

HPLC Product Guide

Highlights & News



Caps GL45
page 5



NEW
Waste Cap GPI38/430
page 9



Level-Control Set
page 15



Safety with System

Prioritize Safety Now.
Protect the Health of Yourself and Your Staff.

Does Your Eluent Extraction Look Like This?

- Safety is not a top priority?
- **Provisional sealing** with aluminium foil?
- **Self-drilled holes** for tubes?
- **Hazardous vapors** escape into your environment every day



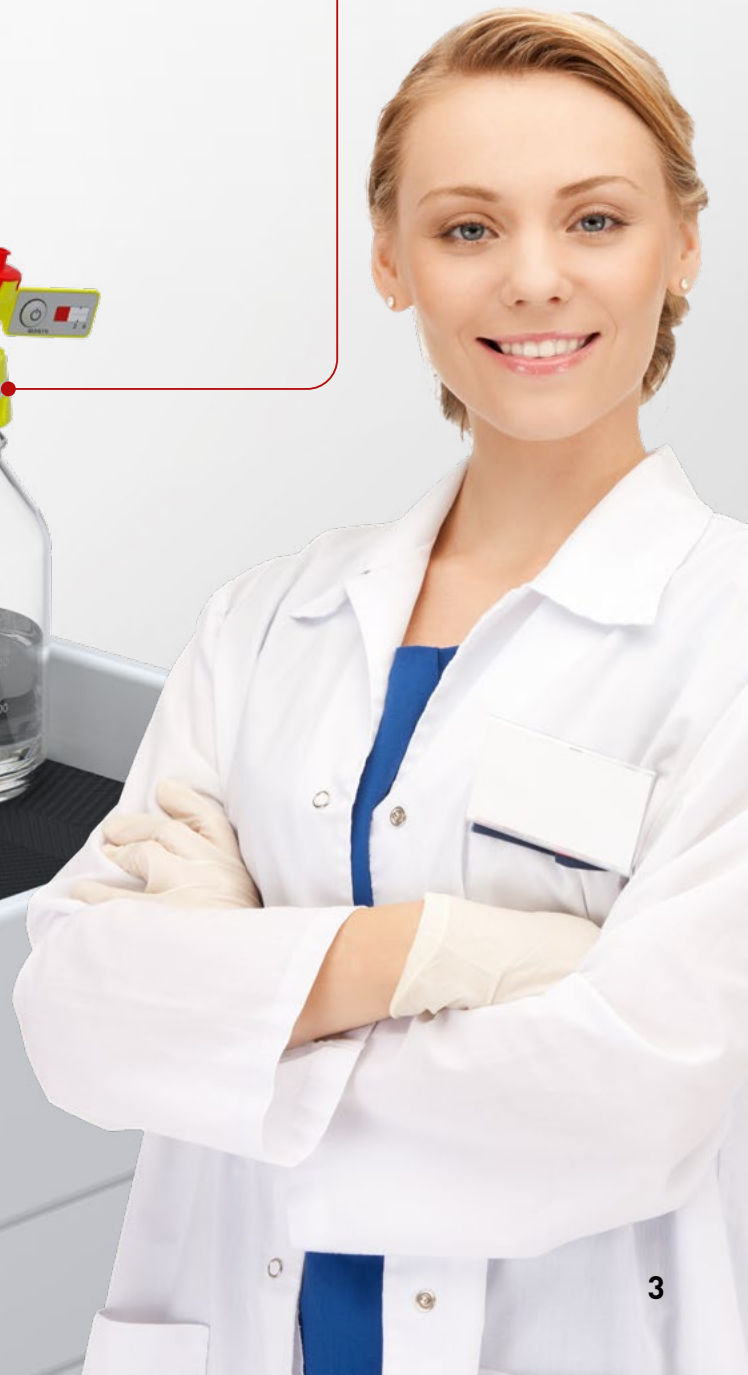
better **b.safe**

bsafe.de or **+49 (0) 93 46-92 86-0**

Now Is The Time to Take Action!

With **b.safe** you can now create the optimal, safe laboratory environment:

- **b.safe caps** offer optimal handling during extraction
- **No kinking** of hoses
- **No escape** of solvent vapors
- Guaranteed **pure eluents**



b.safe Distributors for Flushing Bottles



Material: **PP, PP-GF** | Temperature resistance: **0 °C to +110 °C** | Chemical resistance: **++ very good**

Screw cap made of PP-GF for GL45 thread or made of PP for GLS 80 thread, free movable insert made of PP with 4 lateral connectors (GL45) suitable for b.safe Caps GL 45 and 3 centric capillary connectors (UNF 1/4").

Application: Flushing the HPLC installation without pollution or loss of solvents. The handling is very easy as the distributor is directly mounted on the flushing bottle. Remove the b.safe Caps from the eluent bottles and mount them on the connectors of the Distributor for Flushing Bottles. The passage at the distributor neck is sufficiently dimensioned so that the capillaries mounted on the cap can be inserted into the flushing bottle together with the filter. For the GL45 version of the Distributor for Flushing

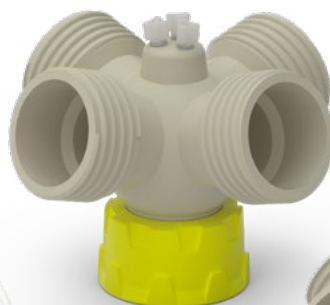
Bottles, we recommend to use smallest possible suction filters (max. O.D. 14 mm) to facilitate the insertion of tubing through the small bottle neck. If a connector of the distributor is not used, it can be closed with a screw cap GL45. Harmful solvent vapours cannot escape and the rinse solution is not polluted through ambient air by means of b.safe Caps with Air Valve. The Distributor for Flushing Bottles can also be used for back flushing the piston and/or the needle seat. Just connect the needed capillaries as well as an Air Valve with b.safe Fittings on the centric capillary connectors.



Without distributor for flushing bottles:
Toxic gases are escaping!

	Suitable for	Number of flushing connectors	Number of capillary connectors	Number of Blind Fittings	Article No.	*recomm. price Euro
A	GL45	4 x GL45	3	3 (milky white)	M 181-03	194,25
B	GLS80	4 x GL45	3	3 (milky white)	M 181-10	224,02

Version and scope of delivery as per below chart.



A
M 181-03

Thread
GL45



B
M 181-10

Thread
GLS80



Clean Work

- Safe rinsing of the unit
- Additionally, a rear seal wash or needle seat wash can be connected
- Unused ports can be easily sealed with the b.safe cap
- We recommend using the GLS80 bottles for comfortable insertion and withdrawal of the extraction tubes

* Recommended prices valid until 31.12.2026. Subject to change.

Screw cap made of PP-GF for **thread GL45**, free movable insert made of PTFE. With PFA fittings for capillaries with O. D. 3,2 mm (thread UNF 1/4" 28G), blind fittings made of PFA to close unused connections and an Air Valve with service life indicator.

Application: Perfectly matched system for removal of eluents. Tubing can be inserted down to the ground of the bottle by means of the b.safe fittings made of PFA. The conical seal cone clamps the tubing and seals the connection safely. The b.safe Air Valve is especially adapted to the flow rate in HPLC. The integrated non-return valve

avoids evaporation of solvents and lets ambient air flow into the bottle in case of vacuum. The upstream porous PTFE membrane restrains pollutant particles and other contaminations from outside. The 6 months service life of the filter can be easily monitored through either activating the display on the cap and exchanging the valve in case of completely red colouring or documentation of the exchange date by hand and clip in the display at the valve.

	Number of capillary connectors	Number of Fittings	Number of Blind Fittings	Article No.	*recomm. price Euro
A	1	1 x Ø 3,2 mm (yellow)	0	M 145-01	65,41
B	2	2 x Ø 3,2 mm (yellow)	1 (milky white)	M 145-02	73,80
C	3	3 x Ø 3,2 mm (yellow)	2 (milky white)	M 145-03	76,61
D	4	4 x Ø 3,2 mm (yellow)	3 (milky white)	M 145-04	107,01
E	6	6 x Ø 3,2 mm (yellow)	5 (milky white)	M 145-05	107,66

Version and scope of delivery as per below chart.

b.safe Air Valves

Material: **PP** | Temperature resistance: **0 °C to +110 °C** | Chemical resistance: **++ very good**

Valve body made of PP with connection (thread UNF 1/4" 28G) suitable for b.safe Caps. Lid with aeration opening and Luerlock connector, integrated non-return valve with upstream porous PTFE membrane (1 µm), including plug-in service life indicator.

Application: For removal of eluents. The b.safe Air Valve is especially adapted to the flow rate in HPLC. The integrated non-return valve avoids evaporation of solvents and lets ambient air flow into the bottle in case of vacuum. The upstream porous PTFE membrane restrains pollutant particles and other contaminations from outside. The 6 months service life of the filter can be easily monitored through either activating the display on the cap and exchanging the valve in case of completely red colouring or documentation of the exchange date by hand and clip in the display at the valve.



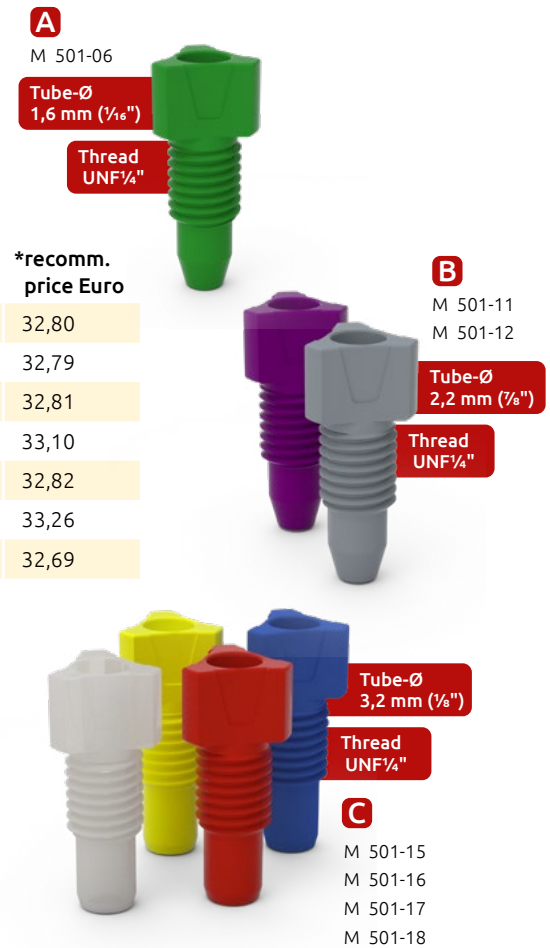
	Packing unit	Service life	Article No.	*recomm. price Euro
A	2 pcs.	6 months	M 505-01	38,33
B	10 pcs.	6 months	M 505-02	169,23
C	50 pcs.	6 months	M 505-05	731,20
D	100 pcs.	6 months	M 505-10	1.079,20

b.safe Fittings

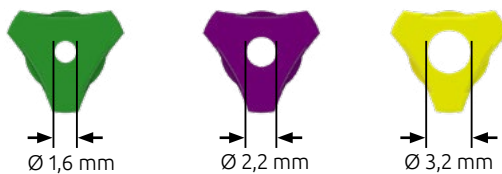
Material: **PFA** | Temperature resistance: **-200 °C to +260 °C** |
Chemical resistance: **+++ universal**

Fittings made of PFA to fix tubing in the capillary connectors (thread UNF 1/4" 28G) of b.safe Caps and b.safe Waste Caps. The conical seal cone clamps the tubing and seals the connection safely. For better overview, the fittings are available in various colors.

	For Tubing O. D.	Colour	Packing unit	Article No.	*recomm. price Euro
A	1,6 mm (1/16")	green	10 pcs.	M 501-06	32,80
B	2,2 mm	purple	10 pcs.	M 501-11	32,79
B	2,2 mm	grey	10 pcs.	M 501-12	32,81
C	3,2 mm (1/8")	milky-white	10 pcs.	M 501-15	33,10
C	3,2 mm (1/8")	blue	10 pcs.	M 501-16	32,82
C	3,2 mm (1/8")	red	10 pcs.	M 501-17	33,26
C	3,2 mm (1/8")	yellow	10 pcs.	M 501-18	32,69



Suitable for 3 tube outer diameters



b.safe PTFE-Tubing

Material: **PTFE** | Temperature resistance: **-200 °C to +250 °C** |
Chemical resistance: **+++ universal**

Translucent to milky white tubing. Order quantities smaller than the maximum production length are supplied in rolls with continuous length.

Application: Perfectly suitable as tubing for aggressive liquids.

I.D. mm	O.D. mm	Wall thickness mm	Article No.	*recomm. price Euro/m
0,8 (1/32")	1,6 (1/16")	0,4	R 750-02	2,21
1,0	1,6 (1/16")	0,3	R 750-04	1,59
1,4	2,2	0,4	R 750-06	2,93
1,6 (1/16")	3,2 (1/8")	0,8	R 750-08	4,71





b.safe Starter Boxes

Material: **PTFE, PP-GF** | Temperature resistance: **0 °C to +110 °C** | Chemical resistance: **++ very good**

HPLC-Sets for solvent supply containing b.safe Caps GL 45 for four bottles, PFA-Fittings for capillaries with O. D. 3,2 mm, Blind Fittings made of PFA to close unused connections as well as Air Valves with service life indicator. Version and scope of delivery as per below chart.

Application: Perfectly matched system for removal of eluents. Tubing can be inserted down to the ground of the bottle by means of the b.safe fittings made of PFA. The conical seal cone clamps the tubing and seals the connection safely. The b.safe Air Valve is especially adapted to the

flow rate in HPLC. The integrated non-return valve avoids evaporation of solvents and lets ambient air flow into the bottle in case of vacuum. The upstream porous PTFE membrane restrains pollutant particles and other contaminations from outside. The 6 months service life of the filter can be easily monitored through either activating the display on the cap and exchanging the valve in case of completely red colouring or documentation of the exchange date by hand and clip in the display at the valve.

Description	Scope of delivery	Individual items for reordering	Article No.	*recomm. price Euro
A Starter Box A	3x b.safe Caps GL45 with 1 capillary connection 1x b.safe Cap GL45 with 2 capillary connection 4x Air Valves with service life indicator 5x Fittings for tubing O. D. 3,2 mm (yellow) 1x Blind fitting (milky white)	M 145-01 M 145-02 M 505-01 (VE 2 pcs.) M 501-18 (VE 10 pcs.) M 501-01 (VE 10 pcs.)	M 146-10	216,02
B Starter Box B	4x b.safe Cap GL45 with 2 capillary connection 4x Air Valves with service life indicator 8x Fittings for tubing O. D. 3,2 mm (yellow) 4x Blind fittings (milky white)	M 145-02 M 505-01 (VE 2 pcs.) M 501-18 (VE 10 pcs.) M 501-01 (VE 10 pcs.)	M 146-20	236,16
C Starter Box C	4x b.safe Cap GL45 with 3 capillary connection 4x Air Valves with service life indicator 12x Fittings for tubing O. D. 3,2 mm (yellow) 8x Blind fittings (milky white)	M 145-03 M 505-01 (VE 2 pcs.) M 501-18 (VE 10 pcs.) M 501-01 (VE 10 pcs.)	M 146-30	245,15



Safe Disposal in Your HPLC

Protect Your Health and the Well-Being of Your Team.

Is This How You Dispose of Your Solvent Waste?

- Safety Is Not the Top Priority?
- Twisted tubing?
- Open container?
- Hazardous vapors escape into your lab every day?



Then It's Time to Take Action!

With **b.safe**, you can now create the optimal, safe laboratory environment:

- **b.safe Waste Caps** enable optimal handling during disposal
- **No twisted** tubing
- **No escape** of solvent vapors
- Safe collection of solvent waste
- Simple container changes



NEW

b.safe Waste Caps

Material: **PTFE, PP** | Temperature resistance: **0 °C to +110 °C** | Chemical resistance: **++ very good**

PP screw cap for **GPI38/430** canister threads, freely rotatable PTFE insert. With PFA fittings for capillaries with an outer diameter of 1.6/2.2/3.2 mm (UNF 1/4" thread), blanking fittings to seal unused ports, 1 hose connector for hose inner diameters of 5.5 – 8 mm (NPT 1/8" thread), and 1 port for screwing in the b.safe exhaust filter (GL14 thread, not included).

Application: Safe disposal of solvent waste without the escape of harmful solvent vapors. With b.safe PFA fittings, tubes can be easily inserted into the collection

container, the conical sealing cone clamps the tube and provides a reliable seal at the connection. Larger volumes of liquid can be easily disposed of by connecting hoses with an inner diameter of 5.5 – 8 mm. Solvent vapors from the air escaping during filling are retained by the exhaust filter with activated carbon filling. The service life of the filter can be easily monitored: either activate the indicator on the cap by pressing a button and replace the filter when it has turned completely red, or manually document the replacement date.

Number of capillary connectors	Number of Fittings	Number of Blind Fittings	Stepped Hose Connectors for Hose Inner Diameter	Article No.	*recomm. price Euro
2	2 x Ø 1,6 mm (green) 2 x Ø 2,2 mm (violet) 2 x Ø 3,2 mm (yellow)	1 (milky white)	1 x Ø 5,5 – 8 mm	M 339-03	103,91

M 339-03



Use your **empty eluent bottles** as waste containers now!

The **b.safe Waste Cap GPI 38/430** makes it possible!



Other thread size, same principle:

You can also obtain our S40 cap for removal and disposal.



* Recommended prices valid until 31.12.2026. Subject to change.

b.safe Control Waste Caps

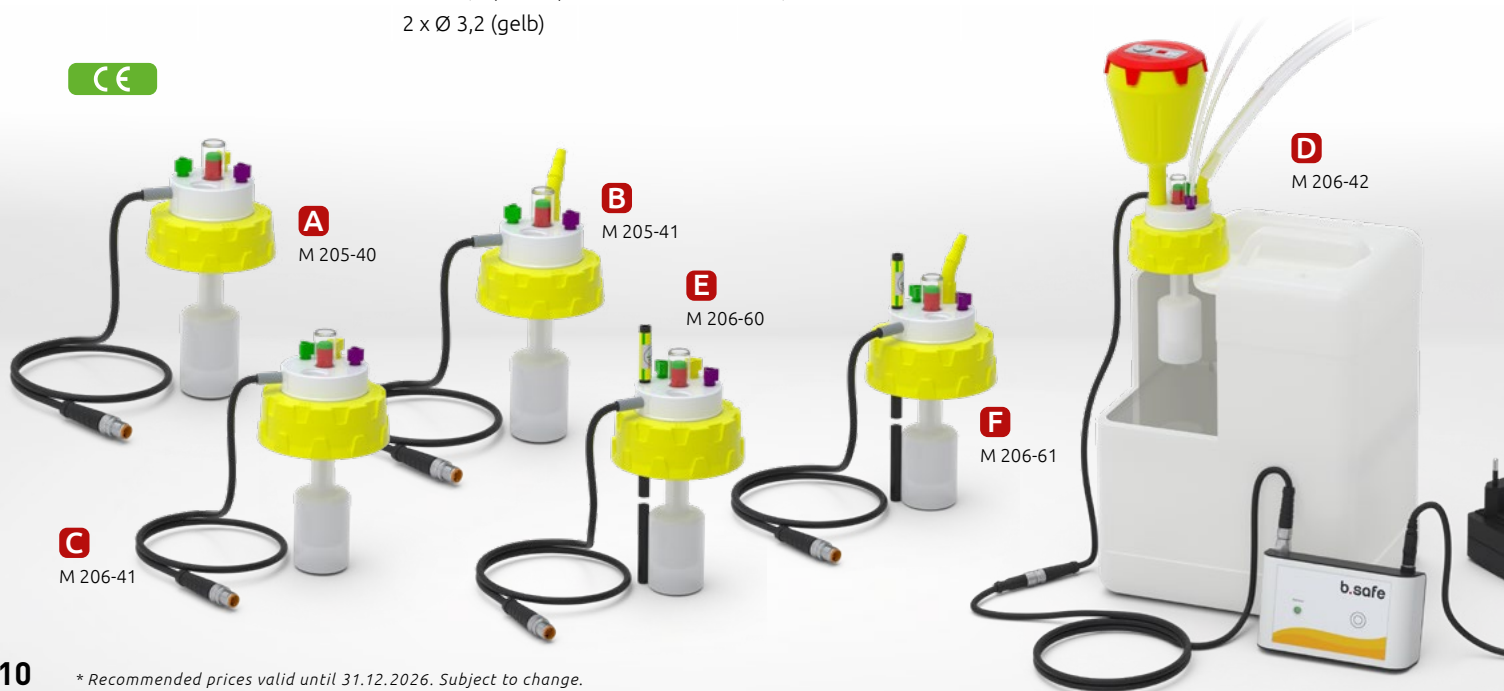


Material: **PTFE, PP-GF** | Temperature resistance: **0 °C to +80 °C** | Chemical resistance: **++ very good**

PP-GF screw cap for **S55** or **S60** canister threads, free movable insert made of PTFE with permanently fixed cable (length 0,5 m) to connect an electronic Level Indicator (b.safe Display) as well as sight glass and visual pin for additional optic control of the filling level. With PFA Fittings for capillaries with O. D. 1,6 / 2,2 / 3,2 mm (UNF 1/4" thread), Blind Fittings to close unused connections, 1 hose connector for tube I. D. 5,5-8 mm (NPT 1/8" thread) and 1 connector to screw in a b.safe Exhaust Filter (GL14 thread, not included in the scope of delivery). Through the optional earthing connection, static charges that may occur during filling can be discharged via a suitable earthing cable.

Application: Prevention of overflowing canisters by connecting the Waste Cap to a b.safe display for electronic level monitoring. The levels of waste canisters in laboratory cabinets and workbenches can be reliably monitored. Correct function (overflow protection) is only guaranteed when using b.safe canisters with a straight neck and without an upstream thread adapter. In addition, all the advantages of the b.safe Caps can be utilized: connection of capillaries via b.safe fittings and of tubing using corresponding hose connectors. Solvent vapors from the air escaping during filling are retained by the exhaust filter with activated carbon filling. Version and scope of delivery according to table.

	Thread size	Number of capillary connectors	Number of Fittings mm	Number of Blind Fittings	Stepped Hose Connectors for Hose Inner Diameter	Grounding connection	Article No.	*recomm. price Euro
A	S55	3	3 x Ø 1,6 (green) 3 x Ø 2,2 (violet) 3 x Ø 3,2 (yellow)	2 (milky white)	0	-	M 205-40	380,36
B	S55	2	2 x Ø 1,6 (green) 2 x Ø 2,2 (violet) 2 x Ø 3,2 (yellow)	1 (milky white)	1 x Ø 5,5 - 8 mm	-	M 205-41	395,16
C	S60	3	3 x Ø 1,6 (green) 3 x Ø 2,2 (violet) 3 x Ø 3,2 (yellow)	2 (milky white)	0	-	M 206-41	399,29
D	S60	2	2 x Ø 1,6 (green) 2 x Ø 2,2 (violet) 2 x Ø 3,2 (yellow)	1 (milky white)	1 x Ø 5,5 - 8 mm	-	M 206-42	387,29
E	S60	3	3 x Ø 1,6 (green) 3 x Ø 2,2 (violet) 3 x Ø 3,2 (yellow)	2 (milchig-weiß)	0	•	M 206-60	414,98
F	S60	2	2 x Ø 1,6 (grün) 2 x Ø 2,2 (violett) 2 x Ø 3,2 (gelb)	1 (milchig-weiß)	1 x Ø 5,5 - 8 mm	•	M 206-61	417,14



NEW

b.safe Float for Control Waste Cap

Manufactured from conductive black PE-HD-EX. Intended for replacement, e.g., when the old float is stuck together, or as a substitute for the white level indicator.



Designation	Material	Usable length in mm	Compatible with Control Waste Cap	Article No.	*recomm. price Euro
Float for Control Waste Cap made from conductive black PE-HD-EX. Intended for replacement, e.g., when the old float is stuck together. The white float can be easily replaced with the black replacement part.	A PE-HD-EX	91	S60 M 206-41, M 206-42, M 206-51, M 206-60, M 206-61 S55 M 205-40, M 205-41 B53 M 203-41 S90 M 209-41	R 590-02	88,91
Float for Control Waste Cap made from conductive black PE-HD-EX. Intended for replacement, e.g., when the old float is stuck together. The white float can be easily replaced with the black replacement part. Replacement variant for larger containers.	B PE-HD-EX	139	S95 M 210-41	R 590-04	123,46

Exchange



- Carefully unscrew (1) and remove (2) the Swimmer from the Control Waste Cap

- Start the thread straight (3) and turn carefully (firmly!) (4).
- Screw up to the stop (not too tight, a minimal gap remains). Check if the float is smooth.

b.safe Canister

S55

S60

Material: **PE-HD** | Temperature resistance: **-50 °C to +80 °C** | Chemical resistance: **++ very good**

Canister with UN-Y approval with S55 (DIN51) thread and S60/61 (DIN60/61) thread for the collection of liquid waste.

	Thread	Volume l	Neck	Dimensions (L x W x H mm)	Material	Article No.	*recomm. price Euro
A	S60	5	straight	190 x 150 x 255	PE-HD	R 230-05	18,82
A	S60	10	straight	220 x 190 x 340	PE-HD	R 230-10	16,56
A	S60	20	straight	300 x 230 x 405	PE-HD	R 230-20	19,92
B	S60	5	straight	195 x 165 x 230	PE-HD-EX	R 231-05	26,93
B	S60	10	straight	220 x 190 x 340	PE-HD-EX	R 231-10	32,50
B	S60	30	straight	360 x 235 x 450	PE-HD-EX	R 231-30	85,17
C	S60	10	inclined	295 x 200 x 255	PE-HD-EX	R 236-10	44,86
C	S60	20	inclined	295 x 200 x 495	PE-HD-EX	R 236-20	61,07
D	S55	5	straight	190 x 150 x 235	PE-HD	R 225-05	17,52
D	S55	10	straight	230 x 195 x 235	PE-HD	R 225-10	17,53

A
R 230-05
R 230-10
R 230-20



B
R 231-10
R 231-30

C
R 236-10
R 236-20

D
R 225-05
R 225-10



b.safe Corrugated Tubing Coupling

Material: **PP** | Temperature resistance: **0 °C to +110 °C** |
Chemical resistance: **++ very good**

Three-part coupling consisting of coupling, locking nut made of PP and clamp ring made of FEP. To connect hard-walled corrugated tubing with the hose connection (NPT 1/8" thread) on b.safe Waste Caps. Locking nut with ergonomic gripping surface, additional grip hollows with SW10 on the coupling.

Application: Choose the b.safe Corrugated Tubing Coupling as per your HPLC tubing. Devices of Agilent Technologies for example contain corrugated tubing with I. D. 6,5 mm. Devices of Thermo Scientific contain corrugated tubing with I. D. 8,5 mm.



A
M 514-03

B
M 514-05

	Suitable for	I.D. corrugated tubing mm	O.D. corrugated tubing mm	Article No.	*recomm. price Euro
A	Hose connection (thread NPT 1/8")	6,5 mm	10,0 mm	M 514-03	42,89
B	Hose connection (thread NPT 1/8")	8,5 mm	11,5 mm	M 514-05	42,96

b.safe Exhaust Filter

Material: **PP** | Temperature resistance: **0 °C to +110 °C** | Chemical resistance: **++ very good**

PP filter housing with connection (GL14 thread) suitable for b.safe Waste Caps. Lid with ventilation openings and change indicator with labeling field for monitoring the service life. Activated carbon filling for the adsorption of solvents.

Application: Safe disposal of solvent waste without escape of harmful solvent vapors. The activated carbon filling in the b.safe exhaust filter retains solvent vapors in the air escaping during filling. The service life is easy

to monitor: either activate the indicator on the lid at the push of a button and replace the filter when it has turned completely red, or document the replacement date manually.

	Size	Sales Unit	Service Time	Article No.	*recomm. price Euro
A	Small	2 pcs.	3 months	M 506-01	84,96
B	Medium	2 pcs.	6 months	M 506-02	141,05
C	Large	2 pcs.	12 months	M 506-03	180,56



Exhaust Filter

- Activated carbon filling absorbs harmful vapors from collected solvent waste
- Filtered exhaust air escapes through the ventilation openings
- Splash-proof ventilation openings
- No twisting; filter body and lid are firmly connected

Change Indicator

- Reliable monitoring of the service life
- Change indicator can be activated at the push of a button
- Additional labeling possible
- With active „CHANGE“ prompt for filter replacement at the end of the service life

PE Filter

- FDA compliant
- Stabilization of the activated carbon filling
- Optimal air permeability from 300-1500 ml/min²

PP Housing

- Made of PP for high strenght
- High chemical resistance

PE-Pre-Filter

- For optimal flow behavior (air permeability 300-1500ml/min²)

Viton O-ring®

- Optimized position of the O-ring for easier screwing of the exhaust filter into the caps

Thread

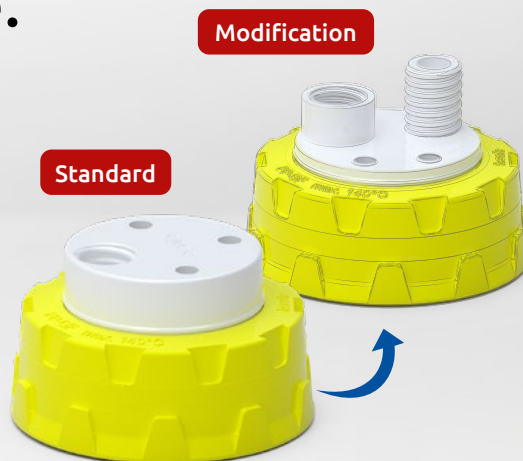
- GL14

Absorption of solvent vapors

- The activated carbon filling absorbs harmful vapors from collected solvent waste
- Filtered exhaust air escapes into the ambient air via the ventilation openings
- The activated carbon becomes increasingly saturated as its service life progresses.
- Once the activated carbon is fully saturated, the end of the exhaust filter's life cycle has been reached.



Application: The perfect system for getting started with safe HPLC waste disposal. Waste tubes can be connected to the collection canister using the Waste Cap. The exhaust filter with activated carbon filling reliably retains solvent vapors from the air escaping during filling.





b.safe Level Control Set

Set for filling level/empty state monitoring of containers and canisters made of non-conductive materials consisting of a b.safe disc sensor, signal cable, and b.safe Mini-Display Table. Depending on the application requirements, the function as an empty state or filling level indicator can be set on the disc sensor; please observe the operating instructions. The sensor is simply attached to the canister at the height of the filling level to be monitored using the included hook-and-loop tape or adhesive hook-and-loop strips. The sensor is connected to the b.safe Mini-Display alarm box via the signal cable; the handy plastic housing can be set up in the work area.

As soon as the filling level to be monitored is reached, the monitoring LED on the Mini-Display lights up red

and an acoustic alarm sounds. The acoustic alarm can be suspended for 5 minutes at a time. As soon as the container change is completed, the alarm can be reset on the Mini-Display and the control LED lights up green. b.safe Mini-Display Table including power supply unit (Input: AC 100-240V/50-60 Hz, 1 A, Output: 24 V DC, 0.5 A) with plug adapters for EU, Australia, USA, Japan, and UK. Not suitable for use in EX zones or with an isolating amplifier.

Application: Monitoring the filling level or empty state in canisters made of non-conductive materials such as plastic or glass. Overflowing of collection containers or running empty of supply vessels is prevented by a timely alarm.

b.safe Level Control Set

Scope of delivery

1 x Mini-Display Table, 1 Channel

1 x Disc sensor
including

1x b.safe hook-and-loop tape, width 10 mm x length 2 m

1x b.safe adhesive hook-and-loop strips,
two-part, width 25 x length 25 mm

1 x signal cable, length 2 m, connection 1 socket, connection 2 plug

Individual articles for reordering

Article No.

*recomm. price Euro

R 659-01

R 9950-05

411,06

R 640-05

R 647-02

R 648-01

R 645-02



Everything for
precise **filling
level monitoring**
in a set!



b.safe

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