

It has neve<mark>r bee</mark>n so Easy to Protect you<mark>r Health and Save Costs at the same Time.</mark>

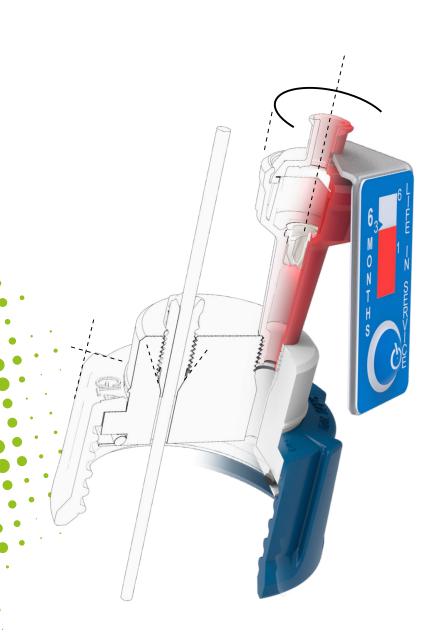
Solvent vapours are not only the cause of many occupational illnesses and breakdowns: especially in instrumental analysis, malfunctions can be costly if they result in interruptions and maintenance work.

Safety Caps protect against hazards from solvent vapours and ensure clean, reliable analysis.

www.scat-europe.com



- Safe Extraction of Solvents
- Reliable Health Protection
- Trouble-Free Analytic
- Stable Eluents



# Do you Extract your Solvents Safely?

The consequences of unsafe extraction.

## **Eluent emissions**

Non-hermetically sealed containers are a considerable safety risk as eluents / solvents can escape into the laboratory air.



## **Unstable mixtures**

Solvents are volatile and evaporate already at room temperature. Solvent mixtures thus become unstable and change their mixing ratio - which in turn falsifies the result. Solvent filtration, accurately prepared eluents and a constant mixing ratio over the entire application time are a must, especially with UHPLC.

## **Contamination of the eluent**

Dust, dirt and impurities from the ambient air can contaminate the mobile phase - and have a disturbing effect on the chromatogram. A lot is invested in developing the method for a clean separation. Contamination can create overlapping peaks, and make it difficult to detect the substance you are looking for.

### Air in the HPLC

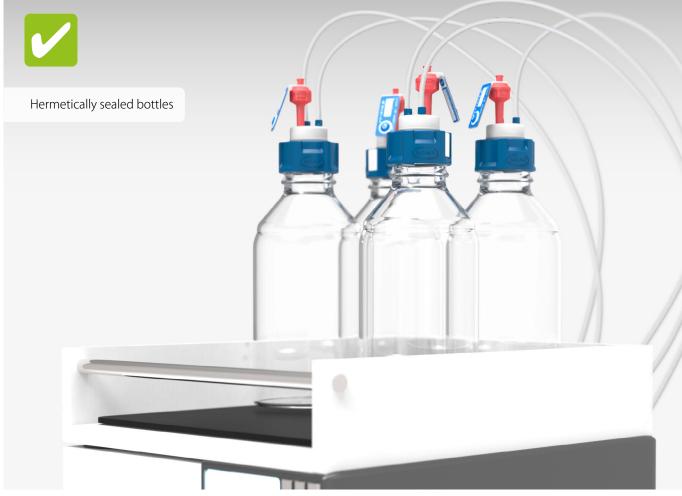
The results of your analyses are also affected by the handling of solvents. Tubes can slip out of the storage bottle if they are not screwed tightly. The consequence: aspirated air gets into the HPLC system and downtimes are pre-programmed.

## **Handling chaos**

With ordinary screw caps, handling when changing solvents is often awkward. Twisted capillaries create the famous "hose tangle" when the storage bottles have to be changed.

# You know This? Comparison





# **Safety Caps** The Safety Standard for HPLC



## **Safety Caps**

## The Benefits at a Glance



## **Best possible Protection against Vapours**

The hermetically sealing SCAT Safety Caps ensure that no solvent vapours escape.



## Safety for every HPLC Type

Whether HPLC, UHPLC or preparative HPLC: Safety Caps are optimised for all typical solvents and flow rates in chromatography. Each solution is extensively tested in practice before it finds its way into our range.



## **Safe Pressure Equalisation**

When extracting the eluent, a negative pressure is created in the container. The SCAT air valve ensures safe pressure equalisation during HPLC operation.



## **Best Chemical Resistance**

Anyone who works with organic solvents knows how important it is to use chemically resistant materials. Therefore, we only use officially tested high-performance plastics with clearly defined and verifiable properties for the production.



## **Clean Mobile Phase**

The valve membrane of the air valve retains dust and dirt particles from the ambient air. Analysis results remain unaltered and reproducible. For clean separation without interfering or overlapping peaks in the chromatogram.



## Safely through the Audit

HPLC instruments with SCAT equipment pass any quality or safety test according to the latest safety standards. That is why the SCAT system is part of the basic equipment for laboratory safety at leading pharmaceutical and chemical companies worldwide.



## **Stable Mixtures**

Due to the closed system, your solvent mixtures remain stable. Individual components can no longer evaporate - the mixing ratio remains constant.



## **Compatible across Generations**

The valve and all other components are compatible with previous and future Safety Caps. No matter how your lab changes: Accessories and spare parts always fit. That is our promise for the future.



## **Analysis without Air Bubbles**

Capillaries and tubes remain tightly screwed in and cannot slip out of the solvent. Interruptions due to air pockets are avoided.



## **Trouble-Free Work**

Safety Caps eliminate many interfering factors directly at the storage container. For smooth and reliable operation of your analytics.



## **Easy Container Change**

The freely rotating cap can be easily removed even with the tubes fitted - without twisting or "tube tangle". Your storage containers are changed quickly and conveniently.

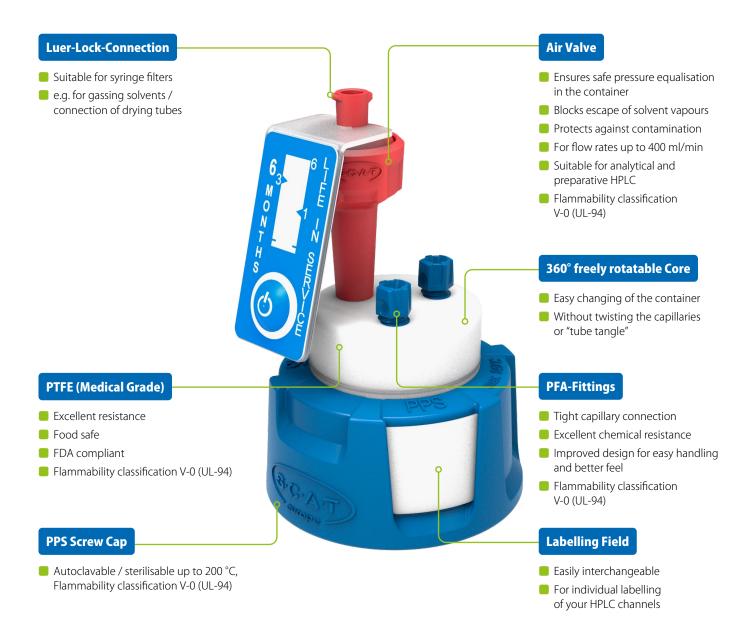


## More than 25 Years of Practice

For continuous improvement, we work closely with users from all over the world. Ideas from daily laboratory practice flow directly into every new generation of Safety Caps. This way, you always remain at the cutting-edge of technology.

## **Safety Caps**

# **Functional Principle**





## Various thread sizes

Safety Caps are available in many thread sizes to fit your storage container. Bottles with thread GL 45 are the most common in the HPLC laboratory. Caps in other sizes can be found here:

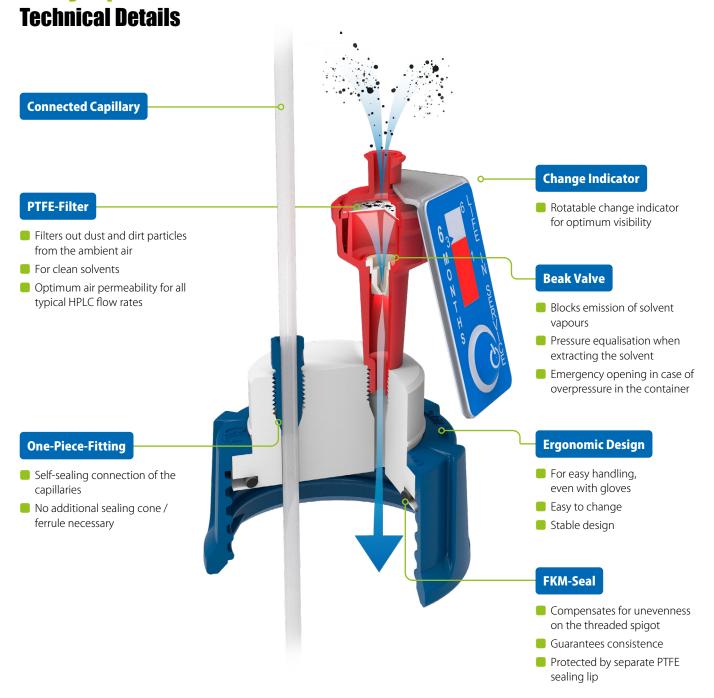
Thread Adapters for further Threads . . starting from page 164



## Which thread is the right one?

If you do not know the exact thread of your container, our chapter "Addendum" from "Thread Determination" onwards will help, on **page 172**.











## **Accessories included!**

Fittings and blind plugs in every size are included in the scope of delivery.

**ID** 1.6 mm 2.3 mm 3.2 mm





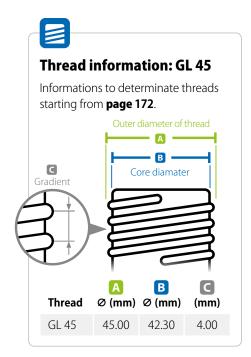




Accessories in detail from page 150

# **Safety Caps GL 45 Thread**

GL 45 is the most widely used thread for HPLC storage bottles. In most cases, bottles with a capacity of 500 or 1,000 ml are used. Solvents are often already supplied in bottles with this thread, or transferred to GL 45 bottles for HPLC supply.





## **Your benefits**

- Great flexibility due to the maximum scope of delivery
- Fittings are colour coded according to inner diameter
- No annoying measuring of capillary sizes
- Unused connections can be closed with blind plugs









Unused connections must be sealed with blind plugs!



### **PP-Core**

Our Safety Caps are available with a PP core on request. Here in the example: **B D** 

Safety Caps with PP core are suitable for the analysis of polyfluorinated chemicals (PFC) according to DIN 38407-42 or 38414-14.

# State of the Art - Supply



HPLC-Supply













Fig.	Part No.	Description	Thread	Material	Capillary Connections	Unit
A	307 019	Safety Cap I	GL 45	PTFE	1x	1
В	307 019-PP	Safety Cap I	GL 45	PP	1x	1
G	307 410	Safety Cap IV	GL 45	PTFE	4x	1
D	307 410-PP	Safety Cap IV	GL 45	PP	4x	1
3	307 909	Safety Cap II	GL 45	PTFE	2x	1
•	307 910	Safety Cap III	GL 45	PTFE	3x	1
G	307 520	Safety Cap VI	GL 45	PTFE	6x	1
•	317 010	Air valve for Safety Caps	UNF 1/4" 28G	-	-	1
	397 010	Air valves for Safety Caps	UNF 1/4" 28G	-	-	10
0	160 501	Blind plugs for Safety Caps	UNF 1/4" 28G	PFA	-	10

## **Safety Caps**

# The High-End-Model



## **Quickly Ready for Use Again**

Closing the shut-off ensures that no air gets into the capillaries or solvent runs out or drips when changing the container. After an interruption or repair, quick and easy flushing is possible.

## **No Air Inclusions**

After changing the storage reservoirs, the running analysis can be continued without interruption.

## **PFA Fitting**

- One-Piece-Fitting
- Self-sealing connection of the capillaries
- No additional sealing cone / ferrule necessary

## **Shut-Off Valve (open)**

- Trouble-free flow when open
- Quickly ready for use again after changing the container

## **PTFE Fitting**

Best chemical resistance

**Eluent Flow Direction** 

■ Towards the HPLC

## **Shut-Off Valve (sealed)**

- Easy exchange of the container
- No air intakes in capillaries after changing storage containers
- Stops flow without coming into contact with capillaries



## Looking for the right container?

Bottles, canisters and other containers, suitable with the SCAT Safety Caps starting from page 130.



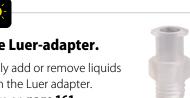






## The Luer-adapter.

Easily add or remove liquids with the Luer adapter. More on page 161.



# The High-End-Model



**HPLC-Supply** 











Fig.	Part No.	Description	Thread	Capillary Connections	from which with Shut-Off Valve
A	307 919	Safety Cap II with shut-off valves	GL 45	2x	2x
В	307 920	Safety Cap III with shut-off valves	GL 45	3x	3x
G	307 419	Safety Cap IV with shut-off valves	GL 45	4x	4x
D	307 519	Safety Cap VI with shut-off valves	GL 45	6x	бх

# **Space-saving**

## At a squeeze!

Especially where laboratory space is limited, you gain a major advantage with our angled Safety Caps. Even when extraction bottles are stored above the HPLC system, you can easily reach all the connectors because they are attached on the side.

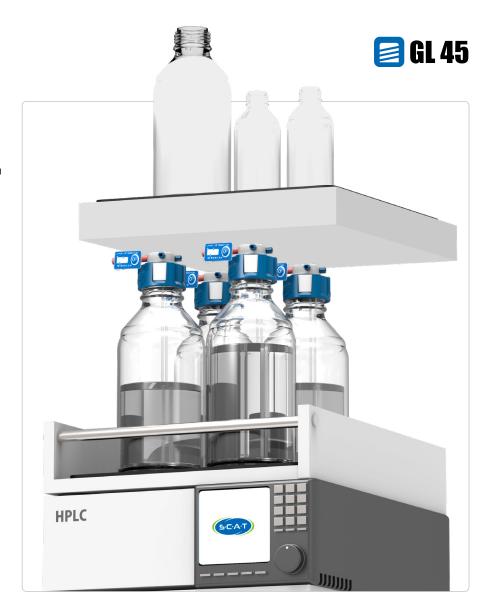






Fig.	Part No.	Description	Thread	Capillary Connections
A	399 019	Safety Cap I 90° angled	GL 45	1x
В	399 909	Safety Cap II 90° angled	GL 45	2x

# For the Preparative HPLC



HPLC-Supply















Safety Caps for larger capillary outer diameters (4.76 and 6.35 mm).



Fittings for other capillary sizes can be found from **page 156**.

Fig.	Part No.	Description	Thread	Connections for Ø 1.6 / 2.3 / 3.2 mm OD (1/8 lnch)	Connections for Ø 4.76 mm OD (3/16 Inch)	Connections for Ø 6.35 mm OD (1/4 Inch)
	307 003	Safety Cap II preparative	GL 45	1x	1x	-
A	307 007	Safety Cap I preparative	GL 45	-	-	1x
B	307 008	Safety Cap II preparative	GL 45	-	-	2x
G	307 009	Safety Cap II preparative	GL 45	1x	-	1x
D	308 032	Safety Cap I preparative	GL 45	-	1x	-
•	309 032	Safety Cap II preparative	GL 45	-	2x	-
8	310 032	Safety Cap III preparative	GL 45	-	3x	-

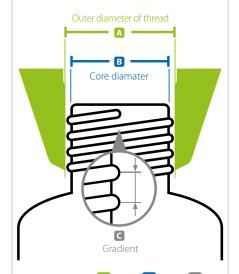
# **Safety Caps**

# **Further Thread Sizes**



## **Thread informations**

Container threads can be roughly determined based on their diameter. Information on the exact determination of the thread can be found under "Thread determination" from **page 172**.



Thread	Ø (mm)	Ø (mm)	(mm)
GL 28	28.00	25.98	3.00
GL 32	32.00	29.30	4.00
GL 38	38.00	35.00	3.00
38 / 430	37.49	35.10	4.23
GL/S40	40.00	37.30	4.00
B 53	54.00	47.50	6.35
B 63	62.51	60.12	4.23
GLS 80	80.00	77.00	15P5
B 83	89.18	79.00	12.70



















# **Safety Caps**

# **Further Thread Sizes**













Fig.	Part No.	Description	Thread	Capillary Connections
A	307 006	Safety Cap II	GL 28	2x
B	107 511	Safety Cap II	GL 32	2x
•	107 512	Safety Cap III	GL 38	3x
D	107 636	Safety Cap I	38 / 430	1x
<b>3</b>	107 637	Safety Cap II	38 / 430	2x
<b>3</b>	107 105	Safety Cap I, with shut-off valve	GL/S40	1x
G	107 742	Safety Cap III	GL/S40	3x
•	307 100	Safety Cap I	GL/S40	1x
0	307 101	Safety Cap II	GL/S40	2x
	107 058	Safety Cap II	B 53	2x
K	107 039	Safety Cap I	B 63	1x
	107 030	Safety Cap I	GLS 80	1x
	107 031	Safety Cap II	GLS 80	2x
	107 032	Safety Cap III	GLS 80	3x
M	107 035	Safety Cap IV	B 83	4x

# **Safety Caps**

# **For Bottles with Ground Neck**















## Easy Opening

Everyone is familiar with stuck ground neck stoppers: dried liquids and sticky substances settle on the ground glass, the stopper does not budge. SCAT stoppers with lock nut allow easy loosening and removal of the stopper even after a long standing time.

## Locknut

 The locknut presses against the bottle when it is turned, thus releasing the cap without much effort

Fig.	Part No.	Description	Thread Size Ground Neck Size	Capillary Connection
A	107 607	Safety Cap II for ground neck bottles, with locknut	29/32 mm	2x
B	107 507	Blind plug for ground neck bottles, with locknut	29/32 mm	-
G	307 508	Ground neck adapter for GL 45 threaded bottles	GL 45 - 29/32 mm	-
D	107 509	GL 45 adapter for ground neck bottles, with locknut	29/32 mm - GL 45	-
<b>3</b>	107 506	Replacement locknut for Safety Cap	29/32 mm	-

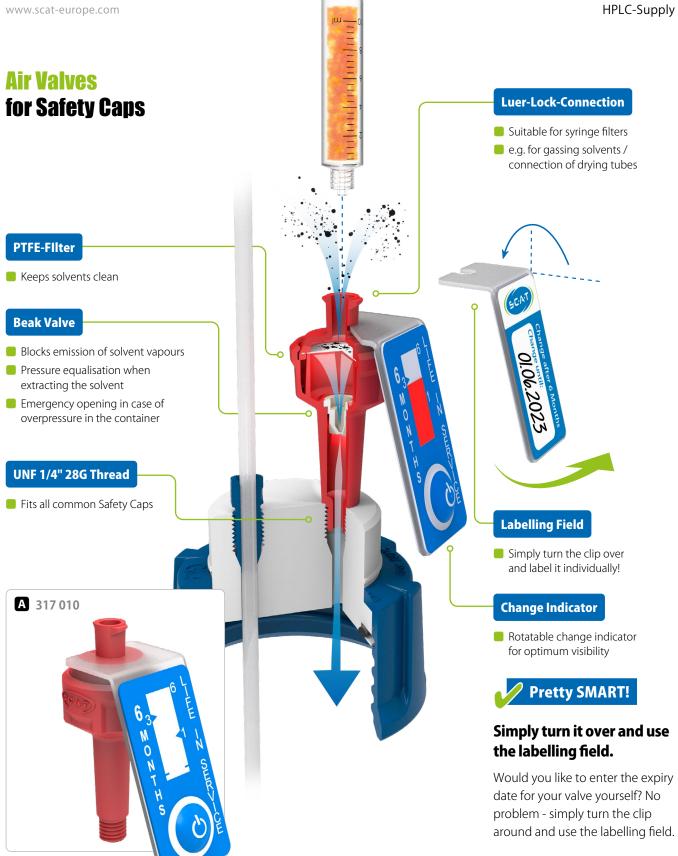


Fig.	Part No.	Description	Thread Size	Unit
A	317 010	Air valve	UNF 1/4" 28G	1
	397 008	Air valves	UNF 1/4" 28G	8
	397 010	Air valves	UNF 1/4" 28G	10
	397 050	Air valves	UNF 1/4" 28G	50
	397 100	Air valves	UNF 1/4" 28G	100

# HPLC Starter Kits Savings: up to 30%

## Plug & Play for 4 Storage Bottles

Save yourself the trouble of putting together a configuration! The Starter Kits are available in 3 versions, suitable for most HPLC applications.

## Flexible Connections with Blind Plugs

If you do not need some connections, close them with the corresponding blind plugs. This way, there are no open spots.

## Suitable for all common HPLC Systems

The starter kits work independently of the manufacturer of your HPLC. The connections are designed for capillaries with 1.6, 2.3 and 3.2 mm outer diameter.

# Price Advantage

Price advantage compared to single order. Compared to single Safety Caps, the set is significantly cheaper. Request your individual offer: **www.scat-europe.com** 



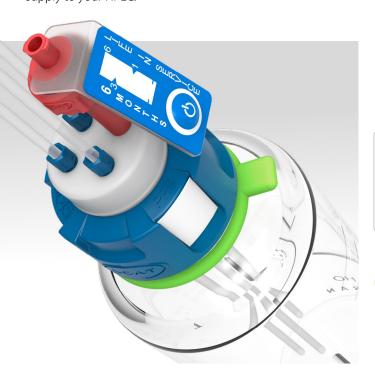
# **HPLC Starter Kits**



Abb.	Part No.	Description	Contents	Quantity	Thread	Capillary Connections
	399 200	HPLC Starter Kit Supply 1	Safety Cap I Safety Cap II Air valve Fitting (of each colour) Blind plug for capillary connection	3x 1x 4x 5x 1x	GL 45 GL 45 UNF 1/4" 28G UNF 1/4" 28G UNF 1/4" 28G	1x 2x - -
	399 201	HPLC Starter Kit Supply 2	Safety Cap II Air valve Fitting (of each colour) Blind plug for capillary connection	4x 4x 8x 4x	GL 45 UNF 1/4" 28G UNF 1/4" 28G UNF 1/4" 28G	2x - -
A	399 202	HPLC Starter Kit Supply 3	Safety Cap III Air valve Fitting (of each colour) Blind plug for capillary connection	4x 4x 12x 8x	GL 45 UNF 1/4" 28G UNF 1/4" 28G UNF 1/4" 28G	3x - -

# **HPLC Supply Sets Plug-and-Play Solution**

These combinations are most frequently used by our customers. That is why we have put them together as practical sets. They contain all the necessary parts for connecting the solvent supply to your HPLC.



## Completely - Ready for Immediate Use

- With Safety Cap for safe supply
- Storage bottle in different versions
- For each connection: 1.5 m capillary with 3.2 mm outer diameter
- Suction filter made of PTFE for a particularly clean mobile phase



### **Accessories included!**

Capillaries, suction filters, as well as fittings in every size and blind plugs are included in the scope of delivery.



## Various Combinations

With 1, 2 or 3 HPLC connections. The storage bottles are available in clear or brown glass, round or square.

Fig.	Part No.	Description	Thread	Bottle Shape	Glass Type	Capacity	Capillary Connections
A	307 300	HPLC Supply Set I	GL 45	Round	Clear	1,000 ml	1x
В	307 303	HPLC Supply Set II	GL 45	Round	Clear	1,000 ml	2x
•	307 304	HPLC Supply Set III	GL 45	Round	Clear	1,000 ml	3x
D	307 301	HPLC Supply Set I	GL 45	Square	Clear	1,000 ml	1x
<b>3</b>	307 305	HPLC Supply Set II	GL 45	Square	Clear	1,000 ml	2x
•	307 306	HPLC Supply Set III	GL 45	Square	Clear	1,000 ml	3x
G	307 312	HPLC Supply Set I	GL 45	Round	Brown	1,000 ml	1x
	307 313	HPLC Supply Set II	GL 45	Round	Brown	1,000 ml	2x
0	307 314	HPLC Supply Set III	GL 45	Round	Brown	1,000 ml	3x
	307 327	HPLC Supply Set II	GL 28	Round	Brown	100 ml	2x
K	307 347	HPLC Supply Set III	GL 45	Ergonomic	Clear	1,000 ml	3x

# **HPLC Supply Sets**





















## "Youtility" Bottle

With colour coding to identify your laboratory bottle. The coloured ring is easy to remove even when wearing gloves.



# **HPLC Supply and Waste Set The All Inclusive Package**







Unbox, Install - Ready

## The complete package for many device types

The HPLC supply and waste set offers complete safety for your HPLC or UHPLC system. It is ideal as basic equipment for most chromatography instruments and was developed in cooperation with leading instrument manufacturers. The large scope of delivery is designed for devices with up to 4 storage bottles and one waste container.

## **Closed system for optimal protection**

From the supply to your HPLC to the waste: air valves and exhaust filters block solvent vapours where they arise. The circulation of the liquids remains safe. Unused connections must be sealed with the supplied blind plugs. This way, there are no open spots.

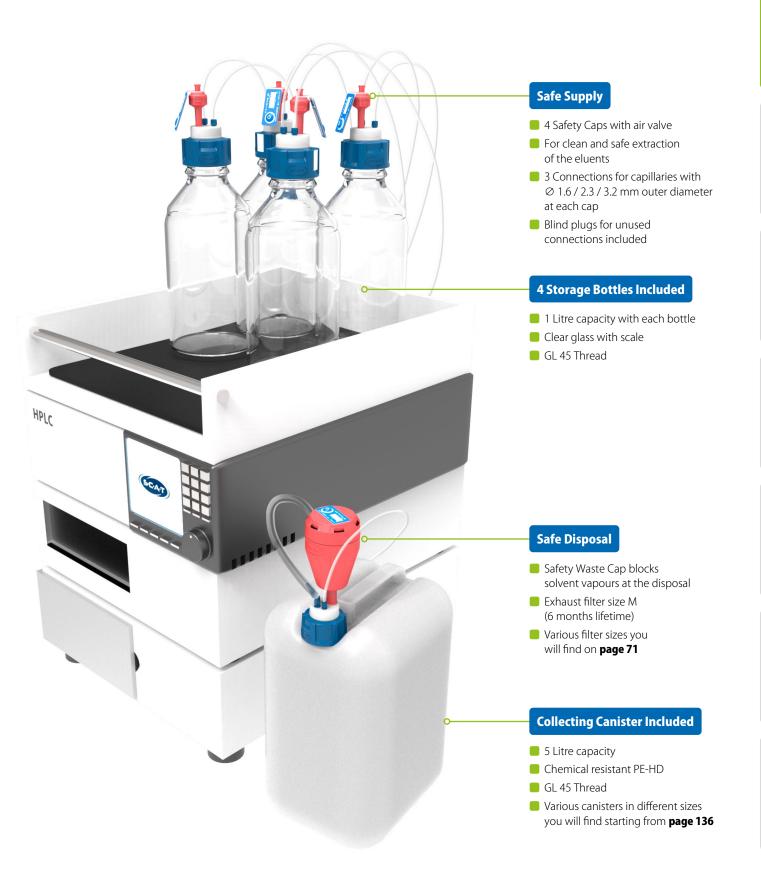


## Scope of delivery: what is included?

A detailed overview of all included parts can be found on **page 60**.

# **HPLC Supply and Waste Set**

# **The All Inclusive Package**



# **HPLC Supply and Waste Set**

# **Scope of Delivery (307 337)**





























**HPLC Supply and Waste Set Ordering Information** 



Fig.	Part No.	Description	Contents		
A	307 337	HPLC Supply	Quantity	Description	See also
		and Waste Set	4x	Safety Cap III, GL 45	▶ Page 44
			1x	Safety Waste Cap, GL45	▶ Page 73
			4x	Air valve	▶ Page 53
			1x	Exhaust filter M, V3.0, with splash protection and change indicator	▶ Page 71
			4x	Laboratory bottle DURAN, GL 45, 1000 ml, clear glass, round	▶ Page 132
			1x	Canister, 5 Litres, PE-HD, GL 45	▶ Page 136
			5x	PFA Fitting, 1.6 mm ID, green	▶ Page 156
			5x	PFA Fitting, 2.3 mm ID, violet	▶ Page 156
			10x	PFA Fitting, 3.2 mm ID, blue	▶ Page 156
			1x	Tube connector, stepped, curved, 5.0 - 11.5 mm OD	▶ Page 158
			2x	Tube connector, straight, 6 - 8 mm OD	▶ Page 158
			1x	Tube connector, angled, 9.5 - 10 mm OD	▶ Page 158
			10x	Blind plug for capillary connection, PFA, colourless	▶ Page 156
			1x	Blind plug for tube connection, PTFE, white	▶ Page 159