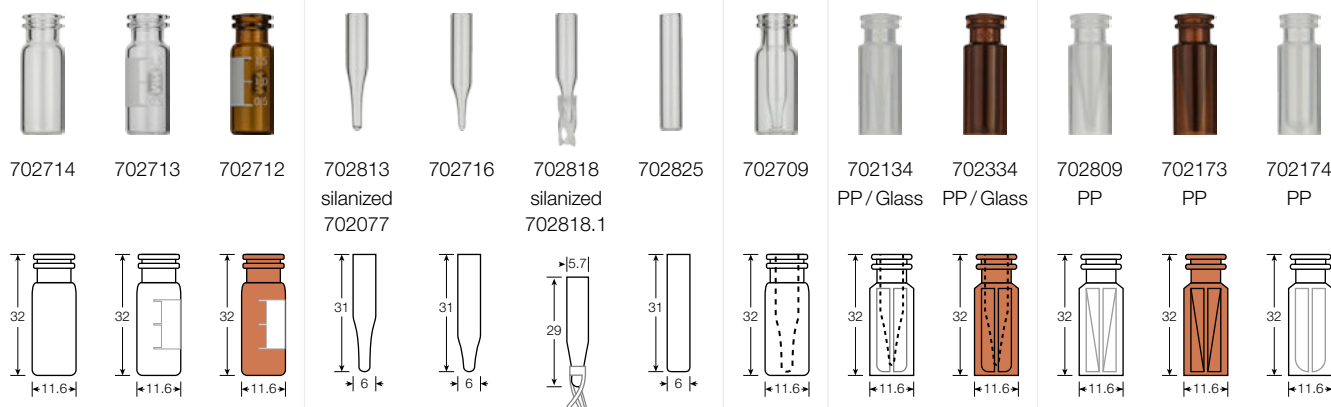
★ Key features

- Quick, convenient sealing method which, however, should only be used in HPLC
- Can be used on all common HPLC autosamplers
- Alternatively crimp closures N 11 can be used (see preceding pages).
- 0.3 and 0.7 mL PP snap ring vials for special applications, e.g., for ion chromatography
- Most common closure: with cross-slit Silicone / PTFE septum, which supports easy penetration with the relatively thick, blunt HPLC needle
- Besides hard caps in transparent and blue also more easy to handle soft caps in light blue are available



Ordering information

Snap ring vials N 11, wide opening, and compatible inserts



| Type of vial | Usable volume | (Illustrations scale 1:2) OD x height | Pack of | REF |
|--------------------------------------------------------------------------------------|---------------|------------------------------------------|---------|----------|
| Clear, flat bottom | 1.5 mL | 11.6 x 32 mm | 100 | 702714 |
| Clear, flat bottom, label and scale | 1.5 mL | 11.6 x 32 mm | 100 | 702713 |
| Amber, flat bottom, label and scale | 1.5 mL | 11.6 x 32 mm | 100 | 702712 |
| Insert for wide opening vials, clear, conical, 15 mm tip | 0.2 mL | 6 x 31 mm | 100 | 702813 |
| as above, silanized | 0.2 mL | 6 x 31 mm | 100 | 702077 |
| Insert for wide opening vials, clear, conical, 12 mm tip | 0.25 mL | 6 x 31 mm | 100 | 702716 |
| Insert for wide opening vials, clear, with plastic spring | 0.1 mL | 5.7 x 29 mm | 100 | 702818 |
| as above, silanized | 0.1 mL | 5.7 x 29 mm | 100 | 702818.1 |
| Insert for wide opening vials, clear, flat bottom | 0.3 mL | 6 x 31 mm | 100 | 702825 |
| Micro-vial, clear, with integrated 0.2 mL insert | 0.2 mL | 11.6 x 32 mm | 100 | 702709 |
| Micro-vial, polypropylene, transparent, with integrated 0.2 mL glass-insert, conical | 0.2 mL | 11.6 x 32 mm | 100 | 702134* |
| Micro-vial, polypropylene, amber, with integrated 0.2 mL glass-insert, conical | 0.2 mL | 11.6 x 32 mm | 100 | 702334* |
| Micro-vial, polypropylene, transparent, with inner cone | 0.3 mL | 11.6 x 32 mm | 100 | 702809 |
| Micro-vial, polypropylene, amber, with inner cone | 0.3 mL | 11.6 x 32 mm | 100 | 702173 |
| Micro-vial, polypropylene, transparent, with round bottom insert | 0.7 mL | 11.6 x 32 mm | 100 | 702174 |

* upon request also available with an integrated silanized glass insert

Snap ring vials and caps N 11



Pre-assembled vial-insert combinations with snap ring N 11

| Vial description | Insert description | Pack of | REF |
|-------------------------------------------------------------|-----------------------------------------------------------------------|---------|--------|
| Vial 702714: 1.5 mL, clear, flat bottom | with pre-assembled micro-insert 702813: 0.2 mL, conical, 15 mm tip | 100 | 702170 |
| Vial 702713: 1.5 mL, clear, flat bottom, label and scale | with pre-assembled micro-insert 702813: 0.2 mL, conical, 15 mm tip | 100 | 702176 |

Further pre-assembled vial-insert combinations on request.

Ordering information

Ready assembled snap ring closures N 11

| Cap description | Septa description | Thickness | Pack of | REF |
|---------------------------------------------------------------|----------------------------------------|-----------|---------|-------------|
| Hard caps, blue or transparent | | | | |
| N 11 PE snap ring cap, transparent, center hole | Red Rubber / FEP colorless | 1.0 mm | 100 | 702731 |
| N 11 PE snap ring cap, blue, center hole | Red Rubber / FEP colorless | 1.0 mm | 100 | 702063 |
| N 11 PE snap ring cap, transparent, center hole | Silicone white / PTFE red | 1.0 mm | 100 | 702710 |
| N 11 PE snap ring cap, blue, center hole | Silicone white / PTFE red | 1.0 mm | 100 | 702710.1 |
| N 11 PE snap ring cap, transparent, center hole | Silicone white / PTFE blue, cross-slit | 1.0 mm | 100 | 702064 |
| N 11 PE snap ring cap, blue, center hole | Silicone white / PTFE blue, cross-slit | 1.0 mm | 100 | 702717.2 |
| N 11 PE snap ring cap, transparent, center hole | PTFE red / Silicone white / PTFE red | 1.0 mm | 100 | 702718 |
| N 11 PE snap ring cap, blue, center hole | PTFE red / Silicone white / PTFE red | 1.0 mm | 100 | 702718.1 |
| Soft caps, light blue | | | | |
| N 11 PE snap ring cap, soft, light blue, center hole | Red Rubber / FEP colorless | 1.0 mm | 100 | 702063.2080 |
| N 11 PE snap ring cap, soft, light blue, center hole | Silicone white / PTFE red | 1.0 mm | 100 | 702710.2080 |
| N 11 PE snap ring cap, soft, light blue, center hole | Silicone white / PTFE blue, cross-slit | 1.0 mm | 100 | 702717.2080 |
| N 11 PE snap ring cap, soft, light blue, center hole | PTFE red / Silicone white / PTFE red | 1.0 mm | 100 | 702718.2080 |
| N 11 PE cap, transparent, closed top, with thin piercing area | | | 100 | 702401 |

Vial Kits snap ring N 11

Packs of 100 vials and 100 closures, each

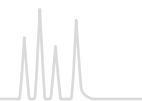
| Vial ↓ | Closure → | | | |
|-----------------------------------------------------------|-----------|--------|--------|--------|
| | 702710 | 702064 | 702731 | 702718 |
| 702714: 1.5 mL, clear, flat bottom | 702225 | 702228 | 702232 | 702235 |
| 702713: 1.5 mL, clear, flat bottom, label and scale | 702719 | 702229 | 702233 | 702236 |
| 702712: 1.5 mL, amber, flat bottom, label and scale | 702227 | 702231 | 702234 | 702237 |

Other Vial Kits on request.





Snap ring vials and caps N 11



Ordering information

Vial rack for screw neck vials N 8, N 9, N 10 and crimp neck as well as snap ring vials N 11

| Description | Pack of | REF |
|-----------------------------------------------------------------------------------------------------------------------------------|---------|--------|
| 50 position polypropylene vial rack blue, for all vials 11.6 x 32 mm with flat bottom Dimensions: 190 x 100 x 22 mm, stackable | 1 | 702502 |



Ordering information

Container for screw neck vials N 8, N 9, N 10 and crimp neck as well as snap ring vials N 11

| Description | Pack of | REF |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|--------|
| 81 position container blue, with firmly integrated divider for vials 11.6 x 32 mm, outer length 130 mm, outer width 130 mm, outer height 45 mm, coded, with transparent lid (suitable for freezers) | 1 | 702514 |



Storage of samples in the fridge or in the freezer

Useful tips for sample handling

Generally sample vials should be stored in a vial container when being placed in the fridge or in the freezer, in order to avoid any condensations on the cap/septa surface that may go along with contaminations in the penetration area of the septa in the center hole. When filling the vial you have to consider the expansion rate of your sample to prevent breakage of the vial. Furthermore it is important to defreeze the sample at a later point in time very slowly (no sudden defreezing with hot water for example). With screw closures you may have to check, if restoring forces have been activated during the defreezing process and if you may have to tighten the screw closure. The choice of the correct closure (septum) depends on the storage temperature.





Special vials for special applications

Silanized glass vials / Plastic vials / Plastic vials with glass insert

- Silanized glass vials

Silanized glass vials have a deactivated inner glass surface, in order to reduce adsorption of polar substances. Therefore they are often used for the analysis of proteins, phenols and amino acids, which would – without any silanization of the glass surface – react with the OH-groups of the glass and thus would stick to the normally polar glass surface. It is also recommendable to use silanized vials respectively inserts for pH-sensitive and aqueous samples.

- Plastic vials

For some applications glass vials are not suitable due their composition and their chemical properties. Amongst these are heavy metal analysis, water and protein analysis, atomic absorption, capillary electrophoresis (CE) and ion chromatography (IC). For all these cases high purity polypropylene vials with 0.3 mL, 0.7 mL and 1.5 ml in transparent and amber are available.

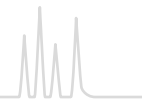
- Plastic vials with glass insert

In comparison to the glass-in-glass products, glass-in-plastic systems are very robust, as the glass insert is well protected by the polypropylene outer shell. The tip of the micro-insert is centered by 100 per cent in an outlet at the bottom. The inserts sit firmly in the protective PP round bottom shell and thus can easily be filled. Another advantage of these systems is their excellent tightness, as the glass insert always constantly exceeds the rim of the plastic outer vial by 0.1 mm granting a firm sealing of the sample in the insert. Upon request also a silanized insert can be integrated into the plastic shell. The high transparent polypropylene enables a good view on the filling level.





Crimp neck vials and caps N 13



Crimp neck vials and caps N 13



★ Key features

- Usage of these vials and closures is more in the packaging area
- Height adjustable crimpers for aluminium crimp caps as well as for Flip Top / Flip Off crimp caps
- Butyl/PTFE septa with only central PTFE lamination, typically called Pharma-Fix septa, stand out due to their excellent sealing on the glass rims.

Ordering information

Crimp neck vials N 13



70203

| Type of vial | Usable volume | (Illustrations scale 1:2) OD x height | Pack of | REF |
|--------------------|---------------|------------------------------------------|---------|-------|
| Clear, flat bottom | 2 mL | 13.75 x 35 mm | 100 | 70203 |

Ready assembled crimp closures N 13 and plain crimp caps N 13



70257



70232



702802



702803

| Cap description | Septa description | Thickness | Pack of | REF |
|-----------------------------------------------|------------------------------|-----------|---------|--------|
| N 13 aluminium crimp cap, silver, center hole | Butyl dark gray / PTFE gray* | 2 mm | 100 | 70257 |
| N 13 aluminium center tear off cap, gold | Butyl dark gray / PTFE gray* | 2 mm | 100 | 70232 |
| N 13 aluminium crimp cap, silver, center hole | no liner | – | 100 | 702802 |
| N 13 aluminium center tear off cap, gold | no liner | – | 100 | 702803 |

* only centrally laminated, typically called Pharma-Fix

Crimping tools N 13

| Description | Pack of | REF |
|----------------------------------------------------------------------------------|---------|--------|
| Manual crimper (standard), height adjustable, for 13 mm aluminium crimp caps | 1 | 735113 |
| Manual crimper (standard), height adjustable, for 13 mm Flip Top / Flip Off caps | 1 | 735133 |
| Manual decapper (standard) for 13 mm aluminium crimp caps | 1 | 735913 |

Container for crimp and screw neck vials N 13

| Description | Pack of | REF |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|--------|
| 49 position container blue, with firmly integrated divider, for crimp and screw neck vials N 13, outer length 130 mm, outer width 130 mm, outer height 50 mm, with transparent lid (suitable for freezers) | 1 | 702515 |

Vial rack for crimp and screw neck vials N 13

| Description | Pack of | REF |
|---------------------------------------------------------------------------------------------------------------------------------------------------|---------|--------|
| 50 position polypropylene vial rack blue, for all vials with a diameter of 15 mm max. and flat bottom Dimensions: 240 x 120 x 28 mm, stackable | 1 | 702504 |



Container for crimp and screw neck vials N 13



Vial rack for crimp and screw neck vials N 13



Screw neck vials and caps N 13

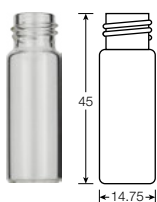


★ Key features

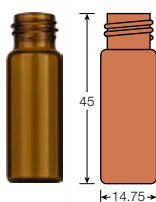
- Generally used for large sample volumes in HPLC
- In combination with closed top screw closures suitable for sample storage (see pages 120–122)
- Compatible insert requires metal spring for central alignment
- Range of ready assembled closures and plain caps with center hole or with closed top as well as separate septa (PTFE virginal, Red Rubber / FEP and Silicone / PTFE) are available.

Ordering information

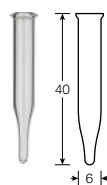
Screw neck vials N 13 (13-425 thread) and compatible insert



702962



702973



702972



702974

| Type of vial | Usable volume | OD x height | Pack of | REF |
|-----------------------------------------------|---------------|---------------|---------|--------|
| Clear, flat bottom | 4 mL | 14.75 x 45 mm | 100 | 702962 |
| Amber, flat bottom | 4 mL | 14.75 x 45 mm | 100 | 702973 |
| Insert, clear, conical, metal spring required | 0.3 mL | 6 x 40 mm | 100 | 702972 |
| Metal spring for 702972 | – | – | 100 | 702974 |

(Illustrations scale 1:2)

Ready assembled screw closures and plain screw caps N 13



702103



702050



702051



702926



702052



702963

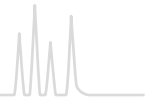


702966

| Cap description | Septa description | Thickness | Pack of | REF |
|--------------------------------------------|----------------------------------------|-----------|---------|--------|
| N 13 screw cap (13-425), green, closed top | F217 white / PTFE beige (firmly fixed) | 1.5 mm | 100 | 702103 |
| N 13 PP screw cap, black, center hole | Red Rubber / FEP colorless | 1.5 mm | 100 | 702050 |
| as above, but with closed top | Red Rubber / FEP colorless | 1.5 mm | 100 | 702051 |
| N 13 PP screw cap, black, center hole | Silicone white / PTFE red | 1.3 mm | 100 | 702926 |
| as above, but with closed top | Silicone white / PTFE red | 1.3 mm | 100 | 702052 |
| N 13 PP screw cap, black, center hole | no liner | – | 100 | 702963 |
| as above, but with closed top | no liner | – | 100 | 702966 |

N 12 septa for screw caps N 13

| Material | Illustration | Thickness | Pack of | REF |
|----------------------------|--------------|-----------|---------|--------|
| PTFE virginal, white | | 0.25 mm | 100 | 70260 |
| Red Rubber / FEP colorless | | 1.5 mm | 100 | 702053 |
| Silicone white / PTFE red | | 1.3 mm | 100 | 702292 |



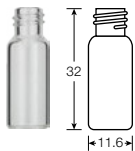
Screw neck vials for storage of liquid samples



★ Key features

- Usable volumes of 1.5 up to 24 mL
- Available neck sizes N 8, N 9, N 13, N 15, N 18 and N 20
- Corresponding closed top screw closures with different septa materials

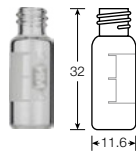
Ordering information



70213



70213.2



702004



702893



702068



702066

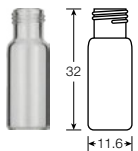
Screw neck vials N 8, small opening (8-425 thread)

| Type of vial | Usable volume | (Illustrations scale 1:2) OD x height | Pack of | REF |
|-------------------------------------|---------------|------------------------------------------|---------|---------|
| Clear, flat bottom | 1.5 mL | 11.6 x 32 mm | 100 | 70213 |
| Amber, flat bottom | 1.5 mL | 11.6 x 32 mm | 100 | 70213.2 |
| Clear, flat bottom, label and scale | 1.5 mL | 11.6 x 32 mm | 100 | 702004 |
| Amber, flat bottom, label and scale | 1.5 mL | 11.6 x 32 mm | 100 | 702893 |

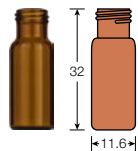
Closed top screw closures N 8

| Cap description | Septa description | Thickness | Pack of | REF |
|-------------------------------------|----------------------------|-----------|---------|--------|
| N 8 PP screw cap, black, closed top | Red Rubber / FEP colorless | 1.3 mm | 100 | 702068 |
| N 8 PP screw cap, black, closed top | Silicone white / PTFE red | 1.3 mm | 100 | 702066 |

Ordering information



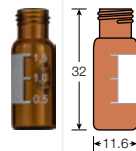
702282



702293



702283



702284



702032



702033



702034

Screw neck vials N 9, wide opening (short thread)

| Type of vial | Usable volume | (Illustrations scale 1:2) OD x height | Pack of | REF |
|-------------------------------------|---------------|------------------------------------------|---------|--------|
| Clear, flat bottom | 1.5 mL | 11.6 x 32 mm | 100 | 702282 |
| Amber, flat bottom | 1.5 mL | 11.6 x 32 mm | 100 | 702293 |
| Clear, flat bottom, label and scale | 1.5 mL | 11.6 x 32 mm | 100 | 702283 |
| as above, silanized | 1.5 mL | 11.6 x 32 mm | 100 | 702078 |
| Amber, flat bottom, label and scale | 1.5 mL | 11.6 x 32 mm | 100 | 702284 |
| as above, silanized | 1.5 mL | 11.6 x 32 mm | 100 | 702079 |

Closed top screw closures N 9

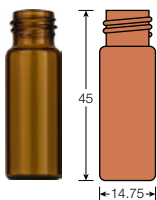
| Cap description | Septa description | Thickness | Pack of | REF |
|-----------------------------------|----------------------------|-----------|---------|--------|
| N 9 PP screw cap blue, closed top | PTFE virginal, white | 0.25 mm | 100 | 702032 |
| N 9 PP screw cap blue, closed top | Red Rubber / FEP colorless | 1.0 mm | 100 | 702033 |
| N 9 PP screw cap blue, closed top | Silicone white / PTFE red | 1.0 mm | 100 | 702034 |



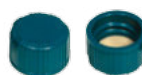
Ordering information



702962



702973



702103



702051



702052

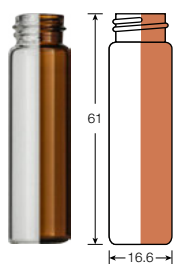
Screw neck vials N 13 (13-425 thread)

| Type of vial | Usable volume | (Illustrations scale 1:2) OD x height | Pack of | REF |
|--------------------|---------------|------------------------------------------|---------|--------|
| Clear, flat bottom | 4 mL | 14.75 x 45 mm | 100 | 702962 |
| Amber, flat bottom | 4 mL | 14.75 x 45 mm | 100 | 702973 |

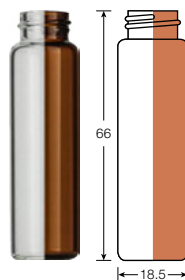
Closed top screw closures N 13

| Cap description | Septa description | Thickness | Pack of | REF |
|--------------------------------------------|----------------------------------------|-----------|---------|--------|
| N 13 screw cap (13-425), green, closed top | F217 white / PTFE beige (firmly fixed) | 1.5 mm | 100 | 702103 |
| N 13 PP screw cap, black, closed top | Red Rubber / FEP colorless | 1.5 mm | 100 | 702051 |
| N 13 PP screw cap, black, closed top | Silicone white / PTFE red | 1.3 mm | 100 | 702052 |

Ordering information



702096 / 702311



70285 / 702097



702104



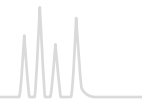
702180

Screw neck vials N 15 (15-425 thread)

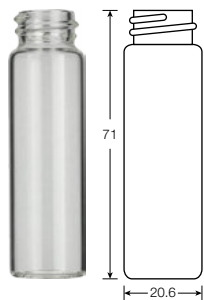
| Type of vial | Usable volume | (Illustrations scale 1:2) OD x height | Pack of | REF |
|----------------------------------------------------------|---------------|------------------------------------------|---------|--------|
| Screw neck vial N 15 (15-425 thread), clear, flat bottom | 8 mL | 16.6 x 61 mm | 100 | 702096 |
| Screw neck vial N 15 (15-425 thread), amber, flat bottom | 8 mL | 16.6 x 61 mm | 100 | 702311 |
| Screw neck vial N 15 (15-425 thread), clear, flat bottom | 12 mL | 18.5 x 66 mm | 100 | 70285 |
| Screw neck vial N 15 (15-425 thread), amber, flat bottom | 12 mL | 18.5 x 66 mm | 100 | 702097 |

Screw closures N 15

| Cap description | Septa description | Thickness | Pack of | REF |
|-------------------------------------------------------|----------------------------------------|-----------|---------|--------|
| N 15 screw cap (15-425), green, closed top | F217 white / PTFE beige (firmly fixed) | 1.5 mm | 100 | 702104 |
| N 15 PP bonded screw cap (15-425), black, center hole | Silicone white / PTFE beige | 1.5 mm | 100 | 702180 |



Ordering information



702098



702105

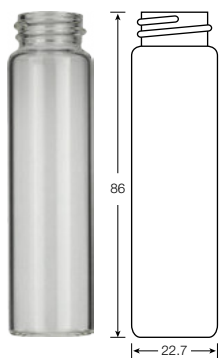
Screw neck vial N 18 (18-400 thread)

| Type of vial | Usable volume | (Illustrations scale 1:2) OD x height | Pack of | REF |
|----------------------------------------------------------|---------------|------------------------------------------|---------|--------|
| Screw neck vial N 18 (18-400 thread), clear, flat bottom | 16 mL | 20.6 x 71 mm | 100 | 702098 |

Screw closures N 18

| Cap description | Septa description | Thickness | Pack of | REF |
|--------------------------------------------|----------------------------------------|-----------|---------|--------|
| N 18 screw cap (18-400), green, closed top | F217 white / PTFE beige (firmly fixed) | 1.5 mm | 100 | 702105 |

Ordering information



702099



702106



702181

Screw neck vials N 20 (20-400 thread)

| Type of vial | Usable volume | (Illustrations scale 1:2) OD x height | Pack of | REF |
|----------------------------------------------------------|---------------|------------------------------------------|---------|--------|
| Screw neck vial N 20 (20-400 thread), clear, flat bottom | 24 mL | 22.7 x 86 mm | 100 | 702099 |

Screw closures N 20

| Cap description | Septa description | Thickness | Pack of | REF |
|-------------------------------------------------------|----------------------------------------|-----------|---------|--------|
| N 20 screw cap (20-400), green, closed top | F217 white / PTFE beige (firmly fixed) | 1.5 mm | 100 | 702106 |
| N 20 PP bonded screw cap (20-400), white, center hole | Silicone white / PTFE beige | 1.5 mm | 100 | 702181 |

For screw neck vials with even larger volumes please see page 131.



Snap cap vials for storage of powdery samples



★ Key features

- Available sizes N 18 and N 22
- Usable volumes from 5 up to 25 mL
- Glass of 3rd hydrolytic class

Ordering information



70271



70272



70274

Snap cap vials N 18

| Type of vial | Usable volume | (Illustrations scale 1:2) OD x height | Pack of | REF |
|--------------------------|---------------|------------------------------------------|---------|-------|
| N 18, clear, flat bottom | 5 mL | 20 x 40 mm | 100 | 70271 |
| N 18, clear, flat bottom | 10 mL | 22 x 50 mm | 100 | 70272 |

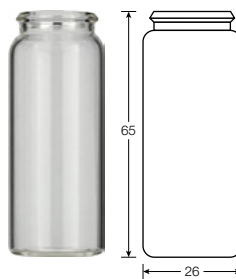
PE snap caps N 18

| Description | Pack of | REF |
|----------------------------------------------------|---------|-------|
| N 18 PE snap cap, transparent, for 70271 and 70272 | 100 | 70274 |

Ordering information



702019



70273



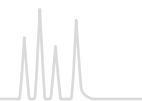
70275

Snap cap vials N 22

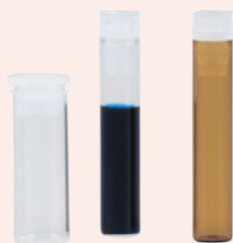
| Type of vial | Usable volume | (Illustrations scale 1:2) OD x height | Pack of | REF |
|--------------------------|---------------|------------------------------------------|---------|--------|
| N 22, clear, flat bottom | 15 mL | 26 x 48 mm | 100 | 702019 |
| N 22, clear, flat bottom | 25 mL | 26 x 65 mm | 100 | 70273 |

PE snap caps N 22

| Description | Pack of | REF |
|-----------------------------------------------------|---------|-------|
| N 22 PE snap cap, transparent, for 702019 and 70273 | 100 | 70275 |



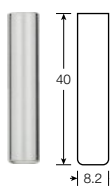
Shell vials N 8 and N 12



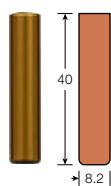
★ Key features

- Economic combination of vials and closures for uncritical HPLC applications
- PE stoppers with a diaphragm for safe penetration of the needle
- Often used on Waters® and Shimadzu® instruments

Ordering information



70202.1



702017



702807

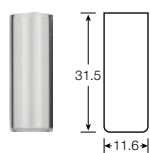
Shell vials N 8 with PE plug

| Type of vial | Usable volume | (Illustrations scale 1:2) OD x height | Pack of | REF |
|-------------------------|---------------|------------------------------------------|---------|---------|
| N 8, clear, flat bottom | 1 mL | 8.2 x 40 mm | 100 | 70202.1 |
| N 8, amber, flat bottom | 1 mL | 8.2 x 40 mm | 100 | 702017 |

PE plug N 8

| Description | Pack of | REF |
|--------------------------------------------------|---------|--------|
| N 8 PE plug, transparent, for 70202.1 and 702017 | 100 | 702807 |

Ordering information



702018



702054

Shell vials N 12 with PE plug

| Type of vial | Usable volume | (Illustrations scale 1:2) OD x height | Pack of | REF |
|--------------------------|---------------|------------------------------------------|---------|--------|
| N 12, clear, flat bottom | 2 mL | 11.6 x 31.5 mm | 100 | 702018 |

PE plug N 12

| Description | Pack of | REF |
|---------------------------------------|---------|--------|
| N 12 PE plug, transparent, for 702018 | 100 | 702054 |



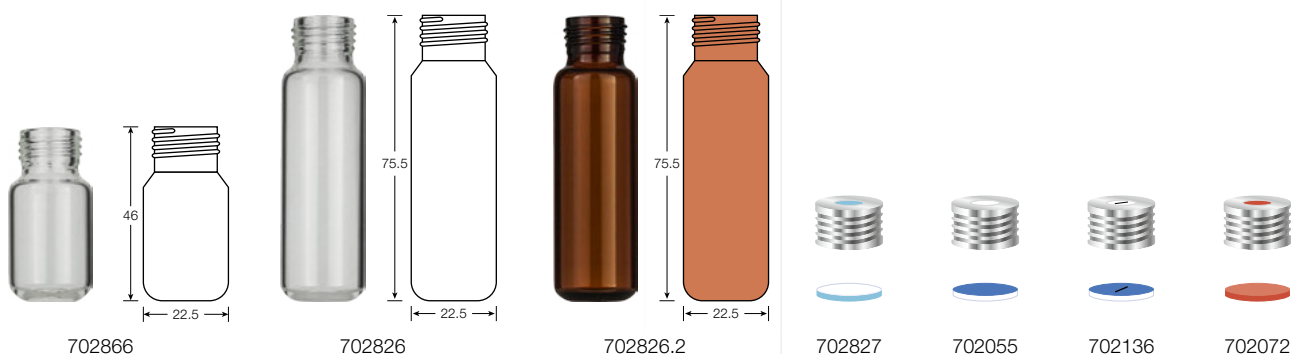
Screw neck vials and magnetic screw caps N 18



★ Key features

- Headspace vials for convenient, safe and consistent handling
- High tightness and better reproducibility of the sealing process (as compared to crimping)
- Thinner septum (1.5 mm instead of 3 mm septum thickness in crimp caps), thus safe penetration of the needle and less fragmentation (especially important for SPME applications)
- Improved run in autosamplers with magnets (CTC Combi PAL and equivalent instruments), since a flat surface for the magnet is ensured, thus avoiding that the filled vial can drop from the magnet

Ordering information



Headspace screw neck vials N 18

| Type of vial | Usable volume | (Illustrations scale 1:2) OD x height | Pack of | REF |
|-----------------------|---------------|------------------------------------------|---------|----------|
| Clear, rounded bottom | 10 mL | 22.5 x 46.0 mm | 100 | 702866 |
| Clear, rounded bottom | 20 mL | 22.5 x 75.5 mm | 100 | 702826 |
| Amber, rounded bottom | 20 mL | 22.5 x 75.5 mm | 100 | 702826.2 |

Ready assembled, magnetic screw closures N 18

| Cap description | Septa description | Thickness | Pack of | REF |
|----------------------------------------------|----------------------------------------|-----------|---------|--------|
| N 18 magnetic screw cap, silver, center hole | Silicone blue transparent / PTFE white | 1.5 mm | 100 | 702827 |
| N 18 magnetic screw cap, silver, center hole | Silicone white / PTFE blue | 1.5 mm | 100 | 702055 |
| N 18 magnetic screw cap, silver, center hole | Silicone white / PTFE blue, slit | 1.5 mm | 100 | 702136 |
| N 18 magnetic screw cap, silver, center hole | Red Rubber / TEF colorless | 1.5 mm | 100 | 702072 |

N 17 septa for magnetic screw caps N 18

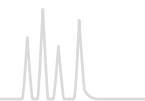
| Material | Illustration | Thickness | Pack of | REF |
|----------------------------------------|--------------|-----------|---------|--------|
| Silicone blue transparent / PTFE white | | 1.5 mm | 100 | 702981 |
| Silicone white / PTFE blue | | 1.5 mm | 100 | 702110 |

Container for screw neck vials N 18 and crimp neck vials N 20

| Description | Pack of | REF |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|--------|
| 25 position container blue, with removable divider, for headspace screw neck vials N 18 and crimp neck vials N 20; outer length 130 mm, outer width 130 mm, outer height 80 mm, with transparent lid (suitable for freezers) | 1 | 702516 |



Crimp neck vials and caps N 20



Crimp neck vials and caps N 20



★ Key features

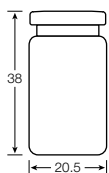
- Large range of Headspace crimp neck vials with different volumes and diameters
- Flat DIN crimp neck with stable bearing surface for the septum (especially suited for high vial pressures) as well as beveled HS crimp neck for instruments of certain manufacturers (PerkinElmer®).
- Assignment to respective instrument manufacturers in parentheses
- Different types of crimp closures depending on instrument and application
- Please consider our various crimping tools on pages 134-135.

Ordering information

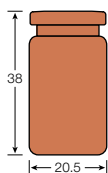
Crimp neck vials N 20 (volume 5–10 mL)



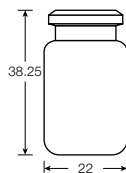
70204.36



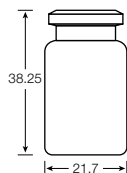
70215.36



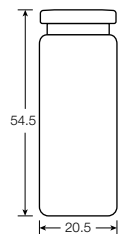
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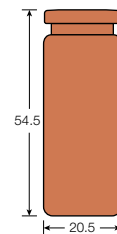
702020



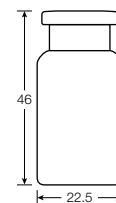
70205.36



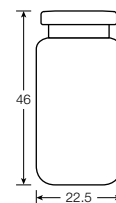
70216.36



702918



702924



| Type of vial | Usable volume | OD x height | Pack of | REF |
|------------------------------------------------------------------------------|---------------|-----------------|---------|----------|
| Clear, flat bottom, flat DIN crimp neck (Varian®) | 5 mL | 20.5 x 38.0 mm | 100 | 70204.36 |
| Amber, flat bottom, flat DIN crimp neck (Varian®) | 5 mL | 20.5 x 38.0 mm | 100 | 70215.36 |
| Clear, rounded bottom, beveled HS crimp neck (PerkinElmer®) | 6 mL | 22.0 x 38.25 mm | 100 | 702917 |
| Clear, flat bottom, beveled HS crimp neck (Metrohm®, Karl-Fischer titration) | 5 mL | 21.7 x 38.25 mm | 100 | 702020 |
| Clear, flat bottom, flat DIN crimp neck (Varian®) | 10 mL | 20.5 x 54.5 mm | 100 | 70205.36 |
| Amber, flat bottom, flat DIN crimp neck (Varian®) | 10 mL | 20.5 x 54.5 mm | 100 | 70216.36 |
| Clear, flat bottom, flat DIN crimp neck (Dani, Agilent®) | 10 mL | 22.5 x 46.0 mm | 100 | 702918 |
| Clear, rounded bottom, flat DIN crimp neck (CTC) | 10 mL | 22.5 x 46.0 mm | 100 | 702924 |

Container for screw neck vials N 18 and crimp neck vials N 20

| Description | Pack of | REF |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|--------|
| 25 position container blue, with removable divider, for headspace screw neck vials N 18 and crimp neck vials N 20; outer length 130 mm, outer width 130 mm, outer height 80 mm, with transparent lid (suitable for freezers) | 1 | 702516 |

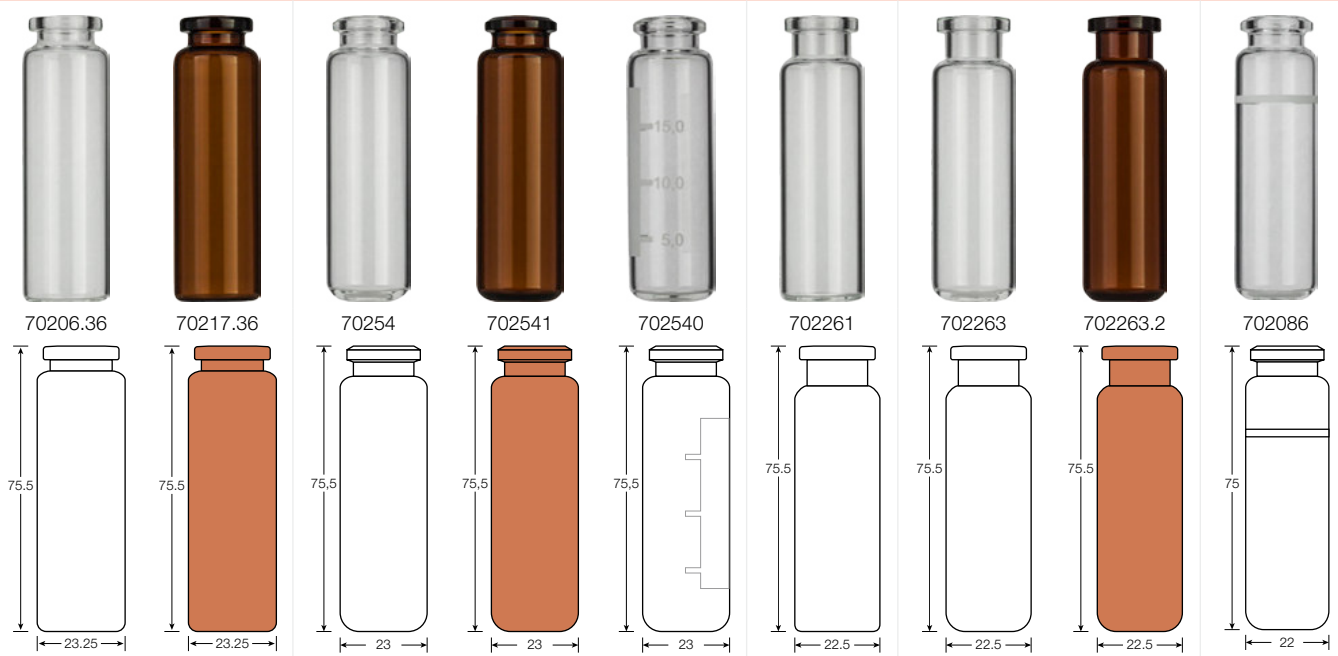


Crimp neck vials and caps N 20



Ordering information

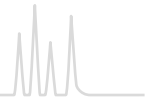
Crimp neck vials N 20 (volume 20 mL)



| (Illustrations scale 1:2) | | | | |
|--------------------------------------------------------------------|---------------|-----------------|---------|----------|
| Type of vial | Usable volume | OD x height | Pack of | REF |
| Clear, flat bottom, flat DIN crimp neck | 20 mL | 23.25 x 75.5 mm | 100 | 70206.36 |
| Amber, flat bottom, flat DIN crimp neck | 20 mL | 23.25 x 75.5 mm | 100 | 70217.36 |
| Clear, rounded bottom, beveled HS crimp neck (PerkinElmer®) | 20 mL | 23.0 x 75.5 mm | 100 | 70254 |
| Amber, rounded bottom, beveled HS crimp neck (PerkinElmer®) | 20 mL | 23.0 x 75.5 mm | 100 | 702541 |
| Clear, rounded bottom, beveled HS crimp neck, label (PerkinElmer®) | 20 mL | 23.0 x 75.5 mm | 100 | 702540 |
| Clear, flat bottom, flat DIN crimp neck (Dani, Agilent®) | 20 mL | 22.5 x 75.5 mm | 100 | 702261 |
| Clear, rounded bottom, flat DIN crimp neck (CTC) | 20 mL | 22.5 x 75.5 mm | 100 | 702263 |
| Amber, rounded bottom, flat DIN crimp neck (CTC) | 20 mL | 22.5 x 75.5 mm | 100 | 702263.2 |
| Clear, rounded bottom, beveled HS crimp neck, graduation at 15 mL | 20 mL | 22.0 x 75.0 mm | 100 | 702086 |

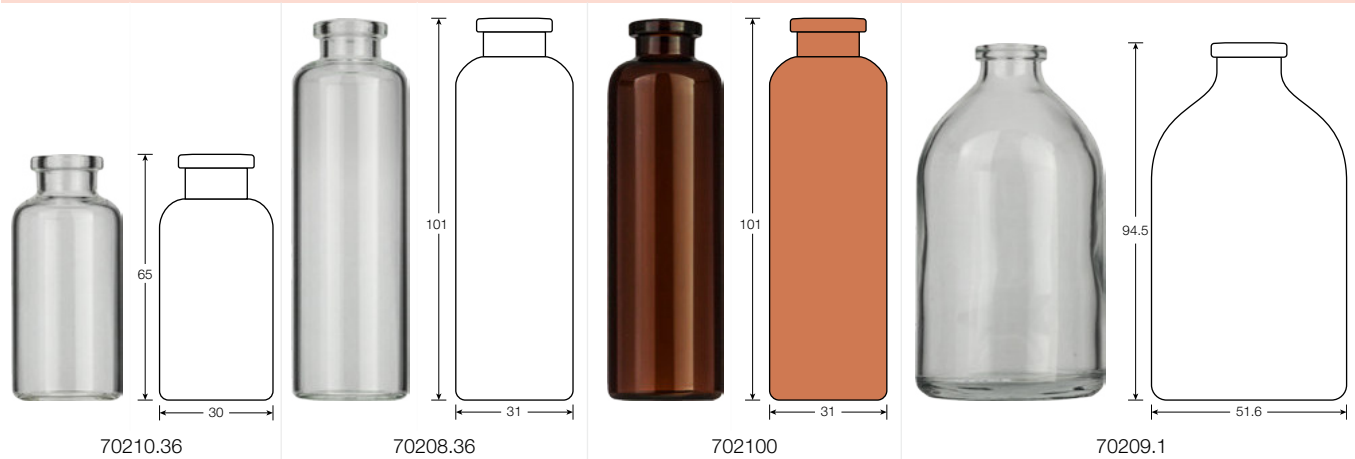


Crimp neck vials and caps N 20



Ordering information

Crimp neck vials N 20 (volume > 20 mL)



(Illustrations scale 1:2)

| Type of vial | Usable volume | OD x height | Pack of | REF |
|----------------------------------------------------------------------------|---------------|----------------|---------|----------|
| Clear, flat bottom, flat DIN crimp neck | 25 mL | 30 x 65 mm | 100 | 70210.36 |
| Clear, flat bottom, flat DIN crimp neck | 50 mL | 31 x 101 mm | 100 | 70208.36 |
| Amber, flat bottom, flat DIN crimp neck | 50 mL | 31 x 101 mm | 100 | 702100 |
| Clear, flat bottom, flat DIN crimp neck (3 rd hydrolytic class) | 100 mL | 51.6 x 94.5 mm | 60 | 70209.1 |

Ordering information

Crimping tools N 20

| Description | | Pack of | REF |
|----------------------------------------------------------------------------------|--|---------|-----------|
| Manual crimper (standard), height adjustable, for 20 mm aluminium crimp caps | | 1 | 735120 |
| Manual crimper (standard), height adjustable, for 20 mm Flip Top / Flip Off caps | | 1 | 735132 |
| Manual decapper (standard) for 20 mm aluminium crimp caps | | 1 | 735920 |
| Manual decapper (plier style, dual) for 11 mm and 20 mm aluminium crimp caps | | 1 | 735911.20 |
| Manual ergonomic crimper for 20 mm aluminium crimp caps | | 1 | 735220 |
| Manual ergonomic decapper for 20 mm aluminium crimp caps | | 1 | 735320 |
| Electronic crimper for 20 mm aluminium crimp caps (battery-powered) | | 1 | 735520 |
| Electronic decapper for 20 mm aluminium crimp caps (battery-powered) | | 1 | 735620 |
| Electronic high power crimping tool with power supply | | 1 | 735700 |
| Crimping head for 20 mm crimp caps (aluminium, magnetic, bi-metal) | | 1 | 735720 |
| Decapping head for 20 mm crimp caps (aluminium, magnetic, bi-metal) | | 1 | 735820 |
| Stand for electronic crimping tools | | 1 | 735501 |
| Replacement battery 6.6 V, 8.6 Wh for 735520, 735620 | | 1 | 735500 |

Crimp neck vials and caps N 20



Ordering information

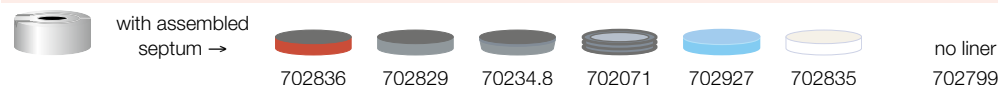
Ready assembled crimp closures N 20

Center hole caps



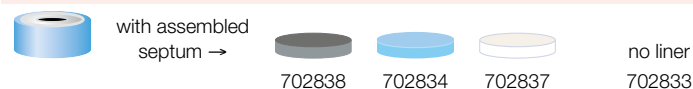
| Cap description | Septa description | Thickness | Pack of | REF |
|-----------------------------------------------|--------------------------------------------------|-----------|----------|----------|
| N 20 aluminium crimp cap, silver, center hole | Butyl red / PTFE gray | 3 mm | 100 | 702773 |
| N 20 aluminium crimp cap, silver, center hole | Butyl light gray / PTFE dark gray | 3 mm | 100 | 702775 |
| N 20 aluminium crimp cap, silver, center hole | Molded septum Butyl / PTFE gray | 3 mm | 100 | 70234.9 |
| N 20 aluminium crimp cap, silver, center hole | Butyl dark gray / PTFE gray* | 3 mm | 100 | 70234 |
| N 20 aluminium crimp cap, silver, center hole | Butyl dark gray / PTFE gray*, high purity | 3 mm | 100 | 70234.10 |
| N 20 aluminium crimp cap, gold, center hole | Butyl dark gray / PTFE gray* | 3 mm | 100 | 702056 |
| N 20 aluminium crimp cap, silver, center hole | Butyl stopper gray, unassembled (separate parts) | – | 100 each | 70237 |
| N 20 aluminium crimp cap, silver, center hole | Silicone blue transp. / PTFE colorless | 3 mm | 100 | 702093 |
| N 20 aluminium crimp cap, silver, center hole | Silicone white / PTFE beige | 3 mm | 100 | 702094 |
| N 20 aluminium crimp cap, silver, center hole | Silicone white / PTFE red (economy line) | 3 mm | 100 | 702091 |
| N 20 aluminium crimp cap, silver, center hole | Silicone white / FEP-/Aluminium foil silver | 3.2 mm | 100 | 702145 |
| N 20 aluminium crimp cap, silver, center hole | no liner | – | 100 | 702804 |
| N 20 aluminium crimp cap, gold, center hole | no liner | – | 100 | 702112 |

Pressure release caps



| Cap description | Septa description | Thickness | Pack of | REF |
|----------------------------------------------------------|----------------------------------------|-----------|---------|---------|
| N 20 aluminium pressure release cap, silver, center hole | Butyl red / PTFE gray | 3 mm | 100 | 702836 |
| N 20 aluminium pressure release cap, silver, center hole | Butyl light gray / PTFE dark gray | 3 mm | 100 | 702829 |
| N 20 aluminium pressure release cap, silver, center hole | Molded septum Butyl / PTFE gray | 3 mm | 100 | 70234.8 |
| N 20 aluminium pressure release cap, silver, center hole | Butyl dark gray / PTFE gray* | 3 mm | 100 | 702071 |
| N 20 aluminium pressure release cap, silver, center hole | Silicone blue transp. / PTFE colorless | 3 mm | 100 | 702927 |
| N 20 aluminium pressure release cap, silver, center hole | Silicone white / PTFE beige | 3 mm | 100 | 702835 |
| N 20 aluminium pressure release cap, silver, center hole | no liner | – | 100 | 702799 |

Bi-metal crimp caps



| Cap description | Septa description | Thickness | Pack of | REF |
|-----------------------------------------------------|----------------------------------------|-----------|---------|--------|
| N 20 Bi-metal crimp cap, blue / silver, center hole | Butyl light gray / PTFE dark gray | 3 mm | 100 | 702838 |
| N 20 Bi-metal crimp cap, blue / silver, center hole | Silicone blue transp. / PTFE colorless | 3 mm | 100 | 702834 |
| N 20 Bi-metal crimp cap, blue / silver, center hole | Silicone white / PTFE beige | 3 mm | 100 | 702837 |
| N 20 Bi-metal crimp cap, blue / silver, center hole | no liner | – | 100 | 702833 |

Magnetic crimp caps

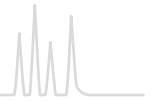


| Cap description | Septa description | Thickness | Pack of | REF |
|---------------------------------------------------|----------------------------------------|-----------|---------|----------|
| N 20 magnetic crimp cap, silver, 8 mm center hole | Butyl red / PTFE gray | 3 mm | 100 | 702774 |
| N 20 magnetic crimp cap, silver, 8 mm center hole | Butyl light gray / PTFE dark gray | 3 mm | 100 | 702928 |
| N 20 magnetic crimp cap, silver, 8 mm center hole | Butyl dark gray / PTFE gray* | 3 mm | 100 | 702928.9 |
| N 20 magnetic crimp cap, silver, 8 mm center hole | Silicone blue transp. / PTFE colorless | 3 mm | 100 | 702929 |
| N 20 magnetic crimp cap, silver, 8 mm center hole | no liner | – | 100 | 702808 |

* only centrally laminated with PTFE, typically called Pharma-Fix








Crimp neck vials and caps N 20








Ordering information

Ready assembled crimp closures N 20








Center tear off caps

|  |  | 70233 |  |  | 70236 |  | no liner | 70236.1 |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------|-------------------------------------------------------------------------------------|----------|---------|
| Cap description | | Septa description | | | Thickness | Pack of | REF | |
| N 20 aluminium center tear off cap, gold | | Butyl dark gray / PTFE gray* | | | 3 mm | 100 | 70233 | |
| N 20 aluminium center tear off cap, silver | | Butyl stopper gray, unassembled (separate parts) | | | – | 100 each | 70236 | |
| N 20 aluminium center tear off cap, silver | | no liner | | | – | 100 | 70236.1 | |

Complete tear off caps



|  |  | 70235 |  |  | 70238 |  | no liner | 702805 |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------|-------------------------------------------------------------------------------------|----------|--------|
| Cap description | | Septa description | | | Thickness | Pack of | REF | |
| N 20 aluminium complete tear off cap, silver | | Butyl dark gray / PTFE gray* | | | 3 mm | 100 | 70235 | |
| N 20 aluminium complete tear off cap, silver | | Butyl stopper gray, unassembled (separate parts) | | | – | 100 each | 70238 | |
| N 20 aluminium complete tear off cap, silver | | no liner | | | – | 100 | 702805 | |

N 20 septa for crimp caps N 20

| Material | Illustration | Thickness | Pack of | REF |
|--------------------------------------------|-------------------------------------------------------------------------------------|-----------|---------|----------|
| Butyl red / PTFE gray |  | 3 mm | 100 | 70277 |
| Butyl light gray / PTFE dark gray |  | 3 mm | 100 | 702057 |
| Molded septum Butyl / PTFE gray |  | 3 mm | 100 | 702101 |
| Butyl dark gray / PTFE gray* |  | 3 mm | 100 | 702D20TB |
| Silicone blue transparent / PTFE colorless |  | 3 mm | 100 | 702780 |
| Silicone white / PTFE beige |  | 3 mm | 100 | 70278 |
| Silicone white / Aluminium foil silver |  | 3 mm | 100 | 70279 |





* only centrally laminated, typically called Pharma-Fix

Stoppers N 20




| Material | Illustration | Pack of | REF |
|----------------|-------------------------------------------------------------------------------------|---------|----------|
| Butyl gray |  | 100 | 702931 |
| Bromobutyl red |  | 100 | 702931.1 |

Ordering information

PE caps N 20

| height 8.4 mm |  | 70266 |  | 702128 | height 9.1 mm |  | 70267 |  | 702129 |
|-----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------|-------------------------------------------------------------------------------------|--------|------------------|--------------------------------------------------------------------------------------|-------|---------------------------------------------------------------------------------------|--------|
| Description | | | | | Pack of | REF | | | |
| N 20 PE cap, transparent, for beveled HS crimp neck N 20, 4.3 mm center hole (no liner) | | | | | 100 | 70266 | | | |
| as above, but with septum Butyl beige / PTFE gray, unassembled, 1.3 mm | | | | | 100 | 70242 | | | |
| as above, but with assembled septum natural rubber red-orange / TEF colorless, 1.3 mm | | | | | 100 | 702128 | | | |
| N 20 PE cap, transparent, for flat DIN crimp neck N 20, 4.3 mm center hole (no liner) | | | | | 100 | 70267 | | | |
| as above, but with septum Butyl beige / PTFE gray, unassembled, 1.3 mm | | | | | 100 | 70240 | | | |
| as above, but with assembled septum natural rubber red-orange / TEF colorless, 1.3 mm | | | | | 100 | 702129 | | | |

N 19 septa for PE caps N 20

| Description | Illustration | Thickness | Pack of | REF |
|-------------------------------------------|-------------------------------------------------------------------------------------|-----------|---------|--------|
| Butyl beige / PTFE gray |  | 1.3 mm | 100 | 70269 |
| Natural rubber red-orange / TEF colorless |  | 1.3 mm | 100 | 702904 |
| Silicone blue transparent / PTFE white |  | 1.3 mm | 100 | 702144 |



Screw neck vials and caps N 24 (EPA)

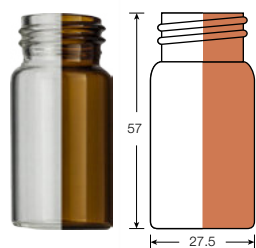


★ Key features

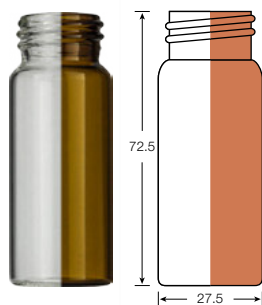
- Recommended for VOC and TOC analyses
- Closed top screw closures for sample storage
- Most frequently used: 40 mL clear glass
- Often called EPA vials, since they are defined in the regulations of the US Environmental Protection Agency
- Due to their size mainly used as bonded closure for a firm fit of the septum
- Recommended for environmental analysis: screw closure with center hole and Silicone / PTFE septum
- Universal screw closure 702168 with removable protection lid for sample storage and analysis

Ordering information

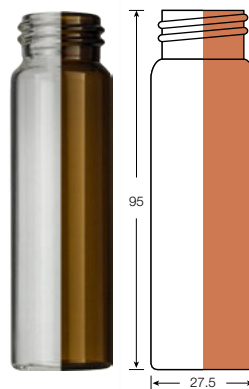
Screw neck vials N 24 (EPA)



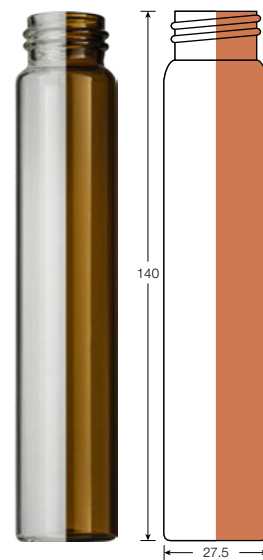
702021 / 702022



702132 / 702133



702023 / 702024



702074 / 702131

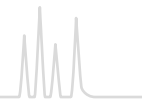
| Type of vial | Usable volume | OD x height | Pack of | REF |
|--------------------|---------------|----------------|---------|--------|
| Clear, flat bottom | 20 mL | 27.5 x 57.0 mm | 100 | 702021 |
| Amber, flat bottom | 20 mL | 27.5 x 57.0 mm | 100 | 702022 |
| Clear, flat bottom | 30 mL | 27.5 x 72.5 mm | 100 | 702132 |
| Amber, flat bottom | 30 mL | 27.5 x 72.5 mm | 100 | 702133 |
| Clear, flat bottom | 40 mL | 27.5 x 95.0 mm | 100 | 702023 |
| Amber, flat bottom | 40 mL | 27.5 x 95.0 mm | 100 | 702024 |
| Clear, flat bottom | 60 mL | 27.5 x 140 mm | 100 | 702074 |
| Amber, flat bottom | 60 mL | 27.5 x 140 mm | 100 | 702131 |

Container for screw neck vials N 24

| Description | Pack of | REF |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|--------|
| 16 position container blue, with removable divider, for screw neck vials N 24 (20 mL, 30 mL, 40 mL); outer length 130 mm, outer width 130 mm, outer height 102 mm, with transparent lid (suitable for freezers) | 1 | 702517 |



Screw neck vials and caps N 24



Ordering information

Screw closures N 24 and plain screw caps N 24

| 702058 | 702059 | 702073 | 702168 | 702130 | 702102 | 702060 | 702061 |
|------------------------------------------------------------------------------|-----------------------------------|-----------|---------|--------|--------|--------|--------|
| Cap description | Septa description | Thickness | Pack of | REF | | | |
| N 24 PP bonded* screw cap, white, center hole | Silicone white / PTFE beige | 3.2 mm | 100 | 702058 | | | |
| as above, but with closed top | Silicone white / PTFE beige | 3.2 mm | 100 | 702059 | | | |
| N 24 PP bonded* screw cap, white, center hole | Red Rubber / TEF colorless | 2.5 mm | 100 | 702073 | | | |
| N 24 PP bonded* screw cap, white, center hole, with removable protection lid | Silicone natural / PTFE colorless | 3.2 mm | 100 | 702168 | | | |
| N 24 PP screw cap, white, center hole | Butyl red / PTFE gray | 2.4 mm | 100 | 702130 | | | |
| as above, but with closed top | Butyl red / PTFE gray | 2.4 mm | 100 | 702102 | | | |
| N 24 PP screw cap, white, center hole | no liner | | 100 | 702060 | | | |
| as above, but with closed top | no liner | | 100 | 702061 | | | |

* septum firmly connected with the cap, cannot be removed

Septa N 22 for screw caps N 24

| Material | Illustration | Thickness | Pack of | REF |
|-----------------------------------|--------------|-----------|---------|--------|
| Silicone natural / PTFE colorless | | 3.2 mm | 100 | 702062 |
| Butyl red / PTFE gray | | 2.4 mm | 100 | 702791 |

Ordering information

Pre-sealed vial-closure combinations with screw neck N 24

| Vial description | Closure description | Pack of | REF |
|------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|---------|--------|
| Pre-sealed vials 702021: 20 mL screw neck vial N 24, 27.5 x 57 mm, clear, flat bottom | pre-screwed with 702073: N 24 PP bonded screw cap, white, center hole, Red rubber / TEF colorless, 45° shore A, 2.5 mm | 100 | 702865 |
| Pre-sealed vials 702023: 40 mL screw neck vial N 24, 27.5 x 95 mm, clear, flat bottom | pre-screwed with 702058: N 24 PP bonded screw cap, white, center hole, Silicone white / PTFE beige, 45° shore A, 3.2 mm | 100 | 702877 |

Other pre-sealed vial-closure combinations on request.



Universal screw closure N 24

All-in-one closure for sample storage and analysis, REF 702168

- Fits on all screw neck vials N 24 (EPA)
- Removable protection lid covers the penetration area and thus keeps the septa dust and contamination free
- Bonded Silicone / PTFE septa for safe penetration (septum is firmly connected to the screw cap)
- Ultrapure, soft Silicone / PTFE septa material prevents ghost peaks in the analysis
- Protection lid can repeatedly be removed and put on again





Containers



★ Key features

- Allow a secure transportation of sample vials
- Safe standing position in dividers designed for the respective diameter
- Ideal for space-saving storage in fridges, since the transparent lid prevents condensations on the closures and thus avoids a possible contamination in the cooling unit
- Available for all 1.5 mL vials (standard volume), for crimp and screw neck vials N 13 and for headspace vials with screw neck N 18 or crimp neck N 20, respectively as well as for EPA screw neck vials N 24

Ordering information

Containers

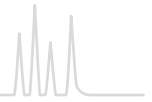
| Description | Pack of | REF |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|--------|
| 81 position container blue, with integrated divider for all vials 11.6 x 32 mm outer length 130 mm, outer width 130 mm, outer height 45 mm, coded, with transparent lid (suitable for freezers) | 1 | 702514 |
| 49 position container blue, with integrated divider for crimp and screw neck vials N 13; outer length 130 mm, outer width 130 mm, outer height 50 mm, with transparent lid (suitable for freezers) | 1 | 702515 |
| 25 position container blue, with removable divider for headspace screw neck vials N 18 and crimp neck vials N 20; outer length 130 mm, outer width 130 mm, outer height 80 mm, with transparent lid (suitable for freezers) | 1 | 702516 |
| 16 position container blue, with removable divider for screw neck vials N 24 (20 mL, 30 mL, 40 mL); outer length 130 mm, outer width 130 mm, outer height 102 mm, with transparent lid (suitable for freezers) | 1 | 702517 |

Ordering information

Vial racks

| Description | Pack of | REF |
|---------------------------------------------------------------------------------------------------------------------------------------------------|---------|--------|
| 50 position polypropylene vial rack blue, for all vials 11.6 x 32 mm with flat bottom Dimensions: 190 x 100 x 22 mm, stackable | 1 | 702502 |
| 50 position polypropylene vial rack blue, for all vials with a diameter of 15 mm max. and flat bottom Dimensions: 240 x 120 x 28 mm, stackable | 1 | 702504 |





Manual crimping tools

Advanced ergonomic version



Crimper available for 8 mm, 11 mm and 20 mm crimp caps

- More lightweighted than complete steel crimpers
- Ergonomically designed handles
- Adjustment by a knob on the crimping head that is easily accessible and visible
- Activated by bottom handle motion only which allows a steadier and safer hold of the tool during crimping
- Due to design and alignment of the crimping head better vertical clearance over the vial

Advanced ergonomic decappers allow safe removal of caps; no adjustment required (for 11 and 20 mm crimp caps available)

Standard version



Crimper available for 8, 11, 13 and 20 mm crimp caps

- Adjustable crimping height via hexagon key, which allows to move the inner part of the crimping head up and down (not possible for manual crimpers N 8)
- Crimping pressure adjustable via screw in the handle
- Manual crimpers for N 13 and N 20 Flip Top / Flip Off caps (pharmaceutical closures) available
- Long life time and convenient handling

Manual decappers (standard version) allow safe removal of caps; no adjustment required

Ordering information

| Description | Pack of | REF |
|-----------------------------------------------------------------------------|---------|-----------|
| Manual crimpers (ergonomic) | | |
| (crimping pressure adjustable by knob on the crimping head) | | |
| Manual ergonomic crimper for 8 mm aluminium crimp caps | 1 | 735208 |
| Manual ergonomic crimper for 11 mm aluminium crimp caps | 1 | 735211 |
| Manual ergonomic crimper for 20 mm aluminium crimp caps | 1 | 735220 |
| Manual decappers (ergonomic) | | |
| Manual ergonomic decapper for 11 mm aluminium crimp caps | 1 | 735311 |
| Manual ergonomic decapper for 20 mm aluminium crimp caps | 1 | 735320 |
| Manual crimpers (standard) | | |
| Crimping height: adjustable by a hexagon key in the crimping head | | |
| Crimping pressure: adjustable by a screw in the handle | | |
| Manual crimper for 8 mm aluminium crimp caps | 1 | 735126 |
| Manual crimper, height adjustable, for 11 mm aluminium crimp caps | 1 | 735111 |
| Manual crimper, height adjustable, for 13 mm aluminium crimp caps | 1 | 735113 |
| Manual crimper, height adjustable, for 13 mm Flip Top / Flip Off crimp caps | 1 | 735133 |
| Manual crimper, height adjustable, for 20 mm aluminium crimp caps | 1 | 735120 |
| Manual crimper, height adjustable, for 20 mm Flip Top / Flip Off crimp caps | 1 | 735132 |
| Manual decappers (standard) | | |
| Manual decapper for 8 mm aluminium crimp caps | 1 | 735408 |
| Manual decapper for 11 mm aluminium crimp caps | 1 | 735911 |
| Manual decapper for 13 mm aluminium crimp caps | 1 | 735913 |
| Manual decapper for 20 mm aluminium crimp caps | 1 | 735920 |
| Manual decapper (plier style) for two cap sizes | | |
| Manual decapper, for 11 mm and 20 mm crimp caps | 1 | 735911.20 |



Electronic crimping tools

Battery-powered electronic crimping tools



Available for 11 mm and 20 mm aluminium crimp caps (not suitable for 20 mm magnetic / bi-metal crimp caps). Mobile tools for consistent and reproducible crimping results

- Crimping pressure adjustable by pushing +/- buttons of the control unit on top of the tool
- Long lasting lithium ion cell batteries (full battery charge for several hundred vials, life time of battery > 1500 charges)
- CE certificate of conformity along with one year warranty
- One tool each necessary for crimping and for decapping
- For more convenient handling a stand is optionally available

Electronic high power crimping tool

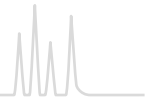


Available for 11 mm and 20 mm crimp caps (also suitable for magnetic / bi-metal crimp caps). Due to a more powerful motor also suitable for magnetic and bi-metal crimp caps

- Fixed power supply
- Exchangeable crimping / decapping heads
- Digital LED display of crimp settings; different jaw settings can be stored in separate programs
- CE certificate of conformity along with one year warranty
- For more convenient handling a stand is optionally available

Ordering information

| Description | Pack of | REF |
|----------------------------------------------------------------------------------------------------------------------------|---------|--------|
| Electronic crimpers (battery-powered) | | |
| Electronic crimper for 11 mm aluminium crimp caps | 1 | 735511 |
| Electronic crimper for 20 mm aluminium crimp caps (not suitable for magnetic / bi-metal crimp caps) | 1 | 735520 |
| Electronic decappers (battery-powered) | | |
| Electronic decapper for 11 mm aluminium crimp caps | 1 | 735611 |
| Electronic decapper for 20 mm aluminium crimp caps (not suitable for magnetic / bi-metal crimp caps) | 1 | 735620 |
| Accessories for battery-powered electronic crimping / decapping tools | | |
| Replacement battery 6.6 Volt, 8.6 Wh | 1 | 735500 |
| Stand for electronic crimping tools | 1 | 735501 |
| Electronic high power crimping tool | | |
| Electronic high power crimping tool with power supply (please order exchangeable crimping / decapping heads separately) | 1 | 735700 |
| Accessories for 735700 | | |
| Crimping head for 11 mm crimp caps (for electronic high power crimping tool 735700) | 1 | 735711 |
| Crimping head for 20 mm crimp caps (for electronic high power crimping tool 735700) | 1 | 735720 |
| Decapping head for 11 mm crimp caps (for electronic high power crimping tool 735700) | 1 | 735811 |
| Decapping head for 20 mm crimp caps (for electronic high power crimping tool 735700) | 1 | 735820 |
| Stand for electronic crimping tools | 1 | 735501 |



Autosampler compatibility charts

The autosampler compatibility charts generally show the most typical vials and closures for use on the instruments of a given manufacturer. In addition to the products listed in those charts, our catalog may contain other technically and functionally suitable products for use on a given autosampler which are not marketed actively as accessories by the respective manufacturer. We look forward to recommend any suitable product.

Compatibility charts have been compiled for the following instrument manufacturers: Agilent®, CTC, Dionex®, Knauer, PerkinElmer®, Shimadzu®, Thermo Scientific®, Varian® (Agilent®), VWR® (Merck®/Hitachi®), Waters®. Where applicable, each chart is divided into fields of use (GC, HPLC, Headspace).

We generally recommend that you ask for cost-free samples for testing purposes, as even technically comparable products may differ in their optical appearance.

We kindly ask for your understanding that we do not take over any guarantee for the correctness and completeness of the data indicated here.

| Agilent® | | | | |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|------------------------------------------------------------------------------------------------------|------|
| Application / Type of vial | Most popular MN products for use on Agilent® instruments | | | Page |
| | Vials: | Inserts: | Closures: | |
| GC | | | | |
| N 8 crimp (micro sampling) | 70282, 70286 | | 70289, 702878 | 101 |
| N 9 screw (standard sample) | 702282, 702293, 702283, 702078, 702284, 702079, 702006, 702088, 702007, 702008, 702135, 702335, 702009, 702172, 702010, 702500 | 702716, 702813, 702077, 702818, 702818.1, 702825 | 702732, 702080, 702082, 702081, 702287.1, 702037, 702038, 702035, 702084, 702085, 702026 | 104 |
| N 11 crimp (standard sample) | 70201HP, 70201HP.2, 702885, 702075, 702892, 702076, 702888, 702015, 702016, 702891, 702014, 702134, 702334 | 702716, 702813, 702077, 702818, 702818.1, 702825 | 702155 (for GC PAL) 70256, 702730, 702001, 70231.3, 70231.1, 70231.2, 70288, 702995, 702146 | 109 |
| HPLC | | | | |
| N 9 screw (standard sample) | as indicated under GC, additionally closures with slit septum: 702288.1, 702083, 702040, 702027, however, not closure 702155 | | | 104 |
| N 11 crimp (standard sample) | as indicated under GC, however, not closures 702146 and 702879 | | | 109 |
| N 11 snap ring (standard sample) | 702714, 702713, 702712, 702709, 702134, 702334, 702809, 702173, 702174 | 702716, 702813, 702077, 702818, 702818.1, 702825 | 702063, 702063.2080, 702710.1, 702710.2080, 702731, 702064, 702718 | 114 |
| Headspace | | | | |
| N 18 screw (Combi PAL + G 1888A) | 702866, 702826, 702826.2 | | | 125 |
| N 20 crimp | 702918, 702261 | | 70234, 70234.10, 702071, 702094, 702835, 70237 | 126 |
| | for Combi PAL: 702924, 702263, 702263.2 | | 702929 (for Combi PAL) | |



Autosampler compatibility

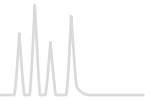


| CTC | | | | |
|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|------|
| Application / Type of vial | Most popular MN products for use on CTC instruments | | | Page |
| | Vials: | Inserts: | Closures: | |
| GC | | | | |
| N 8 crimp (micro sampling) | 70282, 70286 | | 70289, 702878 | 101 |
| N 9 screw (standard sample) | 702282, 702293, 702283, 702284, 702078, 702079, 702006, 702007, 702008, 702135, 702335 | 702716, 702813, 702077, 702818, 702818.1, 702825 | 702287, 702287.1, 702036, 702037, 702038, 702107, 702026, 702286, 702035, 702158, 702084, 702085, 702159 702155 (for GC PAL) | 104 |
| N 11 crimp (standard sample) | 70201HP, 70201HP.2, 702885, 702892, 702075, 702076, 702888, 702891, 702014, 702134, 702334 | 702716, 702813, 702077, 702818, 702818.1, 702825 | 70288, 702995 702879 (for GC PAL) | 109 |
| HPLC | | | | |
| N 9 screw (standard sample) | as indicated under GC, additionally closures with slit septum: 702288, 702288.1, 702027, 702039, 702040, 702083, 702109, however, not closure 702155 | | | 104 |
| N 11 crimp (standard sample) | as indicated under GC, additionally closure 702823 with slit septum, however, not closure 702879 | | | 109 |
| N 11 snap ring (standard sample) | 702714, 702713, 702712, 702709, 702134, 702334, 702809, 702173, 702174 | 702716, 702813, 702077, 702818, 702818.1, 702825 | 702710.1, 702717.2, 702718.1, 702710, 702064, 702718 | 114 |
| Headspace | | | | |
| N 18 screw (Combi PAL) | 702866, 702826, 702826.2 | | | 125 |
| N 20 crimp | 702924, 702263, 702263.2 | | | 126 |
| | | | closure for washer bottle 702924: 70267 + 702144 | |

| Dionex® (Thermo Scientific®) | | | | |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|------|
| Application / Type of vial | Most popular MN products for use on Dionex® instruments | | | Page |
| | Vials: | Inserts: | Closures: | |
| HPLC | | | | |
| N 8 crimp (micro sampling) | 70282, 70286 | | 702025, 70289 | 101 |
| N 8 screw (standard sample) | 70213, 70213.2, 702004, 702893, 702860 | 702968, 702968.1, 702824, 702005 | 70245, 702437 | 102 |
| N 9 screw (standard sample) | 702282, 702293, 702283, 702284, 702078, 702079, 702007, 702008, 702135, 702335, 702006, 702009, 702172, 702010, 702500 | 702813, 702077, 702818, 702818.1, 702825 | 702287.1, 702287, 702036, 702037, 702038, 702107, 702288.1, 702288, 702039, 702040, 702083, 702109, 702026, 702027 | 104 |
| N 11 crimp (standard sample) | 70201HP, 70201HP.2, 702885, 702892, 702075, 702076, 702888, 702891, 702014, 702134, 702334 | 702813, 702077, 702818, 702818.1, 702825 | 70288, 702823, 70256 | 109 |
| N 11 snap ring (standard sample) | 702714, 702713, 702712, 702709, 702134, 702334, 702809, 702173, 702174 | 702813, 702077, 702818, 702818.1, 702825 | 702710.1, 702710, 702710.2080, 702717.2, 702064, 702717.2080 | 114 |
| N 13 screw (large sample volumes) | 702962, 702973 | 702972 + spring 702974 | 702926 | 119 |



Autosampler compatibility



| Knauer | | | | |
|----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------|------|
| Application / Type of vial | Most popular MN products for use on Knauer instruments | | | Page |
| | Vials: | Inserts: | Closures: | |
| HPLC (Knauer S3950, Knauer UHPLC Version AS-1, Knauer Optimas) | | | | |
| N 8 screw (standard sample) | 70213, 70213.2, 702004, 702893 | 702968, 702968.1, 702824, 702005 | 702067, 70245 | 102 |
| N 9 screw (standard sample) | 702282, 702293, 702283, 702284, 702078, 702079, 702006, 702007, 702008, 702135, 702335, 702088, 702009, 702172, 702010, 702500 | 702813, 702077, 702716, 702818, 702818.1, 702825 | 702732, 702030, 702080, 702081, 702082, 702147, 702287.1, 702287, 702036, 702037, 702038, 702107, 702028, 702026 | 104 |
| N 18 screw (large sample volumes) | 702866 | | 702072, 702055, 702827 | 125 |
| N 20 crimp (large sample volumes) | 702918 | | 702094, 702129 | 126 |

| PerkinElmer® | | | | |
|------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|------|
| Application / Type of vial | Most popular MN products for use on PerkinElmer® instruments | | | Page |
| | Vials: | Inserts: | Closures: | |
| GC | | | | |
| N 8 crimp (micro sampling) | 70251 | | 70252.1, 702025 | 101 |
| N 11 crimp (standard sample) | 70201CG*, 70214CG*, 70201HP**, 70201HP.2**, 702885**, 702892**, 702075**, 702076**, 702891, 702014, 702134, 702334 | 702824*, 702005*, 702818**, 702818.1**, 702825** | 702730, 70256, 70231.1, 70231.2, 70231.3, 70288, 702995 | 109 |
| * small opening; ** wide opening | | | | |
| HPLC | | | | |
| N 8 crimp (micro sampling) | 70286 | | 70252.1, 702025 | 101 |
| N 8 screw (standard sample) | 70213, 70213.2, 702004, 702892 | 702824, 702005 | 702067 = 70249 + 702070, 70245 | 102 |
| N 9 screw (standard sample) | 702282, 702293, 702283, 702284, 702078, 702079, 702009, 702172, 702010, 702500, 702007, 702008, 702135, 702335 | 702818, 702818.1, 702825 | 702288.1, 702027, 702287.1, 702026, 702732, 702028 | 104 |
| N 10 screw (standard sample) | 702012, 702013 | 702818, 702818.1, 702825 | 702047, 702044, 702045, 702046 | 108 |
| N 11 crimp (standard sample) | as indicated under GC | | | 109 |
| N 11 snap ring (standard sample) | 702714, 702713, 702712, 702709, 702134, 702334 | 702818, 702818.1, 702825 | 702064, 702710, 702718 | 114 |
| Headspace | | | | |
| N 18 screw (CTC Combi PAL + TurboMatrix™ HS 16 + 40) | 702866, 702826, 702826.2 | | 702055, 702827, 702072 | 125 |
| N 20 crimp (CTC Combi PAL) | 702924, 702263, 702263.2 | | 702929, 702834, 702774, 702928.9, 702928 | 126 |
| N 20 crimp (TurboMatrix™ HS 16, 40 + 110) | 702917**, 70254, 702540, 702541 | | 702836, 702773, 702829, 70234.8, 702775, 70234.9, 702835, 702927, 702094, 702093, 702145, 70234, 70234.10, 702931 + 702804, 70237 | 126 |
| ** not suited for TurboMatrix™ 110 | | | | |



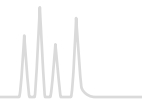
Autosampler compatibility



| Shimadzu® | | | | |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------|------|
| Application / Type of vial | Most popular MN products for use on Shimadzu® instruments | | | Page |
| | Vials: | Inserts: | Closures: | |
| GC | | | | |
| N 8 crimp (micro sampling) | 70282, 70286 | | 70289, 702878 | 101 |
| N 9 screw (standard sample) | 702282, 702293, 702283, 702284, 702078, 702079, 702006, 702007, 702008, 702135, 702335 | 702716, 702813, 702077, 702825, 702818, 702818.1 | 702081, 702036, 702037, 702038, 702107, 702287.1, 702026 702155 (for AOC 5000) | 104 |
| N 10 screw (standard sample) | 702011, 702012, 702013 | as indicated under N 9 screw | 702045, 702046, 702048 | 108 |
| N 11 crimp (standard sample) | 70201HP, 70201HP.2, 702885, 702892, 702075, 702076, 702888, 702891, 702014, 702134, 702334, 702141 | 702716, 702813, 702077, 702825, 702818, 702818.1 | 70288, 702995 702879 (for AOC 5000) | 109 |
| N 13 screw (large sample volumes) | 702962, 702973 | 702972 + spring 702974 | 702926, 702963 + 702292 | 119 |
| HPLC | | | | |
| N 8 crimp (micro sampling) | 70282, 70286 | | 70289, 702878 | 101 |
| N 9 screw (standard sample) | 702282, 702293, 702283, 702284, 702078, 702079, 702006, 702007, 702008, 702135, 702335 | 702716, 702813, 702077, 702825, 702818, 702818.1 | 702287.1, 702036, 702037, 702038, 702107, 702026, 702039, 702040, 702083, 702288.1, 702109, 702027 | 104 |
| N 10 screw (standard sample) | 702011, 702012, 702013 | as indicated under N 9 screw | 702045, 702046, 702047 | 108 |
| N 11 crimp (standard sample) | as indicated under N 11 crimp GC | as indicated under N 11 crimp | 70288, 702823 | 109 |
| N 11 snap ring (standard sample) | 702714, 702713, 702712, 702709, 702134, 702334 | as indicated under N 9 screw | 702710.1, 702710, 702717.2, 702064 | 114 |
| N 8, N 12 shell vials (standard sample) | | | vials + stoppers: 70202.1 + 702807, 702017 + 702807, 702018 + 702054 | 124 |
| Headspace | | | | |
| N 18 screw (AOC 5000) | 702866, 702826, 702826.2 | | 702055, 702827 | 125 |
| N 20 crimp (AOC 5000) | 702924, 702263, 702263.2 | | 702929, 702928, 702834 for washer bottle 702924: 70267 + 702144 | 126 |



Autosampler compatibility



| Thermo Scientific® | | | | |
|----------------------------------|-------------------------------------------------------------------------------------------------|--------------------------------------------------|-----------------------------------------------------------------------------|------|
| Application / Type of vial | Most popular MN products for use on Thermo Scientific® instruments | | | Page |
| | Vials: | Inserts: | Closures: | |
| GC | | | | |
| N 8 crimp (micro sampling) | 70282, 70286, 70251 | | 70289, 702025 | 101 |
| N 8 screw (standard sample) | 70213, 70213.2, 702004, 702893 | 702968, 702968.1, 702824, 702005 | 702067, 70245, 702069 | 102 |
| N 9 screw (standard sample) | 702282, 702293, 702283, 702284, 702078, 702079, 702006, 702007, 702008, 702135, 702335 | 702716, 702813, 702077, 702818, 702818.1, 702825 | 702732, 702081, 702084, 702287.1, 702037, 702026 702155 (for GC PAL) | 104 |
| N 11 crimp (standard sample) | 70201HP, 70201HP.2, 702885, 702892, 702075, 702076, 702888, 702891, 702014, 702134, 702334 | 702716, 702813, 702077, 702818, 702818.1, 702825 | 70256, 702730, 70288 702879 (for GC PAL) | 109 |
| HPLC | | | | |
| N 8 crimp (micro sampling) | 70282, 70286 | | 70289, 702025 | 101 |
| N 8 screw (standard sample) | as indicated under GC | | | 102 |
| N 9 screw (standard sample) | as indicated under GC, but additionally closures 702040 and 702027, however, not closure 702155 | | | 104 |
| N 11 crimp (standard sample) | as indicated under GC, however, not closure 702879 | | | 109 |
| N 11 snap ring (standard sample) | 702714, 702713, 702712, 702709, 702134, 702334, 702809, 702173, 702174 | 702716, 702813, 702077, 702818, 702818.1, 702825 | 702063.2080, 702063, 702710.2080, 702710.1, 702717.2080, 702710.2080 | 114 |
| Headspace | | | | |
| N 18 screw (Combi PAL) | 702866, 702826, 702826.2 | | 702055, 702827 | 125 |
| N 20 crimp (Combi PAL) | 702924, 702263, 702263.2 | | 702929, 702834 | 126 |
| N 20 crimp (HS850/HS200) | 702924, 702263, 702263.2 | | 702775, 70234.9, 702773, 702931 + 702804 = 70237, 702093 | 126 |

| Varian® (now Agilent®) | | | | |
|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|------------------------------------------|----------------------------------------------------------------------|------|
| Application / Type of vial | Most popular MN products for use on Varian® instruments | | | Page |
| | Vials: | Inserts: | Closures: | |
| GC | | | | |
| N 8 crimp (micro sampling) | 70282, 70286 | | 70289, 702878 | 101 |
| N 8 screw (standard sample) | 70213, 70213.2, 702004, 702893 | 702968.1, 702824, 702005 | 702067, 70245, 702069 | 102 |
| N 9 screw (standard sample) | 702282, 702293, 702283, 702284, 702078, 702006, 702079, 702008, 702007, 702135, 702335 | 702813, 702077, 702818, 702818.1, 702825 | 702732, 702287.1, 702037, 702084 702155 (for GC PAL) | 104 |
| N 11 crimp (standard sample) | 70201HP, 70201HP.2, 702885, 702892, 702075, 702076, 702888, 702891, 702014, 702134, 702334 | 702813, 702077, 702818, 702818.1, 702825 | 70256, 702730, 70288, 702995 702879 (for GC PAL) | 109 |
| HPLC | | | | |
| N 8 crimp (micro sampling) | as indicated under GC | | | 101 |
| N 8 screw (standard sample) | as indicated under GC, but additionally closure 702437 | | | 102 |
| N 9 screw (standard sample) | as indicated under GC, but additionally PP vials 702009, 702172, 702010, 702500 as well as closures 702040 and 702288.1 | | | 104 |
| N 11 crimp (standard sample) | as indicated under GC, but additionally closures 70231.4 and 70231.2 | | | 109 |
| N 11 snap ring (standard sample) | 702714, 702713, 702712, 702709, 702134, 702334, 702809, 702173, 702174 | 702813, 702077, 702818, 702818.1, 702825 | 702731, 702063, 702710, 702710.1, 702064, 702717.2, 702718, 702718.1 | 114 |
| Headspace | | | | |
| N 18 screw (Combi PAL) | 702866, 702826, 702826.2 | | 702827, 702072, 702055 | 125 |
| N 20 crimp (Combi PAL) | 702924, 702263, 702263.2 | | 702929, 702834 | 126 |
| N 20 crimp (CP-9020/9025, CP-9060, Genesis) | 702924, 702918, 702261 | | 70234, 70234.10, 702775, 702094, 702931 + 702804 = 70237 | 126 |



Autosampler compatibility



VWR® (Merck® / Hitachi®)

| Application / Type of vial | Most popular MN products for use on VWR® instruments | | | Page |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|------|
| | Vials: | Inserts: | Closures: | |
| HPLC | | | | |
| N 8 crimp (micro sampling) | 70282, 70286 | | 70289, 702878 | 101 |
| N 8 screw (standard sample) | 70213, 70213.2, 702004, 702893, 702860 | 702968, 702968.1, 702824, 702005 | 70245, 702437, 702067 | 102 |
| N 9 screw (standard sample) | 702282, 702293, 702283, 702078, 702284, 702079, 702007, 702008, 702135, 702335, 702006, 702009, 702172, 702010, 702500 | 702813, 702077, 702818, 702818.1, 702716, 702825 | 702287.1, 702287, 702036, 702037, 702038, 702107, 702288.1, 702288, 702039, 702040, 702083, 702109, 702026, 702027 | 104 |
| N 11 crimp (standard sample) | 70201HP, 70201HP.2, 702885, 702075, 702892, 702076, 702888, 702891, 702014, 702134, 702334 | 702813, 702077, 702818, 702818.1, 702716, 702825 | 70288, 702823 | 109 |
| N 11 snap ring (standard sample) | 702714, 702713, 702712, 702709, 702134, 702334, 702809, 702173, 702174 | 702813, 702077, 702818, 702818.1, 702716, 702825 | 702710.1, 702710, 702717.2, 702064, 702718.1, 702718, 702063, 702731 | 114 |
| N 13 screw (large sample volumes) | 702962, 702973 | 702972 + spring 702974 | 702926, 702963 + 70260 | 119 |

Waters®

| Application / Type of vial | Most popular MN products for use on Waters® instruments | | | Page |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------|------------------------|----------------------------------------------------------------------------------------------------|------|
| | Vials: | Inserts: | Closures: | |
| HPLC | | | | |
| N 9 screw (standard sample) | 702282, 702293, 702283, 702284, 702078, 702079, 702007, 702008, 702135, 702335, 702006, 702009, 702172, 702010, 702500 | 702818, 702818.1 | 702026, 702027, 702287.1, 702287, 702036, 702037, 702038, 702288.1, 702288, 702039, 702040, 702083 | 104 |
| N 10 screw (standard sample) | 702011, 702012, 702013 | 702818, 702818.1 | 702045, 702046, 702047 | 108 |
| N 11 crimp (standard sample) | 70201HP, 70201HP.2, 702885, 702892, 702075, 702076 | 702818, 702818.1 | 70288, 702995 | 109 |
| N 11 snap ring (standard sample) | 702714, 702713, 702712, 702709, 702134, 702334, 702809, 702173, 702174 | 702818, 702818.1 | 702710.1, 702717.2 | 114 |
| N 8 shell vials (standard sample) | | | vials + closures: 70202.1 + 702807, 702017 + 702807 | 124 |
| N 13 screw (large sample volumes) | 702962, 702973 | 702972 + spring 702974 | 702926, 702963 + 70260 | 119 |