

General information about vials and caps

Technical Information – Vials

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

Almost all vials are made out of 1st hydrolytic class glass. First hydrolytic class glass is very hard and has a low expansion coefficient even at high temperature variations. It shows an excellent chemical resistance to acidic and neutral solutions, and even to alkaline solutions due to its relatively low Alkali content. Higher density of the glass surface offers a higher hydrolytic resistance. Clear Glass of 1st hydrolytic class is differentiated by 33 expansion (Type 1, Class A) and 51 expansion glass (Type 1, Class B), whereas amber is generally worldwide only available as 51 expansion glass. The indicated lower expansion coefficient of 33 implies that this harder clear glass has to be processed at higher temperatures. These amount to approx. 1,200°C for 33 expansion glass in comparison to only approx. 1,000°C for glass of 51 expansion. In the USA typically clear glass in 33 expansion and amber glass in 51 expansion is used, whereas in Europe solely 51 expansion glass is processed. From a quality point of view both types of glass are equally suitable for usage in chromatography, as they both are glasses of 1st hydrolytic class.

Technical Information – Seals

Seals are the assembled combination of a cap and a septa. To carry out a correct analysis, it is important that besides the vial the seal is also inert and uncontaminated. The closures sold by LLG Labware are automatically assembled and packed according to internally defined conditions of the supplier. Photocells check the side-orientation of the liner, so that it is ensured that the PTFE lamination is always directed towards the sample to build an inert barrier between sample and carrier material of the septa. A gauge control ensures that not more or less than one septa is installed. The final seals are automatically counted – and not weighed – by automates to guarantee quantity obedience. They are packed in tamper-proof evident zip-lock bags that allow easy identification of the content due to the transparent PE material. The zip-lock enables resealing of the bag to avoid any contamination of the closures during consumption. The batch number of the manufactured seal is printed on each PE-bag for traceability.

Technical Information – Septa

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

The individual conditions of the customer's application aim at the specific characteristics of the carrier material, e.g.:

Multiple injection?	Temperature?			Thin, fragile needle?	Blunt, thick needle?	Critical analysis?	Low coring?
	-40°C up to 120°C	-40°C up to 110°C	-60°C up to 200°C				
↓ good resealability properties necessary	↓ Natural Rubber/TEF; Butyl/PTFE	↓ Red Rubber/PTFE	↓ Silicone/PTFE	↓ soft and thin septa required	↓ Slitted/pre-cut liner as penetration aid (HPLC)	↓ very clean liner required	↓ Both sided PTFE laminated liners required
↓ Natural Rubber/TEF				↓ e.g. Silicone/PTFE	↓ e.g. 08 02 0039	↓ Silicone/PTFE septa	↓ PTFE/Silicone/PTFE PTFE/Butyl/PTFE

LLG - Vials and autosamplers: compatibility chart

Agilent
Alternative LLG Labware products for use on Agilent GC, HPLC and Headspace instruments.

Agilent GC Products						
	Crimp Neck ND 8	Agilent Art.-No.	Screw Neck ND9	Agilent Art.-No.	Crimp Neck ND11	Agilent Art.-No.
Vials	4.001 554	5180-0841	9.003 448	5182-0714	6.291 635	5181-3375
			4.662 800	5182-0715	6.290 019	5182-0543
			4.662 801	5182-0716	6.291 636	5181-3376
			4.008 249	5183-2030	4.008 255	9301-1388
			6.266 869			
			6.260 742			
			6.260 743			
Micro-Inserts			7.401 744	5183-2085	7.401 744	5183-2085
			6.093 247	5181-1270	6.093 247	5181-1270
			4.008 196	5181-3377	4.008 196	5181-3377
Seals	9.003 444	5180-0842	4.008 228	5182-0717	6.291 637	5181-1210
			7.615 161	5182-0720	9.003 446	5182-0552
			4.008 218	5182-0723	7.050 759	5181-1211
			4.008 216	5182-0717	4.001 564	5188-5386
			4.008 214	5185-5823	9.003 441	5181-1210

Agilent HPLC Products						
	Screw Neck ND9	Agilent Art.-No.	Crimp Neck ND11	Agilent Art.-No.	Snap Ring ND11	Agilent Art.-No.
Vials	9.003 448	5182-0714	6.291 635	5181-3375	6.073 833	5182-0544
	4.662 800	5182-0715	6.290 019	5182-0543	6.270 176	5182-0546
	4.662 801	5182-0716	6.291 636	5181-3376	6.270 177	5182-0545
	6.266 869					
	6.260 742					
	6.260 743					
	4.008 249	5183-2030	4.008 255	9301-1388	4.008 255	5188-6593
Micro-Inserts	7.401 744	5183-2085	7.401 744	5183-2085	7.401 744	5183-2085
	6.093 247	5181-1270	6.093 247	5181-1270	6.093 247	5181-1270
	4.008 196	5181-3377	4.008 196	5181-3377	4.008 196	5181-3377
Seals	4.008 228	5182-0717	6.291 637	5181-1210	4.008 257	5182-3458
	7.615 161	5182-0720	9.003 446	5182-0552	4.008 258	5182-0541
	4.008 218	5182-0723	7.050 759	5181-1211	4.008 259	5182-0566
	4.008 216	5182-0717	4.001 564	5188-5386	4.008 256	5183-4511
	4.008 214	5185-5823	9.003 441	5181-1210		
	4.008 215	5185-5824	4.001 555			
	4.001 521	5183-2076				

Agilent Headspace Products				
	Headspace Screw ND 18 (Combi Pal + G 1888A)	Agilent Art.-No.	Headspace Crimp Neck ND 20	Agilent Art.-No.
Vials	9.003 466	5188-5392	7.050 285	5182-0838
	6.290 106	5188-6538	9.003 452	5182-0837
	4.008 270	5188-2753	7.401 840	5183-4474
	4.678 396	5188-6537		
	7.401 840	5183-4474		
Seals	4.008 268	5188-2759	4.001 557	5183-4479
			9.003 460	5183-4477
			9.003 453	5183-4474

Autosampler compatibility chart

The autosampler compatibility chart generally shows the most typical LLG-Labware vials and closures for usage on instruments of different manufacturers. Additionally the corresponding part number of the manufacturer is indicated. Beside these there also may be further products in our catalogue which may technically and functionally be suitable. We will gladly recommend other suitable products. If applicable for a manufacturer, each table has been divided by the application HPLC, GC and Headspace. We generally recommend asking for cost-free samples for testing purposes. We kindly ask for your understanding that we do not take any guarantee for the correctness nor for the completeness of the data indicated here.

LLG - Vials and autosamplers: compatibility chart

CTC Analytics

Alternative LLG Labware products for use on CTC Analytics GC, HPLC and Headspace instruments.

CTC Analytics GC Products

	Crimp Neck ND 8	CTC Art.-No.	Screw Neck ND9	CTC Art.-No.	Crimp Neck ND11	CTC Art.-No.
Vials	4.001 554		9.003 448		6.291 635	
	6.235 606		4.662 800		6.290 019	
	4.001 515		4.662 801		6.291 636	
	6.902 044		4.008 249		4.008 255	
	4.008 202		6.266 869			
	4.008 203		6.260 742			
			6.260 743			
Micro-Inserts			7.401 744		7.401 744	
			6.093 247		6.093 247	
			4.008 196		4.008 196	
Seals	9.003 444		4.008 228		4.001 564	GC PAL
	4.008 198		7.615 161		9.003 446	
			4.001 521		7.050 759	
			4.008 218			
			4.008 215			

CTC Analytics HPLC Products

	Crimp Neck ND 8	CTC Art.-No.	Screw Neck ND9	CTC Art.-No.	Crimp Neck ND11	CTC Art.-No.	Snap Ring ND11	CTC Art.-No.
Vials	4.001 554		9.003 448		6.291 635		6.073 833	
	6.235 606		4.662 800		6.290 019		6.270 176	
	4.001 515		4.662 801		6.291 636		6.270 177	
	6.902 044		4.008 249		4.008 255		4.008 255	
	4.008 202		6.266 869					
	4.008 203		6.260 742					
			6.260 743					
Micro-Inserts			7.401 744		7.401 744		7.401 744	
			6.093 247		6.093 247		6.093 247	
			4.008 196		4.008 196		4.008 196	
Seals	9.003 444		4.008 228		6.291 637		4.008 258	
	4.008 198		7.615 161		9.003 446		4.008 259	
			4.001 521		7.050 759			
			4.008 218					
			4.008 215					

CTC Analytics Headspace Products

	Headspace Screw Neck ND 18 (Combi Pal)	CTC Art.-No.	Headspace Crimp Neck ND 20 (Combi Pal)	CTC Art.-No.
Vials	9.003 466		7.850 009	
	6.290 106		9.003 453	
	4.008 270			
	4.678 396			
Seals	4.008 268		7.850 010	
	6.241 111		6.234 541	

LLG - Vials and autosamplers: compatibility chart

Dionex
 Alternative LLG Labware products for use on Dionex HPLC instruments.

Dionex HPLC Products										
	Crimp Neck ND 8	Dionex Art.-No.	Screw Neck ND8	Dionex Art.-No.	Screw Neck ND9	Dionex Art.-No.	Crimp Neck ND11	Dionex Art.-No.	Snap Ring ND11	Dionex Art.-No.
Vials	4.008 206		9.003 481		9.003 448		6.291 635		6.073 833	
	6.235 606		7.613 087		4.662 800		6.290 019		6.270 176	
	4.001 554		9.003 480		4.662 801		6.291 636		6.270 177	
			6.290 228		4.008 249		4.008 255		4.008 255	
					6.266 869					
					6.260 742					
					6.260 743					
Micro-Inserts			7.401 066		7.401 744		7.401 744		7.401 744	
			4.001 556		6.093 247		6.093 247		6.093 247	
			4.008 194		4.008 196		4.008 196		4.008 196	
Seals	4.008 200		4.008 209		4.008 228		6.291 637		4.008 257	
	9.003 444		9.003 484		7.615 161		9.003 446		4.008 258	
			6.232 178		4.001 521		7.050 759		4.008 259	
					4.008 214		4.001 555		4.008 256	
					4.008 215					

Autosampler compatibility chart

The autosampler compatibility chart generally shows the most typical LLG-Labware vials and closures for usage on instruments of different manufacturers. Additionally the corresponding part number of the manufacturer is indicated. Beside these there also may be further products in our catalogue which may technically and functionally be suitable. We will gladly recommend other suitable products.

If applicable for a manufacturer, each table has been divided by the application HPLC, GC and Headspace. We generally recommend asking for cost-free samples for testing purposes.

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LLG - Vials and autosamplers: compatibility chart

PerkinElmer

Alternative LLG Labware products for use on Agilent GC, HPLC and Headspace instruments.

PerkinElmer GC Products

	Crimp Neck ND 8	PerkinElmer Art.-No.	Screw Neck ND9	PerkinElmer Art.-No.	Screw Neck ND10	PerkinElmer Art.-No.	Crimp Neck ND11	PerkinElmer Art.-No.
Vials	6.235 606	N9302136	9.003 448	N9306201	6.242 103		6.291 635	N9301385
	9.003 427	N9301069	4.662 800	N9306201	7.615 715		6.290 019	N9301385
			4.008 247	N9306220	6.280 951		6.291 636	N9302680
			4.662 801	N9306220				
			6.266 869					
			6.260 742					
Micro-Inserts			6.093 247	N9300703	6.093 247	N9300703	6.093 247	N9300703
			4.008 196	N9300704	4.008 196	N9300704	4.008 196	N9300704
			6.260 743					
Seals	4.001 558	N9302140	4.008 228	N9306200	4.008 234	N9306205	7.060 469	N9306230
	9.003 443	03300806	7.615 161	N9306202	4.008 235	N9306205	6.291 637	N9306015
	4.008 200	03300806	4.008 214	N9306202			4.001 522	N9302684
							7.300 348	N9302685
						6.900 233	N9302686	
						9.003 446	N9306228	
						7.050 759	N9306229	

PerkinElmer HPLC Products

	Crimp Neck ND 8	PerkinElmer Art.-No.	Screw Neck ND9	PerkinElmer Art.-No.	Screw Neck ND10	PerkinElmer Art.-No.	Crimp Neck ND11	PerkinElmer Art.-No.	Snap Ring ND11	PerkinElmer Art.-No.
Vials	6.235 606	N9302136	9.003 448	N9306201	6.242 103		6.291 635	N9301385	6.073 833	N9303418
			4.662 800	N9306201	7.615 715		6.290 019	N9301385	6.270 176	
			4.008 247	N9306220	6.280 951		6.291 636	N9302680	6.270 177	
			4.662 801	N9306220						
			6.266 869							
			6.260 742							
Micro-Inserts			6.093 247	N9300703	6.093 247	N9300703	6.093 247	N9300703	6.093 247	N9300703
			4.008 196	N9300704	4.008 196	N9300704	4.008 196	N9300704	4.008 196	N9300704
			6.260 743							
Seals	9.003 443	03300806	4.008 228	N9306200	4.008 234	N9306205	7.060 469	N9306230	6.073 555	N9303417
	4.008 200	03300806	7.615 161	N9306202	4.008 235	N9306205	6.291 637	N9306015	4.001 544	N9303419
			4.008 214	N9306202	4.008 237	N9306052	4.001 522	N9302684	4.008 256	N9303416
			4.001 521	N9306203			7.300 348	N9302685		
						6.900 233	N9302686			
						9.003 446	N9306228			
						7.050 759	N9306229			
						4.001 555				

PerkinElmer Headspace Products

	Headspace Screw Neck ND 18 CTC Combi Pal + Turbo Matrix™ HS16+40	PerkinElmer Art.-No.	Headspace Screw Neck ND20 CTC Combi PAL	PerkinElmer Art.-No.	Headspace Screw Neck ND20 Turbo Matrix™ HS 16, 40 + 110 *** not suitable for TurboMatrix™ 110	PerkinElmer Art.-No.
Vials	9.003 466	N6356479	7.850 009	N6356478	7.052 186 ***	N9302134
	6.290 106		9.003 453	N6356471	7.060 463	N9306079
	4.008 270	N9306075			4.008 281	N9303349
	4.678 396					
Seals	4.008 268	N9306077	7.850 010	N6356559	4.001 557	N9306266
	6.241 111	N6356475	6.234 541	N6356566	9.003 455	N9306266
			6.902 419	N6356562	4.008 276	N9306266
			6.229 635	N6356560	9.003 456	B0104241
			4.001 548	N6356560	7.050 286	B0104242
					7.060 477	B0110728
				7.060 433	B0038137	

LLG - Vials and autosamplers: compatibility chart

Shimadzu

Alternative LLG Labware products for use on Shimadzu GC, HPLC and Headspace instruments.

Shimadzu GC Products

	Crimp Neck ND 8	Shimadzu Art.-No.	Screw Neck ND9	Shimadzu Art.-No.	Screw Neck ND10	Shimadzu Art.-No.	Crimp Neck ND11	Shimadzu Art.-No.	Screw Neck ND13	Shimadzu Art.-No.
Vials	4.001 554		9.003 448		6.242 103		6.291 635	980-01705	9.003 482	
	4.001 515		4.008 247				6.290 019		7.058 142	
	6.902 044		4.008 249				6.291 636			
	4.008 202		6.266 869				4.008 255			
	4.008 203		6.260 742							
			6.260 743							
Micro-Inserts			7.401 744	980-04987	7.401 744	980-04987	7.401 744	980-04987	7.055 486	
			6.093 247	980-01707	6.093 247	980-01707	6.093 247	980-01707		
			4.008 196		4.008 196		4.008 196			
Seals	9.003 444		7.615 161		4.008 234		4.001 564	0980-01706	7.510 053	
	4.008 198		4.008 218		4.008 235		9.003 446			
			4.008 214		4.008 236		7.050 759			

Shimadzu HPLC Products

	Crimp Neck ND 8	Shimadzu Art.-No.	Screw Neck ND9	Shimadzu Art.-No.	Screw Neck ND10	Shimadzu Art.-No.	Crimp Neck ND11	Shimadzu Art.-No.	Snap Ring ND 11	Shimadzu Art.-No.
Vials	4.001 554		9.003 448		6.242 103		6.291 635	980-01705	6.073 833	
			4.008 247				4.001 565			
			4.008 249				4.001 516			
			6.266 869							
			6.260 742							
			6.260 743							
Micro-Inserts			7.401 744	980-04987	7.401 744	980-04987	7.401 744	980-04987	7.401 744	980-04987
			6.093 247	980-01707	6.093 247	980-01707	6.093 247	980-01707	6.093 247	980-01707
			4.008 196		4.008 196		4.008 196		4.008 196	
Seals	9.003 444		7.615 161		4.008 234		6.291 637	0980-01706	4.008 256	
	4.008 198		4.008 222		4.008 235		9.003 446		6.292 212	
	4.008 200		4.008 224		4.008 237		4.001 555		4.001 544	
			4.008 225						4.008 258	
			4.008 214							
			4.001 521							
			4.008 223							
			4.008 226							
			4.008 215							
			4.008 221							

Shimadzu Headspace Products

	Screw Neck ND 18 (AOC 5000)	Shimadzu Art.-No.	Headspace ND 18 (AOC 5000)	Shimadzu Art.-No.	Headspace ND 18 (HTA200H)	Shimadzu Art.-No.
Vials	9.003 466	980-00247	7.850 009	980-00664	7.050 285	
	4.008 270	961-00915	9.003.453	980-00111	9.003 453	980-00111
Seals	4.008 268	961-00914	7.850 010	961-01256	9.003 460	
	6.241 111	980-01708	6.234 541	980-03372	9.003 434	
			6.229 635	980-00112		
			4.001 548	980-00112		

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LLG - Vials and autosamplers: compatibility chart

Thermo Scientific

Alternative LLG Labware products for use on Thermo Scientific GC, HPLC and Headspace instruments.

Thermo Scientific GC Products

	Crimp Neck ND 8	Thermo Scientific Art.-No.	Screw Neck ND8	Thermo Scientific Art.-No.	Screw Neck ND9	Thermo Scientific Art.-No.	Crimp Neck ND11	Thermo Scientific Art.-No.
Vials	9.003 427	60180-707	9.003 481	60180-508	9.003 448	60180-723	6.291 635	60180-701
	4.001 554		7.613 087		4.662 800	60180-509	6.290 019	60180-502
	6.235 606		9.003 480	60180-560	4.008 247	60180-724	7.089 998	60180-702
	4.008 206	60180-505	6.290 228		4.662 801	60180-561	6.291 636	
	4.001 515				6.266 869			
	6.902 044				6.260 742			
	4.008 202				6.260 743			
	4.008 203							
Micro-Inserts			7.401 066	60180-265	7.401 744		7.401 744	
			9.003 435		6.093 247	60180-734	6.093 247	60180-734
			4.001 556	60180-721	4.008 196	60180-735	4.008 196	60180-735
			4.008 194	60180-722	4.001 547	60180-266	4.001 547	60180-266
Seals	9.003 443		4.008 209		4.008 228	60180-728	4.001 564	GC PAL
	4.008 200		9.003 484	60180-719	7.615 161	60180-729	9.003 441	
	9.003 444	60180-525	4.008 207		4.008 218		7.060 469	
	4.008 198				4.008 214		6.291 637	60180-705
							9.003 446	60180-706
							7.050 759	

Thermo Scientific HPLC Products

	Crimp Neck ND 8	Thermo Scientific Art.-No.	Screw Neck ND8	Thermo Scientific Art.-No.	Screw Neck ND9	Thermo Scientific Art.-No.	Crimp Neck ND11	Thermo Scientific Art.-No.	Snap Ring ND 11	Thermo Scientific Art.-No.
Vials	4.001 554		9.003 481	60180-508	9.003 448	60180-723	6.291 635		6.073 833	60180-740
			7.613 087		4.662 800	60180-509	6.290 019	60180-502	6.270 176	
	4.008 206	60180-505	9.003 480	60180-560	4.008 247	60180-724	7.089 998		6.270 177	60180-711
	4.001 515		6.290 228		4.662 801	60180-561	6.291 636			
	6.902 044				6.266 869					
	4.008 202				6.260 742					
	4.008 203				6.260 743					
Micro-Inserts			7.401 066	60180-265	7.401 744		7.401 744		7.401 744	
			9.003 435		6.093 247	60180-734	6.093 247	60180-734	6.093 247	60180-734
			4.001 556	60180-721	4.008 196	60180-735	4.008 196	60180-735	4.008 196	60180-735
			4.008 194	60180-722	4.001 547	60180-266	4.001 547	60180-266	4.001 547	60180-266
Seals	9.003 443	60180-708	4.008 209		4.008 228	60180-728	9.003 441		4.008 256	
	4.008 200		9.003 484	60180-719	7.615 161	60180-729	7.060 469		6.242 212	
	9.003 444	60180-525	4.008 207		4.008 218		6.291 637	60180-705	4.001 544	
	4.008 198				4.008 214		9.003 446	60180-706	4.008 258	60180-713
							7.050 759		4.008 261	
									4.008 257	60180-712

Thermo Scientific Headspace Products

	Headspace Screw Neck ND 18 (Combi Pal)	Thermo Scientific Art.-No.	Headspace Crimp Neck ND 20 (Combi Pal)	Thermo Scientific Art.-No.	Headspace Crimp Neck ND 20 (HS850/HS2)	Thermo Scientific Art.-No.
Vials	9.003 466		7.850 009	60180-740	7.850 009	60180-504
	6.290 106		9.003.453	60180-506	9.003 453	60180-506
	4.008 270					
	4.678 396					
Seals	4.008 268		7.850 010		9.003 434	60180-511
	6.241 111		6.234 541	60180-520	9.003 454	60180-513
			6.229 635		4.001 549	60180-513
			4.001 548			

LLG - Vials and autosamplers: compatibility chart

VWR (Merck / Hitachi)

Alternative LLG Labware products for use on VWR (Merck / Hitachi) HPLC instruments.

VWR (Merck / Hitachi) HPLC Products												
	Crimp Neck ND 8	VWR (Merck) Art.-No.	Screw Neck ND8	VWR (Merck) Art.-No.	Screw Neck ND9	VWR (Merck) Art.-No.	Crimp Neck ND11	VWR (Merck) Art.-No.	Snap Ring ND11	VWR (Merck) Art.-No.	Screw Neck ND13	VWR (Merck) Art.-No.
Vials	6.235 606	548-0078	9.003 481	548-0018	9.003 448	548-0028	6.291 635	548-0003	6.073 833	548-0011	9.003 482	548-0051
	4.001 554	548-0080	7.613 087	548-0420	4.662 800	548-0029	6.290 019	548-0004	6.270 176	548-0422	6.267 117	548-0509
			9.003 480	548-0448	4.662 801	548-0030	6.291 636	548-0005	6.270 177	548-0012	9.003 549	548-0052
			6.290 228	548-0019	4.008 249	548-0081	4.008 255	548-1442	4.008 255	548-1442	9.003 549	548-0510
				6.266 869	548-1523							
				6.260 742	548-1524							
				6.260 743	548-1525							
Micro-Inserts			7.401 066	548-0020	7.401 744	548-0006	7.401 744	548-0006	7.401 744	548-0006	7.055 486	548-0093
			9.003 435	548-0308	6.093 247	548-0002	6.093 247	548-0002	6.093 247	548-0002		
			4.001 556	548-0083	4.008 196	548-0001	4.008 196	548-0001	4.008 196	548-0001		
			4.008 194	548-0780								
Seals	9.003 444	548-0040	4.008 209	548-3322	4.008 228	548-0896	6.291 637	548-3272	4.008 258	548-0432	7.510 053	548-0054
	4.008 198	548-0038	9.003 484	548-0024	7.615 161	548-0085	9.003 446	548-0009	4.008 259	548-0434		
			6.232 178	548-0834	4.001 521	548-0088	7.050 759	548-0007				
					4.008 218	548-0087						
				4.008 215	548-0373							

Waters

Alternative LLG Labware products for use on Waters HPLC instruments.

Waters HPLC Products										
	Screw Neck ND9	Waters Art.-No.	Screw Neck ND10	Waters Art.-No.	Snap Ring ND11	Waters Art.-No.	Screw Neck ND13	Waters Art.-No.	Shell Vials ND8	Waters Art.-No.
Vials	9.003 448		6.242 103	WAT063300	6.073 833		9.003 482	186000840	7.300 174	WAT025054C
	4.662 800	186000273	7.615 715		6.270 176	WAT094219	9.003 549	186001135	4.008 205	WAT025053C
	4.662 801	186000848	6.280 951		6.270 177	WAT094220				
	4.008 249				4.008 255					
	4.008 250									
	4.008 252									
	6.266 869									
	6.260 742									
	6.260 743									
	7.401 744		7.401 744		7.401 744		7.055 486	WAT015199		
6.093 247	WAT094170	6.093 247	WAT094170	6.093 247	WAT094170					
4.008 196		4.008 196		4.008 196						
4.008 214	186000274	6.291 637	WAT058874	4.008 258	186000303	7.510 053	186000841			
4.008 215	186000305	9.003 446		6.242 212	186000304					
		7.050 759								

Autosampler compatibility chart

The autosampler compatibility chart generally shows the most typical LLG-Labware vials and closures for usage on instruments of different manufacturers. Additionally the corresponding part number of the manufacturer is indicated. Beside these there also may be further products in our catalogue which may technically and functionally be suitable. We will gladly recommend other suitable products.

If applicable for a manufacturer, each table has been divided by the application HPLC, GC and Headspace. We generally recommend asking for cost-free samples for testing purposes.

We kindly ask for your understanding that we do not take any guarantee for the correctness nor for the completeness of the data indicated here.

14. Chromatography

Vials/Authentic 1:1 size drawings of all vials

LLG - Flasks types

Crimp Neck ND8



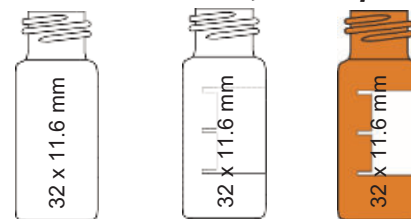
4.001 554 6.235 606 9.003 427 4.008 206 4.008 202 4.008 203 4.001 515 6.902 044

Screw Neck ND8, small opening



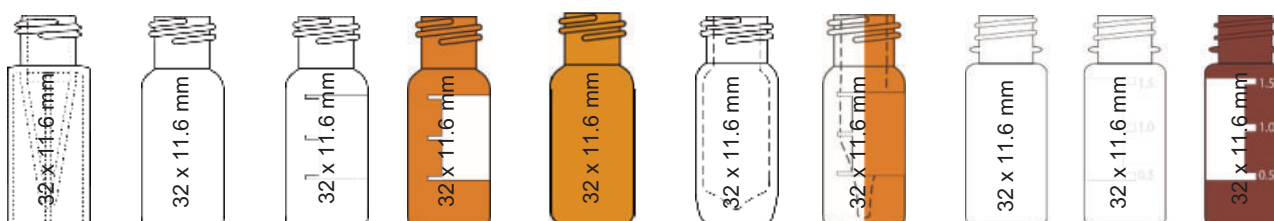
9.003 481 9.003 480 7.613 087 6.290 288 4.001 563

Screw Neck ND10, wide opening



6.242 103 7.615 715 6.280 951

Short Thread ND9



4.008 262 9.003 448 4.662 800 4.662 801 4.008 247 4.008 249 4.008 250
4.008 252 6.266 869 6.260 742 6.260 743

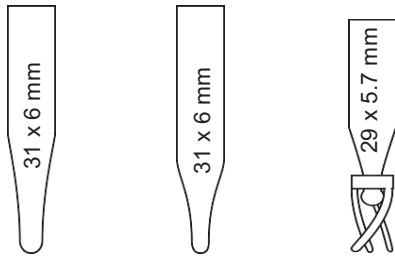
Crimp / Snap Neck ND11



6.291 635 6.290 019 6.291 636 4.001 516 4.001 565 4.008 251
4.008 255 7.085 511 7.089 998

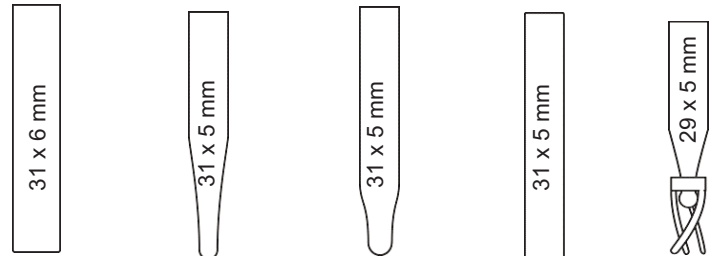
LLG - Flasks types

Micro-Inserts for wide opening



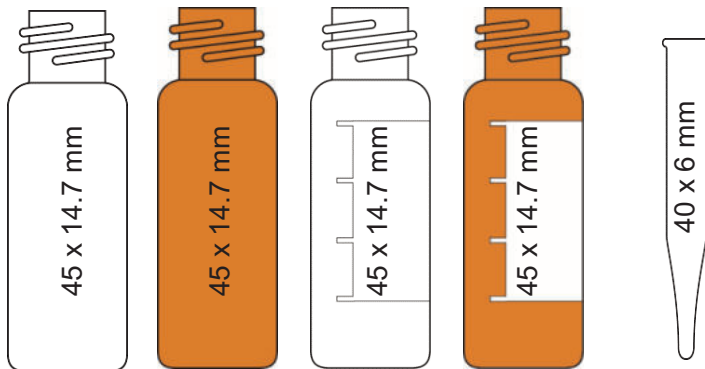
7.401 744 4.001 547 6.093 247

Micro-Inserts for small opening



4.008 196 7.401 066 9.003 435 4.008 194 4.001 556

Screw Neck ND13



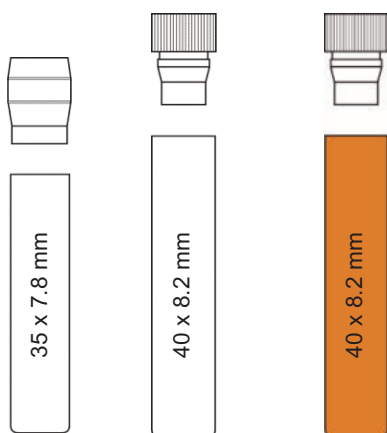
9.003 482 7.058 142 6.267 117 9.003 549 7.055 486

Snap Ring ND11



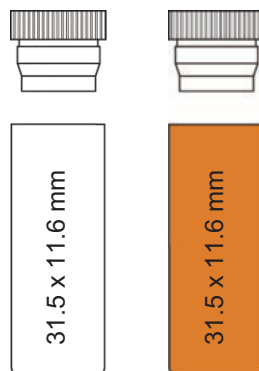
6.073 833 6.270 176 6.270 177

Shell Vials, 1 ml (Insert)



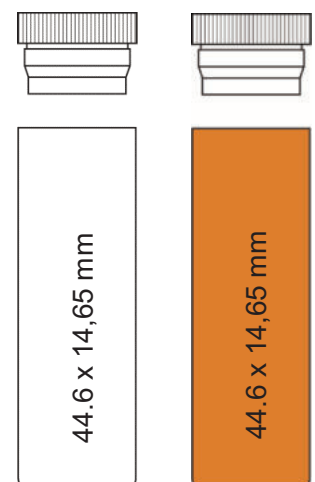
7.612 017 7.300 174 4.008 205

Shell Vials, 2 ml



4.008 248 6.226 501

Shell Vials, 4 ml (Insert)



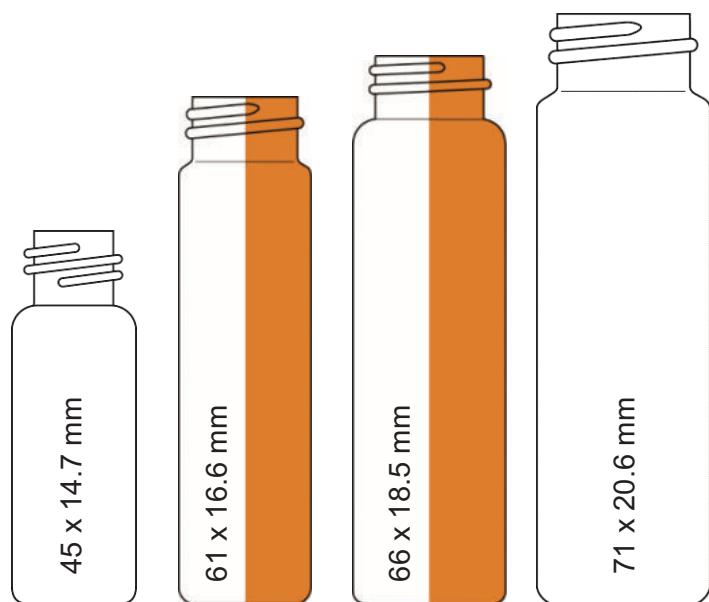
6.280 950 6.227 544

14. Chromatography

Vials/Authentic 1:1 size drawings of all vials

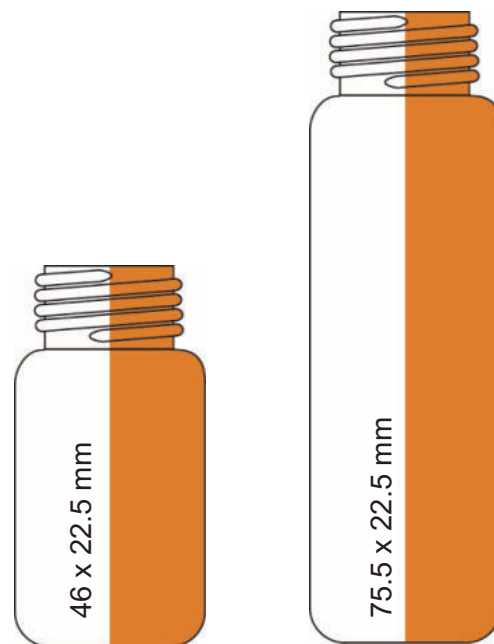
LLG - Flasks types

Storage Vials ND13, ND 15, ND18



9.003 482 6.280 953 6.280 952 6.280 954

Headspace ND 18



9.003 466 4.008 270
6.227 874 4.678 396

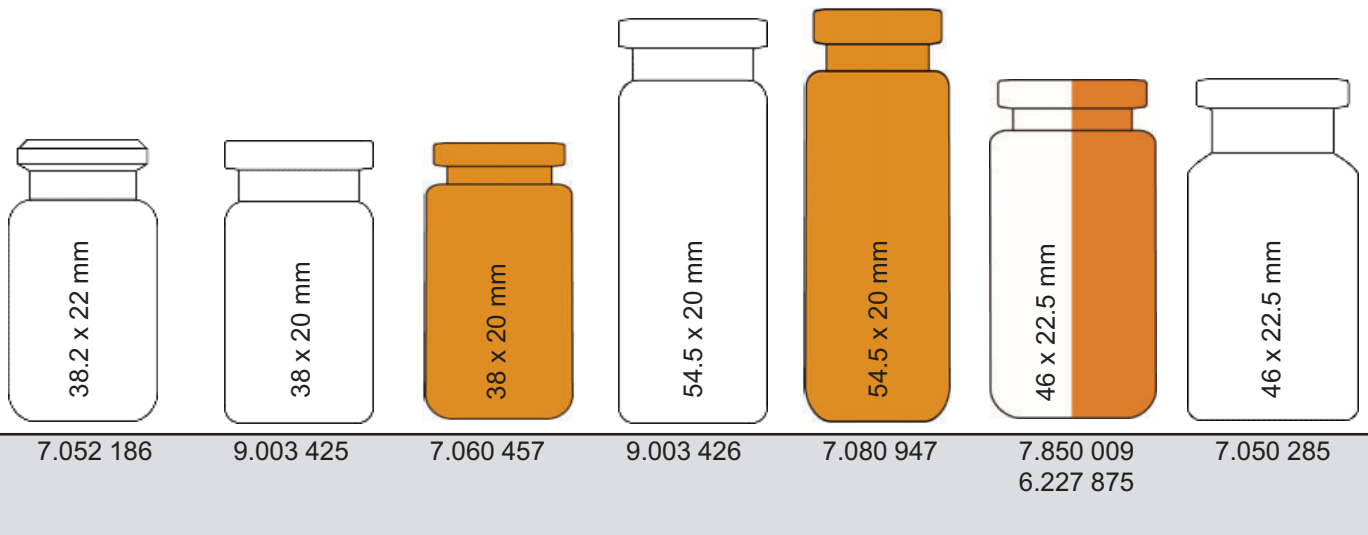
Snap Cap Vials



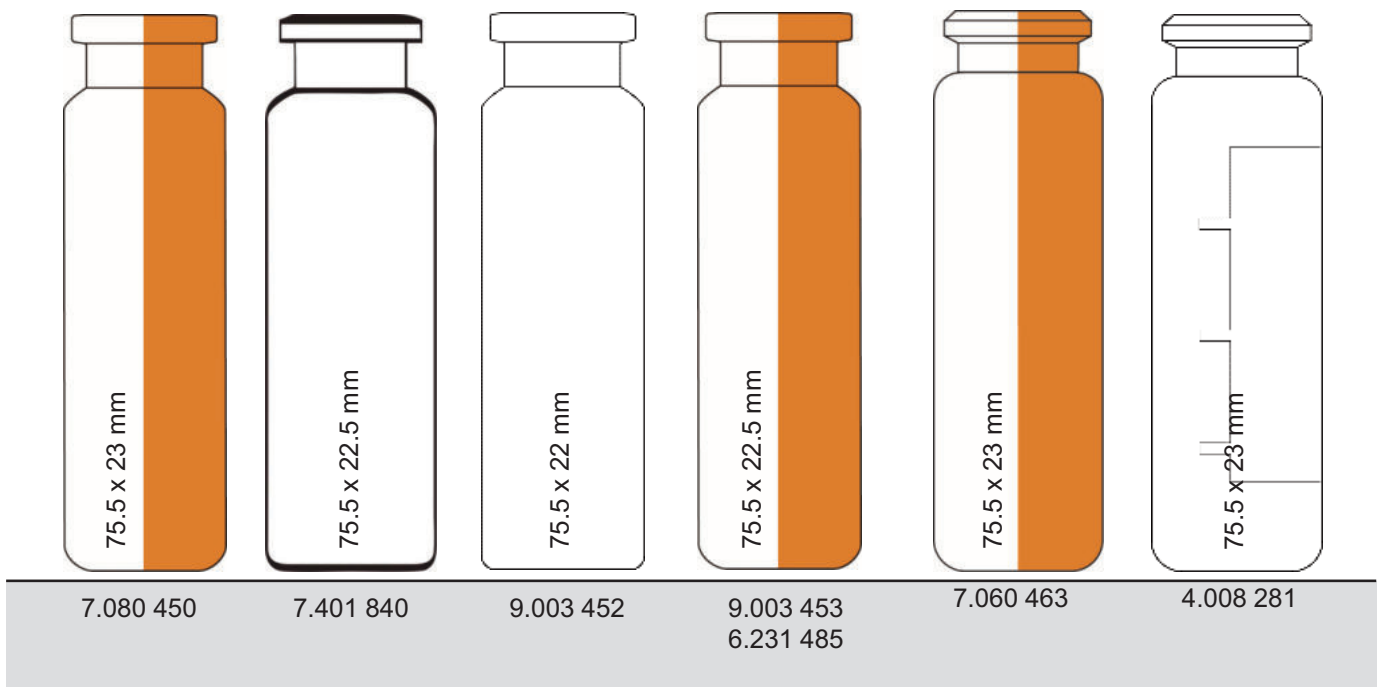
7.051 404 6.803 717 4.008 282 7.090 616

LLG - Flasks types

Headspace ND 20

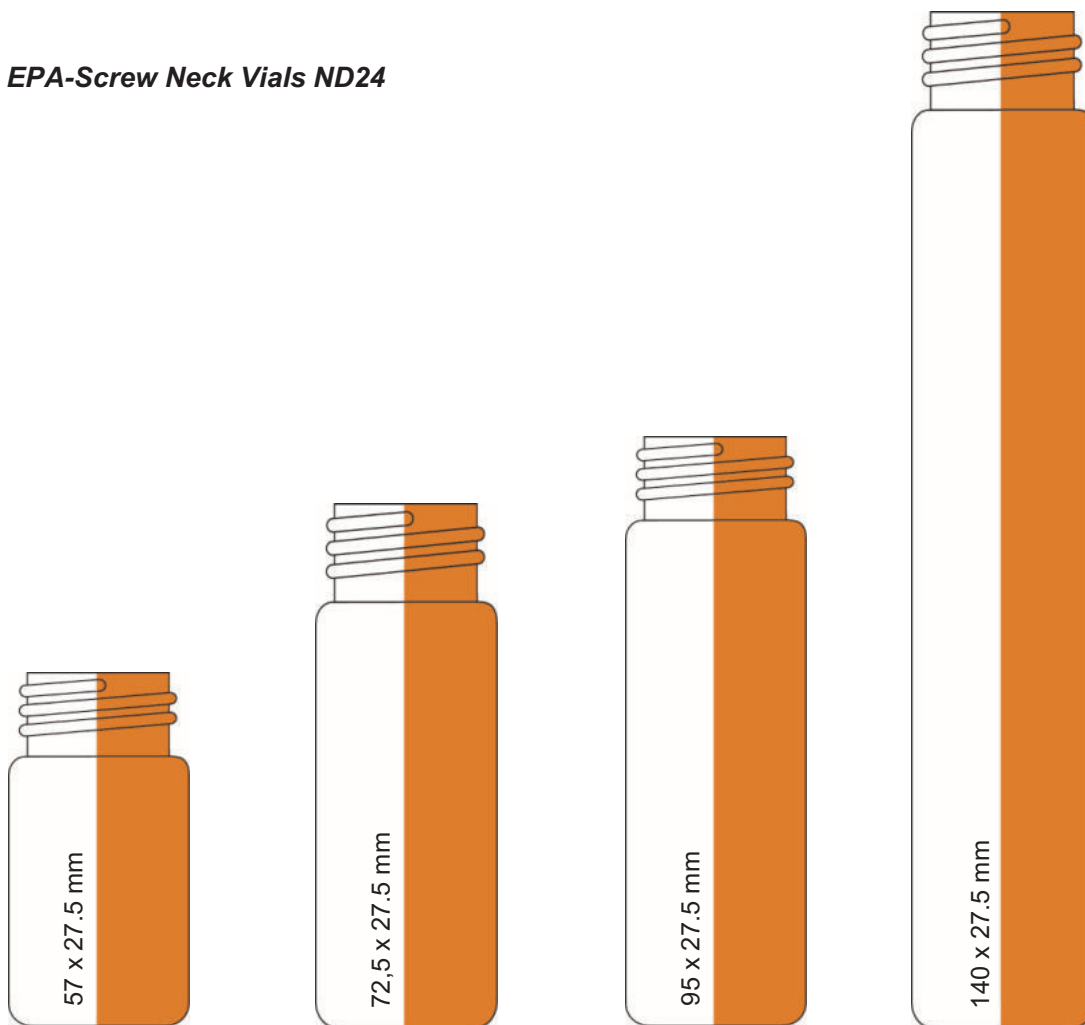


Headspace ND 20



LLG - Flasks types

EPA-Screw Neck Vials ND24



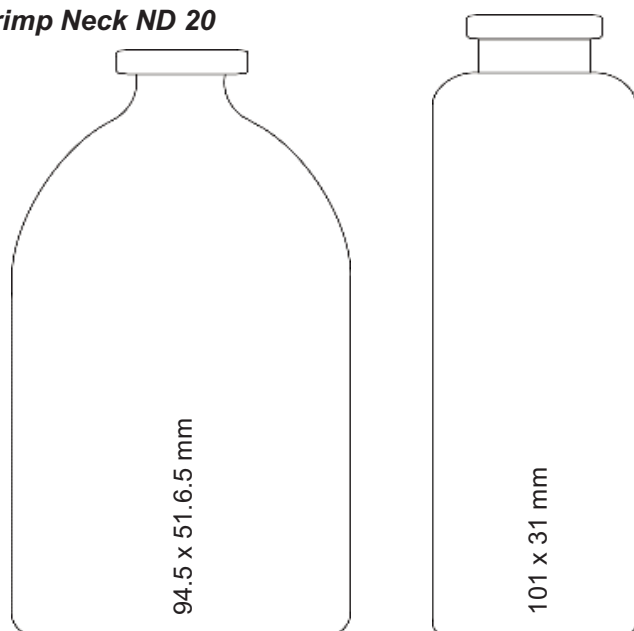
4.008 204
4.008 298

6.267 124
6.267 125

4.008 297
4.008 299

6.267 126
6.267 127

Crimp Neck ND 20



6.231 858

7.060 459

LLG - Cap types

Aluminum Crimp Caps, centre hole

				
Size	8 mm	11 mm	13 mm	20 mm
Size centre hole Material Lacquer	4 mm centre hole Aluminum clear	5.5 mm centre hole Aluminum clear, red, blue, green, gold	6 mm centre hole Aluminum clear, red, blue, green, gold	10 mm centre hole Aluminum plain, red, blue, green, gold

Special Aluminum Crimp Caps







						
Size	11 mm	13 mm	13 mm	20 mm	20 mm	20 mm
Type of Cap Material Lacquer Special features	Centre hole Cap Aluminum clear with roll groove	Centre Tear Off Cap Aluminum clear, red, blue, green, gold	Complete Tear Off Cap Aluminum clear, red, blue, green, gold	Centre Tear Off Cap Aluminum clear, red, blue, green, gold	Complete Tear Off Cap Aluminum clear, red, blue, green, gold	Headspace Cap* Aluminum clear

Headspace Cap:* This cap has the function of a pressure release cap and is designed with special scorelines whose bridges break open at an internal vial pressure of 3.0 ± 0.5 bar to let the excess pressure escape. It is comparable with the three component PerkinElmer Headspace Closure (Aluminum Crimp Cap with slits, metal star washer, liner with ears) which offers the same effect with a different technical design.

Magnetic Caps, centre hole

							
Size	9 mm Screw Cap	11 mm Crimp Cap	20 mm Crimp Cap	20 mm Crimp Cap	20 mm Bimetal Crimp Cap	18 mm Screw Cap	18 mm Screw Cap
Size centre hole Application Material Lacquer	6 mm centre hole (GC) PP Screw Cap blue/ magn. overcap gold GC PAL Thermo Scientific TriPlus	5 mm centre hole (GC) magnetic gold GC PAL, Thermo Scientific Tri Plus	5 mm centre hole (HS) magnetic gold CE HS250/500/HS800, CTC 500 Fisons HS250/500 HS800	8 mm centre hole (HS) magnetic Gold CTC Combi PAL	8 mm centre hole (HS) Alu/magnetic red CTC Combi PAL	8 mm centre hole (Universal) (Headspace/SPME) magnetic silver CTC Combi PAL PerkinElmer Agilent G1888A	Closed top Universal Screw Cap silver

PE-Caps for Crimp Necks

						
Size	8 mm	9 mm	11 mm	13 mm	22 mm	22 mm
Approp. Vial Size Cap Size centre hole Material, colour	For Crimp Neck ND8 8 mm with thinned penetration point PE, blue	For Crimp Neck ND8 9 x 5.9 mm 4 mm centre hole PE, transparent	For Crimp Neck and Snap Ring ND11 11 mm with thinned penetration point PE, blue	For Crimp Neck ND11 13 x 7.5 mm 4.5 mm centre hole PE, transparent	For HS Neck ND20 22 x 8.4 mm 4.3 mm centre hole PE, transparent Only for bevelled tops	For Crimp Neck ND20 22 x 9.1 mm 4.3 centre hole or 6 mm centre hole PE, transparent only for flat DIN Crimp Necks!


The drawings of the caps are not actual size. They should only visualize the special features of certain types of caps.

LLG - Cap types

Screw Caps

				
Size	8 mm	9 mm	10 mm	13 mm
Approp. Vial Thread Cap Design Size centre hole Material, colour	Screw Neck Vials ND8 8-425 thread Closed or open top 5.5 mm centre hole PP, black or white	Short Thread Vials ND9 short thread, Closed or open top 6 mm centre hole PP, black, transparent, blue, red, yellow, green	Screw Neck Vials ND10 10-425 thread, Closed or open top 7 mm centre hole PP, black	Screw Neck Vials ND12 13-425 thread, Closed or open top 8.5 mm centre hole PP, black, white
				
Size	15 mm	18 mm	20 mm	24 mm
Approp. Vial Thread Cap Design Size centre hole Material, colour	Screw Neck Vials ND15 15-425 thread, Closed or open top, 9 mm centre hole PP, black, white	Screw Neck Vials ND18 18-400 thread, Closed or open top 12 mm centre hole PP, black	Screw Neck Vials ND20 20-400 thread, Closed or open top, PP, white	Screw Neck Vials ND24 24-400 thread, Closed or open top 12.5 mm centre hole PP, white




PE-Plugs for Shell Vials

						
Size	8 mm	8 mm	8 mm	8 mm	12 mm	15 mm
Vial/Plug combination Plug Size Material, colour Special Features	Plug 6 mm PE, transparent	Plug 8 mm PE, blue	Plug 8 mm PE, transparent with insertion barrier for Micro-Inserts	Plug 8 mm PE, transparent without insertion barrier for Micro-Inserts	Plug 12 mm PE, transparent	Plug 15 mm PE, transparent

Snap Ring Caps

	
Size	11 mm
Approp. Vial Cap Design Size centre hole Material Colour	Snap Ring Vials ND11 open top 6 mm centre hole PE transparent*, blue*, red, yellow, green

Snap Caps







			
Size	18 mm	22 mm	28 mm
Approp. Vial Cap Design Size Cap Material Colour	Snap Cap Vials ND18 closed top 19.8 x 5.2 mm PE transparent	Snap Cap Vials ND22 closed top 23.5 x 5.5 mm PE transparent	Snap Cap Vials ND28 closed top 29.7 x 5.6 mm PE transparent

- available as a hard or soft PE Caps
- Hard Cap: tighter, but not so easy to push on or to remove
- Soft Cap: convenient in handling, but not as tight






The drawings of the caps are not actual size. They should only visualize the special features of certain types of caps.

Product Information – Sample Requests – Price Enquiries?
Our Customer Service Team is always at your disposal for further questions.





LLG-Crimp Neck Micro-Vials ND8

						
Capacity	0.2	0.3	0.6	0.6	1.2	1.2
o.d. x Height	5.5 x 31.5	5.5 x 31.5	7 x 40	7 x 40	8.2 x 40	8.2 x 40
Colour	clear	clear	clear	amber	clear	amber
Form	conical	round bottom	conical	conical	flat bottom	flat bottom
PK	100	100	100	100	100	100
Cat. No.	6.235 606	4.001 554	4.001 515	6.902 044	4.008 206	6.266 864





LLG-Aluminium Crimp Caps ND8, ready assembled

	Caps	Septa	Hardness	Thickness mm	PK	Cat. No.
	Aluminium, silver, center hole	Natural rubber, red-orange / TEF transparent	60° shore A	1.0	100	9.003 443
	Aluminium, silver, center hole	Red Rubber / PTFE beige	45° shore A	1.0	100	4.008 200
	Aluminium, silver, center hole	Silicone white / PTFE red	45° shore A	1.3	100	9.003 444
	Aluminium, silver, center hole	PTFE red / Silicone white, slit	45° shore A	1.3	100	6.266 865
	Aluminium, silver, center hole	PTFE red / Silicone white / PTFE red	45° shore A	1.0	100	4.008 198










LLG-Screw Neck Vials ND8, small opening

				
Capacity	1.5	1.5	1.5	1.1
o.d. x Height	11,6 x 32	11,6 x 32	11,6 x 32	11,6 x 32
Colour	clear	amber	amber, labeling field	clear
Form	flat bottom	flat bottom	flat bottom	conical
PK	100	100	100	100
Cat. No.	9.003 481	9.003 480	6.290 228	4.001 563





LLG-Micro-Inserts for Screw Vials ND8, small opening

				
Capacity	0.1	0.1	0.1	0.2
o.d. x Height	5 x 31	5 x 31	5 x 29	5 x 31
Colour	clear	clear	clear	clear
Form	conical, 15mm tip	conical, 9mm tip	with plastic spring	flat bottom
PK	100	100	100	100
Cat. No.	7.401 066	9.003 435	4.001 556	4.008 194

LLG-PP Screw Seals ND8, ready assembled, and empty Screw Caps ND8

	Caps	Septa	Hardness	Thickness mm	PK	Cat. No.
	black, centre hole	Natural rubber red-orange / TEF transparent	60° shore A	1.3	100	6.266 866
	black, closed	Natural rubber red-orange / TEF transparent	60° shore A	1.3	100	6.266 867
	black, centre hole	Red Rubber / PTFE beige	45° shore A	1.0	100	4.008 209
	black, closed	Red Rubber / PTFE beige	45° shore A	1.0	100	4.008 210
	black, centre hole	Silicone white / PTFE red	45° shore A	1.3	100	9.003 484
	black, centre hole	Silicone white / PTFE red, slit	45° shore A	1.3	100	6.232 178
	black, centre hole	PTFE red / Silicone white / PTFE red	45° shore A	1.0	100	4.008 207
	black, centre hole	no liner	-	-	100	7.060 421
	black, closed	no liner	-	-	100	7.075 960

LLG Septa for Screw Caps ND8

	Septa	Hardness	Thickness mm	PK	Cat. No.
	PTFE virginal, white	53° shore D	0.25	100	7.085 238
	Red Rubber / PTFE beige	45° shore A	1.00	100	4.008 197
	Silicone white / PTFE red	45° shore A	1.30	100	7.060 419
	Silicone white / PTFE blue, slit	55° shore A	0.90	100	7.085 892








1 LLG-2in1 KITS with Screw Neck Vials ND8 (small opening)

2in1 KITS contain 100 vials (1.5 ml) and 100 closures in an orange PP-Box. As both components are always required at the same time, 2in1 KITS are a convenient way to obtain and store all required items for analysis. All advantages of the individual components (cleanroom packaging of the vials, recloseability of the packaging, etc.) remain unchanged.

Any other combination of vial and seal as a 2in1 KIT available.



Type	Description	Capacity ml	Cover type	PK	Cat. No.
2in1 Kit	clear	1.5	Screw Cap, black, hole, Silicon white / PTFE red	100	6.238 965
2in1 Kit	amber	1.5	Screw Cap, black, hole, Silicon white / PTFE red	100	9.003 557
2in1 Kit	amber, labelling field	1.5	Screw Cap, black, hole, Silicon white / PTFE red	100	9.003 558
2in1 Kit	clear, labelling field	1.5	Screw Cap, black, hole, Silicon white / PTFE red	100	9.003 559
3in1 Kit	clear	1.5	Screw Cap, black, hole, Silicon white / PTFE blue, slitted (Septa unassembled)	100	6.223 506

LLG-Short Thread Vials ND9, wide opening






					
Capacity ml	1.5	1.5	1.5	1.5	1.5
o.d. x Height mm	11.6 x 32	11.6 x 32	11.6 x 32	11.6 x 32	11.6 x 32
Colour	clear	clear, labelling field flat bottom	amber	amber, labelling field flat bottom	transparent, with filling lines, PE concave bottom
Form	flat bottom	flat bottom	flat bottom	flat bottom	flat bottom
PK	100	100	100	100	100
Cat. No.	9.003 448	4.662 800	4.008 247	4.662 801	6.313 423

LLG-Short Thread Vials economy ND9, wide opening





Hydrolytical class 1, expansion 70.

		
Capacity ml	1.5	1.5
o.d. x Height mm	11.6 x 32	11.6 x 32
Colour	clear	amber
Form	flat bottom	flat bottom
PK	1000	1000
Cat. No.	6.273 634	6.273 635

LLG-Short Thread Vials ND9, wide opening, Micro-Vials

					
Capacity ml	1.1	0.9	0.2	0.2	0.3
o.d. x Height mm	11.6 x 32	11.6 x 32	11.6 x 32	11.6 x 32	11.6 x 32
Colour	clear	clear	clear	clear	transparent
Form	flat bottom, 15µl funnel in solid glas bottom	flat bottom, 1µl funnel in solid glas bottom	flat bottom with integrated 0.2mL insert	TPX®, flat bottom with integrated 0.2mL insert	PP, with inner cone
PK	100	1000	100	100	100
Cat. No.	4.008 249	7.970 595	4.008 250	6.266 868	4.008 262

Inserts for LLG-Short Thread Vials ND9, wide opening

				
Capacity ml	0.2	0.1	0.1	0.1
o.d. x Height mm	6 x 31	6 x 31	6 x 31	5.7 x 29
Colour	clear	clear	clear	clear
Form	flat bottom	conical 15mm tip	conical 12mm tip	with plastic spring
PK	100	100	100	100
Cat. No.	4.008 196	7.401 744	4.001 547	6.093 247

LLG-PP Short Thread Seals ND9, ready assembled



	Caps	Septa	Hardness	Thickness mm	PK	Cat. No.
	transparent, centre hole	Natural rubber, red-orange / TEF transparent	60° shore A	1.00	100	6.266 872
	blue, centre hole	Natural rubber, red-orange / TEF transparent	60° shore A	1.00	100	6.266 883
	transparent, centre hole	Red Rubber / PTFE beige	45° shore A	1.00	100	4.008 229
	blue, centre hole	Red Rubber / PTFE beige	45° shore A	1.00	100	4.008 228
	blue closed	Red Rubber / PTFE beige	45° shore A	1.00	100	4.008 230
	transparent, centre hole	Silicone white / PTFE red	55° shore A	1.00	100	7.076 778
	black, centre hole	Silicone white / PTFE red	55° shore A	1.00	100	4.008 225
	green, centre hole	Silicone white / PTFE red	55° shore A	1.00	100	4.008 224
	blue closed	Silicone white / PTFE red	55° shore A	1.00	100	4.008 227
	transparent, centre hole	Silicone white / PTFE blue, slit	55° shore A	1.00	100	7.200 809
	blue, centre hole	Silicone white / PTFE blue, slit	55° shore A	1.00	100	4.001 521
	black, center hole	Silicone white / PTFE blue, slit	55° shore A	1.00	100	4.008 226
	blue, centre hole	PTFE red / Silicone white / PTFE red	45° shore A	1.00	100	4.008 218
	blue, centre hole	PTFE virginal, white	53° shore D	0.25	100	4.008 221
	blue closed	PTFE virginal, white	53° shore D	0.25	100	7.930 366
	blue, centre hole	PTFE red / Silicone white	45° shore A	1.00	100	6.291 638

LLG-PP UltraBond*Short Thread Seals ND9

	Caps	Septa	Hardness	Thickness mm	PK	Cat. No.
	Ultrabond* Seal blue, center hole	Red Rubber / PTFE beige	45° shore A	1.0	100	4.008 216
	Ultrabond* Seal blue, center hole	Silicone beige / PTFE white	45° shore A	1.3	100	4.008 214
	Ultrabond* Seal blue, center hole	Silicone beige / PTFE white, slit	45° shore A	1.3	100	4.008 215

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

LLG-Septa for Thread Screw Caps ND9

Septa	Hardness	Thickness mm	PK	Cat. No.
 Silicone white / PTFE red	55° shore A	1.00	100	4.008 212
 PTFE virginal, white	53° shore D	0.25	100	4.008 211

1 LLG-2in1 KITS with Short Thread Vials ND9 (wide opening)

2in1 KITS contain 100 vials (1.5 ml) and 100 closures in an orange PP-Box. As both components are always required at the same time, 2in1 KITS are a convenient way to obtain and store all required items for analysis. All advantages of the individual components (cleanroom packaging of the vials, recloseability of the packaging, etc.) remain unchanged.







Any other combination of vial and seal as a 2in1 KIT available.

Description	Cover type	PK	Cat. No.
clear	Short Thread Cap, transparent, hole, natural rubber / PP red-orange	100	7.620 724
clear	Short Thread Cap, blue, hole, Silicon white / PTFE red	100	9.003 560
clear	Short Thread Cap, blue, hole, Silicon white / PTFE blue, slitted	100	7.621 765
clear	Short Thread Cap, black, hole, Silicon white / PTFE blue, slitted	100	4.663 293
clear	Short Thread Cap, transparent, hole, Silicon white / PTFE red	100	9.003 561
clear, labelling field	Short Thread Cap, blue, hole, Silicon white / PTFE blue, slitted	100	9.003 562
clear, labelling field	UltraClean Short Thread Cap, blue, hole, Silicon white / PFE red	100	7.970 892
clear, labelling field	UltraBond Short Thread Cap, blue, hole, Silicon beige / PTFE white, slitted	100	6.266 923
amber, labelling field	UltraBond Short Thread Cap, blue, hole, Silicon beige / PTFE white, slitted	100	9.003 563
amber, labelling field	UltraClean Short Thread Cap, blue, hole, Silicon white / PFE red	100	6.266 871






1









LLG-Screw Neck Vials ND10, wide opening and Micro-Inserts

Capacity o.d. x Height	ml mm						
0.1	5.7 x 29	0.1	0.1	0.2	1.5	1.5	1.5
Colour	clear	clear	clear	clear	clear	clear, labeling field	amber, labeling field
Form	with plastic spring	conical, 15mm tip	flat bottom	flat bottom	flat bottom	flat bottom	flat bottom
PK	100	100	100	100	100	100	100
Cat. No.	6.093 247	7.401 744	4.008 196	6.242 103	6.285 536	6.280 951	

LLG-PP Screw Seals ND10



Caps	Septa	Hardness	Thickness mm	PK	Cat. No.
 black, center hole	Natural Rubber red-orange / TEF transparent	60° shore A	1.3	100	6.267 111
 black, closed	Natural Rubber red-orange / TEF transparent	60° shore A	1.3	100	6.267 112
 black, center hole	Silicone white / PTFE red	45° shore A	1.3	100	4.008 235
 black, center hole	Silicone white / PTFE blue, slit	55° shore A	1.5	100	4.008 237
 black, center hole	PTFE red / Silicone white / PTFE red	45° shore A	1.0	100	4.008 236

LLG Crimp Neck Vials ND11, small and wide opening (flat bottom)









						
Capacity	1.5	1.5	1.5	1.5	1.5	1.5
o.d. x Height	11.6 x 32	11.6 x 32	11.6 x 32	11.6 x 32	11.6 x 32	11.6 x 32
Colour	clear	clear	amber	amber	amber, labeling field	clear, labeling field
Form	small opening	wide opening	wide opening	small opening	wide opening	wide opening
PK	100	100	100	100	100	100
Cat. No.	7.085 511	6.291 635	6.263 047	7.089 998	6.291 636	6.290 019

LLG Crimp Neck Vials economy ND11, wide opening







Hydrolytical class 1, expansion 70.

		
Capacity	1.5	1.5
o.d. x Height	11.6 x 32	11.6 x 32
Colour	clear	amber
Form	flat bottom	flat bottom
PK	1000	1000
Cat. No.	6.273 632	6.273 633

LLG-Micro Inserts for Crimp Neck Vials ND11

								
Capacity	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2
o.d. x Height	5 x 31	5 x 31	5 x 29	5 x 31	6 x 31	6 x 31	5,7 x 29	6 x 31
Colour	clear	clear	clear	clear	clear	clear	clear	clear
Form	for small opening, conical, 15mm tip	for small opening, conical, 9mm tip	for small opening, with plastic spring	for small opening, flat bottom	for wide opening, conical, 15mm tip	for wide opening, conical, 12mm tip	for wide opening, with plastic spring	for wide opening, flat bottom
PK	100	100	100	100	100	100	100	100
Cat. No.	7.401 066	9.003 435	4.001 556	4.008 194	7.401 744	4.001 547	6.093 247	4.008 196

LLG-Micro Crimp Neck Vials ND11

						
Capacity	1.1	1.1	1.1	1.1	0.3	0.2
o.d. x Height	11,6 x 32	11,6 x 32	11,6 x 32	11,6 x 32	11,6 x 32	11,6 x 32
Colour	clear	clear	clear	amber	clear	amber
Form	flat bottom, 15 µl funnel in solid glass bottom	conical	conical with a round pedestal glass plate	conical with a round pedestal glass plate	flat bottom, integrated 0.3mL insert	flat bottom, with integrated 0.2 mL insert
PK	100	100	100	100	100	100
Cat. No.	4.001 565	4.001 516	4.008 253	4.008 254	4.008 255	4.008 251

LLG-Aluminium Crimp Seals ND11, ready assembled

	Caps	Septa	Hardness	Thickness mm	PK	Cat. No.
	aluminium, silver, centre hole	Natural rubber red-orange / TEF transparent	60° shore A	1.00	100	9.003 441
	aluminium, silver, centre hole	Natural rubber / Butyl red-orange / TEF transparent	45° shore A	1.00	100	7.060 469
	aluminium, green, centre hole	Natural rubber / Butyl red-orange / TEF transparent	45° shore A	1.00	100	4.001 522
	aluminium, blue, centre hole	Natural rubber / Butyl red-orange / TEF transparent	45° shore A	1.00	100	6.900 233
	aluminium, silver, centre hole	Silicone white / PTFE red	45° shore A	1.30	100	9.003 446
	aluminium, silver, centre hole	Silicone white / PTFE blue, cross-slit	55° shore A	1.50	100	4.001 555
	magnetic , gold, centre hole	Silicone white / PTFE red	45° shore A	1.30	100	4.001 564
	aluminium, silver, centre hole	PTFE virginal, white	53° shore D	0.25	100	4.001 559
	aluminium, silver, centre hole	PTFE red / Silicone white / PTFE red	45° shore A	1.00	100	7.050 759
	aluminium, silver, centre hole	Red Rubber / PTFE beige	45° shore A	1.00	100	6.291 637

LLG-Septa for Crimp Caps ND11










	Septa	Hardness	Thickness mm	PK	Cat. No.
	PTFE virginal, white	53° shore D	0.25	100	4.001 535
	Red Rubber / PTFE beige	45° shore A	1.00	100	4.008 238
	Silicone white / PTFE red	45° shore A	1.30	100	7.054 037
	PTFE red / Silicone white / PTFE red	45° shore A	1.00	100	6.801 244

LLG-Snap Ring Vials ND11, wide opening and Micro-Inserts

As an alternative to snap ring seals, snap ring vials and micro-vials ND11 can also be sealed with crimp seals ND11 since the two snap ring lips have the same height as a crimp neck.

Capacity	1.5	1.5	1.5	0.3	0.3	0.1	0.1	0.2	
o.d. x Height	11.6 x 32	11.6 x 32	11.6 x 32	11.6 x 32	11.6 x 32	6 x 31	5.7 x 29	6 x 31	
Colour	clear	clear,	amber,	clear	clear, PP	clear	clear	clear	
		labeling field	labeling field						
Form	flat bottom	flat bottom	flat bottom	flat bottom, integrated 0.3mL insert	flat bottom, integrated 0.3mL insert	conical, 15mm tip	with plastic spring	flat bottom	
PK	100	100	100	100	100	100	100	100	
Cat. No.	6.073 833	6.270 176	6.270 177	4.008 255	6.267 115	7.401 744	6.093 247	4.008 196	

LLG-PE Snap Ring Seals ND11, ready assembled

	Caps	Septa	Hardness	Thickness mm	PK	Cat. No.
	transparent, PE centre hole	Natural Rubber red-orange / TEF transparent	60° shore A	1.0	100	6.267 116
	transparent, centre hole	Red Rubber / PTFE beige	45° shore A	1.0	100	4.008 261
	blue, centre hole	Red Rubber / PTFE beige	45° shore A	1.0	100	4.008 257
	transparent, centre hole	Silicone white / PTFE red	45° shore A	1.3	100	4.001 544
	transparent, centre hole	Silicone white / PTFE blue, cross-slit	55° shore A	1.0	100	4.008 256
	snap ring cap, blue, centre hole	Silicone white / PTFE blue, cross-slit	55° shore A	1.0	100	6.242 212
	transparent, centre hole	PTFE red / Silicone white / PTFE red	45° shore A	1.0	100	6.073 555
	blue, centre hole	PTFE red / Silicone white / PTFE red	45° shore A	1.0	100	4.008 259
	transparent, PE centre hole	Red Rubber / TEF transparent	60° shore A	1.0	100	6.291 662

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1 LLG-2in1 KITS with crimp neck vials ND11 (wide opening)

2in1 KITS contain 100 vials (1.5 ml) and 100 closures in an orange PP-Box. As both components are always required at the same time, 2in1 KITS are a convenient way to obtain and store all required items for analysis. All advantages of the individual components (cleanroom packaging of the vials, recloseability of the packaging, etc.) remain unchanged.

Any other combination of vial and seal as a 2in1 KIT available.



Description	Cover type	PK	Cat. No.
clear	Crimp Cap, silver, hole, Natural Rubber red-orange / TEF transparent	100	6.257 139
clear	Crimp Cap, silver, hole, Natural Rubber / Butyl red-orange / TEF transparent	100	9.003 564
clear, labelling field	Crimp Cap, silver, hole, Natural Rubber / Butyl red-orange / TEF transparent	100	9.003 565
amber, labelling field	Crimp Cap, silver, hole, Natural Rubber red-orange / TEF transparent	100	9.003 566
clear	Crimp Cap, silver, hole, Silicon white / PTFE red	100	6.238 979
clear	Crimp Cap, silver, hole, natural rubber red-orange / TEF transparent	100	6.282 841

1 LLG-2in1 KITS with snap ring vials ND11 (wide opening)



2in1 KITS contain 100 vials and 100 closures in an orange PP-Box. As both components are always required at the same time, 2in1 KITS are a convenient way to obtain and store all required items for analysis. 2in1 KITS are available for any type of 1.5 ml (32 x 11.6 mm) with an appropriate seal. All advantages of the individual components (cleanroom packaging of the vials, recloseability of the packaging, etc.) remain unchanged.

Any other combination of vial and seal as a 2in1 KIT available.






Description	Cover type	PK	Cat. No.
clear	Snap caps transparent, hole, Silicon white / PTFE red	100	4.661 002







LLG Crimp neck vials ND13

		
Capacity	2	4
o.d. x Height	16 x 32	14,7 x 45
Colour	clear	clear
Form	flat bottom	flat bottom
PK	1000	1000
Cat. No.	6.228 969	9.003 535








LLG-Aluminium Crimp Seals ND13, ready assembled and empty Crimp Caps ND13

	Caps	Septa	Hardness	Thickness mm	PK	Cat. No.
	aluminium crimp cap, silver, centre hole	Pharma-Fix-Septa (Butyl/PTFE)	50° shore A	2	100	7.060 475
	aluminium tear off cap, silver	Pharma-Fix-Septa (Butyl/PTFE)	50° shore A	2	1000	6.283 313
	aluminium crimp cap, silver, centre hole (no liner)	-	-	-	100	6.801 727




LLG-Screw Neck Vials and appropriate Micro-Insert

						
Capacity	4.0	4.0	4.0	4.0	2.0	0.3
o.d. x Height	14,7 x 45	14,7 x 45	14,7 x 45	14,7 x 45	14,7 x 45	6 x 40
Colour	clear	clear, labelling field	amber	amber, labelling field	PP, transparente	clear
Form	flat bottom	flat bottom	flat bottom	flat bottom	flat bottom	conical, metal spring necessary (6.267 118)
PK	100	100	100	1000	100	100
Cat. No.	9.003 482	6.267 117	7.058 142	9.003 549	6.313 424	7.055 486




LLG-PP Screw Seals ND13, ready assembled and empty Screw Caps ND13

	Caps	Septa	Hardness	Thickness mm	PK	Cat. No.
	black, centre hole	Red Rubber / PTFE beige	45° shore A	1.0	100	6.242 468
	black, closed top	Red Rubber / PTFE beige	45° shore A	1.0	100	4.008 267
	black, centre hole	Silicone creme / PTFE red	55° shore A	1.5	100	7.510 053
	black, closed top	Silicone creme / PTFE red	55° shore A	1.5	100	6.242 267
	black, centre hole				100	7.071 151
	black, closed top				100	7.060 437
	black, closed top	Butyl red / PTFE grey	55° shore A	1.3	100	4.678 390





LLG-Septa for Screw Caps ND13

	Septa	Hardness	Thickness mm	PK	Cat. No.
	Red Rubber / PTFE beige	45° shore A	1.00	100	4.008 264
	Silicone creme / PTFE red	55° shore A	1.50	100	4.008 263
	PTFE virginal, white	53° shore D	0.25	100	7.058 143






LLG-Screw Neck Vials for Storage Purposes ND 15, ND 18

Capacity o.d. x Height Colour Form	ml mm			
		8 16,6 x 61 clear ND15, flat bottom	12 18,5 x 66 clear ND15, flat bottom	16 20,6 x 71 clear ND18, flat bottom
PK		100	100	100
Cat. No.		6.280 953	6.280 952	6.280 954


LLG-Screw Seals for Screw Neck Vials ND 15, ND 18

	Caps	Septa	Hardness	Thickness mm	PK	Cat. No.
	ND15 cap, black, closed top	Butyl red / PTFE grey	55° shore A	1.6	100	4.678 391
	ND15 cap, black, 9 mm hole	Silicon white/ PTFE red	45° shore A	1.3	100	4.678 392
	ND18 cap, black, 12 mm hole	Butyl red / PTFE grey	55° shore A	1.6	100	6.267 121
	ND18 cap, black, closed top	Butyl red / PTFE grey	55° shore A	1.6	100	6.272 871

LLG-Shell Vials with PE cap (fire-polished neck) ND8, ND12, ND15

					
Capacity	1	1	2	4	4
o.d. x Height	8.2 x 40	8.2 x 40	11.6 x 31.5	14.65 x 44.60	14.65 x 44.60
Colour	clear	amber	clear	clear	PP, transparent
Form	ND8, flat bottom	ND8, flat bottom	ND12, flat bottom	ND15, flat bottom	ND15, flat bottom
PK	100	100	100	100	100
Cat. No.	7.300 174	4.008 205	4.008 248	6.280 950	6.283 263

LLG Plugs, PE

For	PK	Cat. No.
 ND8	100	7.300 175
 ND12	100	4.008 265





Shell Vials, with PE lamella plug



- With 8 mm PE lamella plug, transparent
- Without insertion barrier



		
Capacity	1	1
o.d. x Height	8,2 x 40	8,2 x 40
Colour	clear	amber
PK	100	100
Cat. No.	6.313 421	6.313 422

LLG-Snap Cap Vials ND18 and ND22, without lid





				
Capacity	5	10	15	25
o.d. x Height	20 x 40	22 x 50	26 x 48	26 x 65
Colour	clear	clear	clear	clear
Form	ND18, flat bottom	ND18, flat bottom	ND22, flat bottom	ND22, flat bottom
PK	100	100	100	100
Cat. No.	7.051 404	6.803 717	4.008 282	7.090 616

LLG Snap Caps ND18 and ND22, LDPE






For sealing of snap ring vials.

For	PK	Cat. No.
 ND18	100	6.051 403
 ND22	100	7.090 617

LLG-Headspace-Precision Thread Vials ND18

Capacity o.d. x Height	ml mm				
Colour		clear	amber	clear	amber
Form		rounded bottom	rounded bottom	rounded bottom	rounded bottom
PK		100	100	100	100
Cat. No.		9.003 466	6.290 106	4.008 270	4.678 396

LLG-Magnetic Universal Screw Seals ND18 for Precision Thread Vials ND18

	Caps	Septa	Hardness	Thickness mm	PK	Cat. No.
	silver, center hole	Butyl red / PTFE grey	55° shore A	1.6	100	4.008 269
	silver, center hole	Silicone blue transparent/ PTFE white	45° shore A	1.3	100	6.241 111
	silver, center hole	Silicone white / PTFE blue	55° shore A	1.5	100	4.008 268
	silver, without hole	Butyl red / PTFE grey	55° shore A	1.6	100	6.262 513
	silver, without hole	Silicone white / PTFE red UltraClean	45° shore A	1.3	100	6.267 122

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1 LLG-Headspace wash kit with crimp neck vials

NEW








The KITS include 25 crimp neck vials (10 ml) with PE snap cap and Silikon/PTFE septum (Y-slitted), in a storage box made of PP.

Type	PK	Cat. No.
LLG-Headspace Wash Kit	25	6.313 420








LLG-Headspace-Vials ND20 (5ml and 10ml)

Capacity o.d. x Height	ml mm								
Colour		clear	amber	clear	clear	clear	amber	clear	clear
Form		flat bottom flat DIN crimp neck	flat bottom flat DIN crimp neck	rounded bottom bevelled HS crimp neck	flat bottom bevelled HS crimp neck	flat bottom flat DIN crimp neck	flat bottom flat DIN crimp neck	flat bottom flat DIN crimp neck	rounded bottom bevelled HS crimp neck
For		Varian	Varian	PerkinElmer	Metrohm	Varian	Varian	DANI, Agilent	CTC, Varian
PK		100	100	100	100	100	100	100	100
Cat. No.		9.003 425	7.060 457	7.052 186	4.008 285	9.003 426	7.080 947	7.050 285	7.850 009







LLG-Headspace-Vials ND20 (20ml and 50 ml)

Capacity	ml							
o.d. x Height	mm	20 23.25 x 75.5	20 23.25 x 75.5	20 22.5 x 75.5	20 22.5 x 75.5	20 23 x 75.5	20 23 x 75.5	50 31 x 101
Colour		clear	amber	clear	clear	clear	clear, with label	clear
Form		flat bottom flat DIN crimp neck	flat bottom flat DIN crimp neck	flat bottom flat DIN crimp neck	rounded bottom flat DIN crimp neck	rounded bottom bevelled HS crimp neck PerkinElmer	rounded bottom bevelled HS crimp neck PerkinElmer	flat bottom flat DIN crimp neck
For				DANI, Agilent	CTC, Varian			
PK		100	100	100	100	100	100	100
Cat. No.		7.401 840	7.080 450	9.003 452	9.003 453	7.060 463	4.008 281	7.060 459


LLG-Crimp Seals ND20, Aluminium, ready assembled

	Caps	Septa	Hardness	Thickness mm	PK	Cat. No.
	silver, center hole	Butyl red / PTFE grey	50° shore A	3.0	100	9.003 454
	silver, center hole	Butyl grey / PTFE grey	50° shore A	3.0	100	4.001 549
	silver, center hole	Pharma-Fix-Septa Butyl/PTFE	50° shore A	3.0	100	9.003 430
	gold, center hole	Pharma-Fix-Septa Butyl/PTFE	50° shore A	3.0	100	4.008 275
	silver, center hole	Silicone blue / PTFE colourless	45° shore A	3.0	100	9.003 434
	silver, center hole	-	-	-	100	7.060 477
	silver, center hole	Silicone white / PTFE beige	45° shore A	3.2	100	9.003 460

LLG-Headspace Seals ND20 (Pressure Release Caps), Aluminium, ready assembled

	Caps	Septa	Hardness	Thickness mm	PK	Cat. No.
	silver, centre hole	Butyl red / PTFE grey	50° shore A	3.0	100	9.003 455
	silver, centre hole	Butyl grey / PTFE grey	50° shore A	3.0	100	4.001 557
	silver, centre hole	Pharma-Fix-Septa Butyl/PTFE	50° shore A	3.0	100	4.008 276
	silver, centre hole	Silicone blue transp. / PTFE transparent	45° shore A	3.0	100	7.050 286
	silver, centre hole	Silicone white / PTFE beige	45° shore A	3.2	100	9.003 456
	silver, centre hole	no liner			100	4.008 271

LLG-Crimp Seals ND20 (Center Tead Off Caps), Aluminium, ready assembled


	Caps	Septa	Hardness	Thickness mm	PK	Cat. No.
	gold	Pharma-Fix-Septa Butyl/PTFE	50° shore A	3	100	9.003 445

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1
LLG-Crimp Seals ND20 (Center Tead Off Caps), Aluminium, unassembled

Caps	Septa	Hardness	Thickness mm	PK	Cat. No.
silver	Butyl stopper, grey	50° shore A	3	100	6.270 720
silver				100	6.270 721





LLG-Crimp Seals ND20 (Complete Tear Off Caps), Aluminium, ready assembled

Caps	Septa	Hardness	Thickness mm	PK	Cat. No.
 silver	Pharma-Fix-Septa Butyl/PTFE	50° shore A	3	100	7.060 471






LLG-Crimp Seals ND20 (Complete Tear Off Caps), Aluminium, unassembled

Caps	Septa	Hardness	Thickness mm	PK	Cat. No.
 silver	Butyl stopper, grey	37° shore A	3	100	7.060 479
 silver	-	-	-	100	7.056 751








LLG-Bimetal Crimp Seals ND20, ready assembled, magnetic

Caps	Septa	Hardness	Thickness mm	PK	Cat. No.
 red/silver, centre hole	Butyl grey / PTFE grey	50° shore A	3.0	100	9.003 457
 red/silver, centre hole	Silicone blue transp. / PTFE transparent	45° shore A	3.0	100	6.234 541
 red/silver, centre hole	Silicone white / PTFE beige	45° shore A	3.2	100	9.003 458
 red/silver, centre hole (no liner)				100	4.008 272







LLG-Steel Crimp Seals ND20, ready assembled, magnetic

Caps	Septa	Hardness	Thickness mm	PK	Cat. No.
 gold, center hole 8 mm	Butyl red / PTFE grey	50° shore A	3	100	4.001 548
 gold, center hole 8 mm	Butyl grey / PTFE grey	50° shore A	3	100	6.229 635
 gold, center hole 8 mm	Pharma-Fix-Septa Butyl/PTFE	50° shore A	3	100	6.902 419
 gold, center hole 8 mm	Silicone blue transp./ PTFE transparent	45° shore A	3	100	7.850 010
 gold, center hole 8 mm (no liner)				100	7.625 012




LLG-PE Caps ND20, transparent and appropriate Septa

Caps	Septa	Hardness	Thickness mm	PK	Cat. No.
 PE cap, transparent 22.00 x 8.40mm for HS crimp neck 4.3mm centre hole	Natural rubber red- orange/ TEF transparent	60° shore A	1.3	1000	9.003 543
 PE cap, transparent 22.00 x 8.40mm for HS crimp neck 4.3mm centre hole	Butyl red / PTFE grey	55° shore A	1.3	1000	9.003 544
 PE cap, transparent 22.00 x 9.10mm for DIN crimp neck 4.3mm centre hole	Butyl red / PTFE grey	55° shore A	1.3	1000	9.003 545
 height 8.4mm, for HS crimp neck, 4.3mm centre hole (no liner)				100	6.227 768
 height 9.1mm, for DIN crimp neck, 4.3mm centre hole (no liner)				100	7.052 184
	Butyl red / PTFE grey	55° shore A	1.3	100	7.060 425
	Natural rubber red- orange/ TEF transparent	45° shore A	1.3	100	7.051 039

LLG-Septa for Crimp Caps ND20

Septa	Hardness	Thickness mm	PK	Cat. No.
 Butyl red / PTFE grey	50° shore A	3.0	100	7.060 427
 Butyl grey / PTFE grey	50° shore A	3.0	100	4.008 273
 Pharma-Fix- Septa Butyl/PTFE	50° shore A	3.0	100	7.071 063
 Silicone blue transp./ PTFE transparent	45° shore A	3.0	100	4.008 274
 Silicone white / PTFE beige	45° shore A	3.2	100	7.050 202
 Silicone white / Aluminium foil silver	50° shore A	3.0	100	4.001 550

LLG Stoppers ND20

Description	PK	Cat. No.
 butyl grey	100	7.060 433
 Brombutyl, freeze drying stopper	100	6.313 419
 bromine butyl, grey	100	6.313 445

1 LLG-Crimp Neck Vial ND20 for the doping control

100 mL crimp neck vial, 51.6 x 94.5mm, clear, flat bottom, flat DIN crimp neck.









Description	PK	Cat. No.
Vials only	88	6.231 858
Cap	100	7.060 471











14. Chromatography

Vials/Vials, Septa

LLG-Screw Neck Vials ND24 (EPA Vials)

Capacity o.d. x Height Colour Form	ml mm								
		20 27.5 x 57 clear flat bottom	20 27.5 x 57 amber flat bottom	30 27.5 x 72.5 clear flat bottom	30 27.5 x 72.5 amber flat bottom	40 27.5 x 95 clear flat bottom	40 27.5 x 95 amber flat bottom	60 27.5 x 140 clear flat bottom	60 27.5 x 140 amber flat bottom
PK		100	100	100	100	100	100	100	100
Cat. No.		4.008 204	4.008 298	6.267 124	6.267 125	4.008 297	4.008 299	6.267 126	6.267 127

LLG-PP Screw Seals ND24 (UltraBond Seals and ready assembled Seals ND24), PP Screw Caps ND24 (empty) and Septa ND22

	Caps	Septa	Hardness	Thickness mm	PK	Cat. No.
	white, closed	Butyl red / PTFE gray (mounted)	55° shore A	2.5	100	4.678 395
	Ultrabond*, white, center hole	Silicone white / PTFE beige	45° shore A	3.2	100	4.008 293
	Ultrabond*, white, closed top	Silicone white / PTFE beige	45° shore A	3.2	100	4.008 292
	white, closed	Silicone white / PTFE beige (mounted)	45° shore A	3.2	1000	9.003 541
	white, center hole	no liner			100	4.008 295
	white, closed top	no liner			100	4.008 296
		Silicone white / PTFE beige	45° shore A	3.2	100	4.008 291
		Butyl red / PTFE gray	55° shore A	2.5	1000	9.003 542

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



LLG-Crimping Tools ND8/ND11/ND13/ND20

Stainless steel crimping Tools ND11, ND13, ND20 for cleanroom use available on request.

1



9.003 471

Description	Size	PK	Cat. No.
Manual crimper for 8 mm aluminium caps	ND8	1	9.003 470
Manual decapper for 8 mm aluminium caps	ND8	1	9.003 511
Manual crimper, height adjustable, for 11 mm aluminium crimp caps	ND11	1	9.003 471
Manual decapper for 11 mm aluminium crimp caps	ND11	1	9.003 367
Manual crimper, height adjustable, for 13 mm aluminium crimp caps	ND13	1	9.003 473
Manual crimper, height adjustable, for 13 mm flip top/flip off caps	ND13	1	4.008 266
Manual decapper for 13 mm aluminium crimp caps	ND13	1	9.003 368
Manual crimper, height adjustable, for 20mm aluminium crimp caps	ND20	1	9.003 475
Manual crimper, height adjustable, for 20mm flip top/flip off caps	ND20	1	4.008 278
Manual decapper for 20mm aluminium crimp caps	ND20	1	9.003 369

2 LLG-Rack for Vials, PP

For all 1.5 and 4 ml vials. For up to 50 vials, blue, stackable.

For vials	Dimensions (W x D x H) mm	PK	Cat. No.
1.5 ml	200 x 105 x 17	1	7.970 861
4.0 ml	230 x 117 x 28	1	6.280 873

2



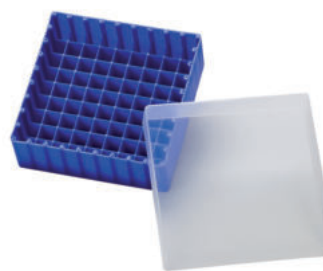
LLG-Storage Boxes, PP

Suitable for storage in the fridge.

For	Colour	Bottle size	Dimensions (l x w x h)	Array	PK	Cat. No.
		ml	mm			
ND8, 9, 10, 11	blue	1,5 / 2,0	130 x 130 x 45	9 x 9*	1	9.405 750
ND8, 9, 10, 11	orange	1,5 / 2,0	130 x 130 x 45	9 x 9*	1	9.405 751
ND8, 9, 10, 11	yellow	1,5 / 2,0	130 x 130 x 45	9 x 9*	1	9.405 753
ND8, 9, 10, 11	green	1,5 / 2,0	130 x 130 x 45	9 x 9*	1	9.405 754
ND13	red	4,0	130 x 130 x 52	7 x 7*	1	9.405 756
ND20	blue	5 / 10 / 20	130 x 130 x 102	5 x 5	1	4.001 528
ND8, 9, 10, 11	neon-green	1,5 / 2,0	67 x 67	4 x 4	1	9.405 760
ND8, 9, 10, 11	neon-pink	1,5 / 2,0	67 x 67	4 x 4	1	9.405 761
ND8, 9, 10, 11	blue	1,5 / 2,0	67 x 67	4 x 4	1	9.405 762
ND8, 9, 10, 11	transparent	1,5 / 2,0	67 x 67	4 x 4	1	9.405 765

* With alphanumeric coding on the edge and the bottom of each cavity.

3



9.405 750

4 Water, ultra pure

Water for a variety of applications in analytical chemistry.
H₂O - LF < 1 µS/cm - 0.4 µm, UV filtered.

NEW

CHEM-LAB n.v.

4



Type	Nominal capacity ml	PK	Cat. No.
Water, ultra pure	5000	1	4.675 028