



## Operating Instructions

# **b.safe HPLC Eluent Control Caps**

### **b.safe HPLC Eluent Control Caps GL45 (for barrels 5 liters)**

Cat.-No.:  
M 270-05

### **b.safe HPLC Eluent Control Caps G2" (for barrels 10, 20 liters)**

Cat.-No.:  
M 280-10  
M 280-20



## Content

|                                                                           |           |
|---------------------------------------------------------------------------|-----------|
| Connection of b.safe HPLC Eluent Control Cap to b.safe Mini-Display Table | <b>20</b> |
| Installation of the b.safe HPLC Eluent Control Cap on the barrel          | <b>22</b> |
| Assembly for 5 liter barrel, Cap GL45                                     | <b>24</b> |
| Assembly for 10 and 20 liter barrel, Cap G2"                              | <b>26</b> |
| Consumables and Accessories                                               | <b>28</b> |

## Scope of Delivery

Depending on the version, the b.safe HPLC Eluent Control Caps are supplied with b.safe Fittings, Blind Fittings and an Air Valve with service life indicator.

## Safety Information

Please ensure that the b.safe HPLC Eluent Control Cap is used only in non-explosive environments.

## Functionality

The b.safe HPLC Eluent Control Caps, in combination with the b.safe Mini-Display Table 1-channel, provide reliable visual and acoustic monitoring of fill and empty levels in the laboratory.



b.safe HPLC Eluent Control Caps are tailored to fit barrels of the manufacturer

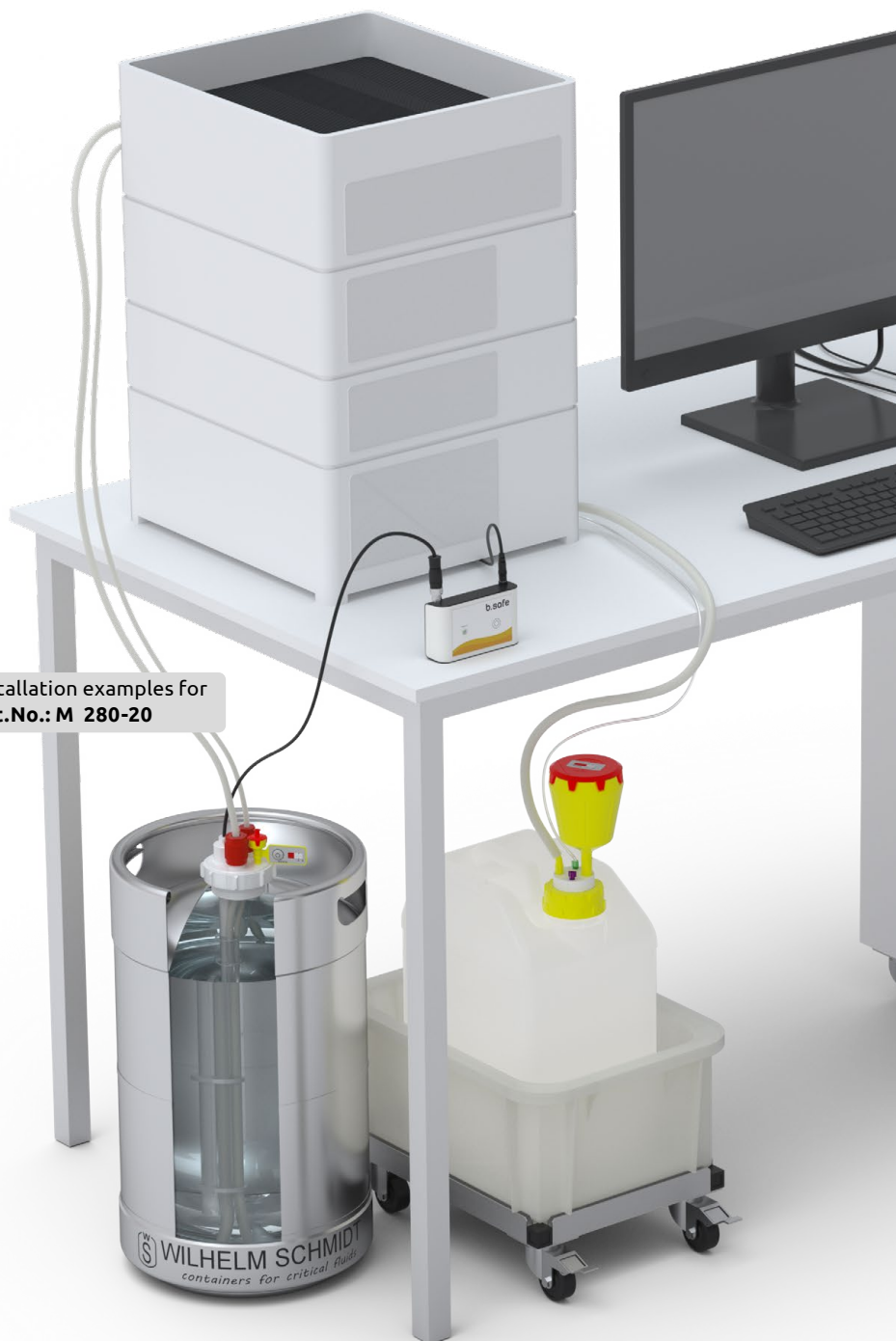


**WILHELM SCHMIDT**

## Compatibility

All b.safe HPLC Eluent Control Caps are compatible with the fill level monitoring devices of b.safe. The b.safe Mini-Display enables the use of b.safe HPLC Eluent Control Caps with alarm function! The compatibility with fill level monitoring devices of other brands has to be individually checked.

Installation examples for  
**Cat.No.: M 280-20**



## Connection of b.safe HPLC Eluent Control Cap to b.safe Mini-Display Table

1. Connect the signal cable of the **b.safe HPLC Eluent Control Cap G2"** the **b.safe Mini-Display Table**.

**Signal cable of the HPLC Eluent Cap to Sensor IN of the b.safe Mini-Display**



### b.safe Mini-Display Table

- When the barrel is empty, an acoustic signal sounds and the LED flashes red.

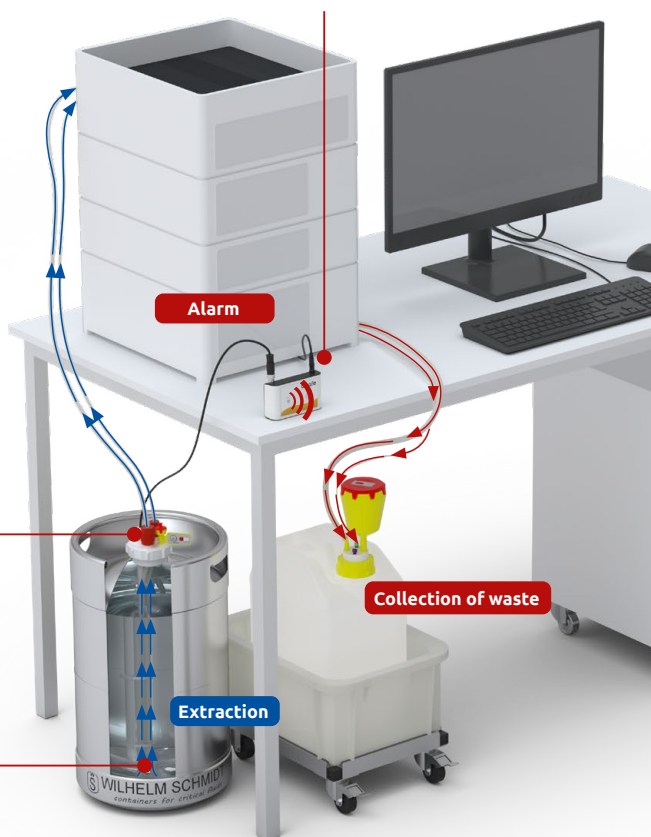
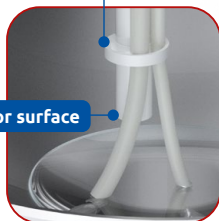
2. Connect the power supply to the b.safe Mini-Display and then to the mains.

### b.safe HPLC Eluent Control Cap

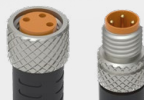
- With the fill level falling below the measuring probe, the capacitive sensor sends a signal to the b.safe Mini-Display and the alarm is triggered.
- Several brackets on the sensor rod hold the tubing and lead it straight down to the bottom of the barrel.

### Bracket for tubing

### Sensor surface



**CAUTION:** When joining the signal cables, **carefully** put the **pins** into the contacts on the socket. Then fix the connection by screwing it together.



## **CE Declaration of Conformity**

For the following products:

Type of device: **Lid for extraction of liquids with electronic empty-level control**  
Designation: **b.safe HPLC Eluent Control Cap**  
Cat.-No.: M 270-05, M 280-10, M 280-20

### **The manufacturer / distributor**

Bohlender GmbH · Waltersberg 8 · 97947 Grünsfeld · herewith declares that the above mentioned products apply to the requirements of the Low Voltag **Directive 2014/35/EU.**

The following harmonized standards have been applied for assessment:

EN 60947-1:A2:2014  
EN 60947-5-2:2020

The products are compliant with RoHs, **directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment** including the **additional delegated directive (EU) 2015/863.**

The products fulfill the requirements if the intended use is ensured during installation and at operation.

Grünsfeld, 16.07.2025



Ernst Schweitzer  
Head of Production

# Installation of the b.safe HPLC Eluent Control Cap on the barrel

1. Select a suitable b.safe HPLC Eluent Control Cap.

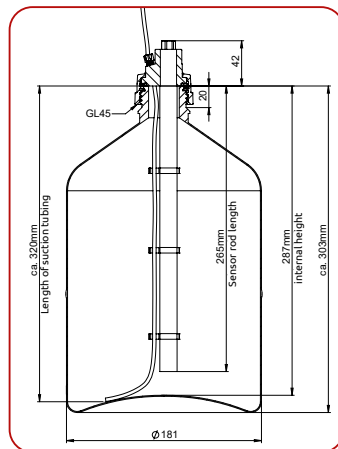


## **b.safe HPLC Eluent Control Caps GL45**

- For barrels with a capacity of 5 liters and an internal height of 287 mm.
- GL45 thread
- Cat.-No.: M 270-05

### **Scope of delivery\***

3x Fittings Ø 3,2 mm (yellow)  
2x Blind Fitting (milky white)  
1x Air Valve with service life indicator

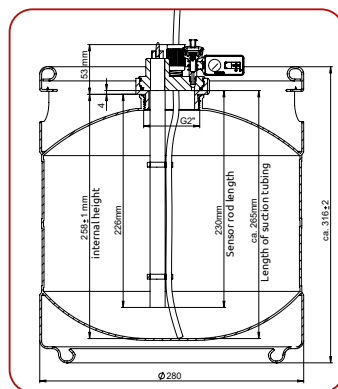


## **b.safe HPLC Eluent Control Caps G2"**

- For barrels with a capacity of 10 liters and an internal height of 258 mm
- G2" thread
- Cat.-No.: M 280-10

### **Scope of delivery\***

1x HPLC Eluent Control Cap  
1x Air Valve with service life indicator

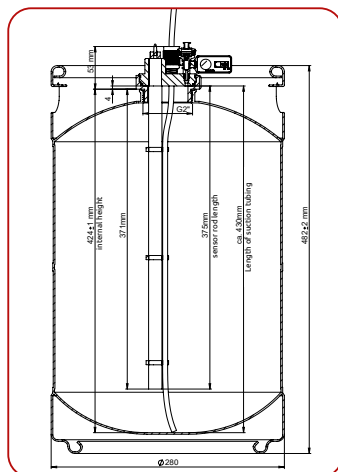


\*Laboratory Screw Joints and suction tubings are not included.



### **b.safe HPLC Eluent Control Caps G2"**

- For barrels with a capacity of 20 liters and an internal height of 424 mm
- G2" thread
- Cat-No.: M 280-20



### **Scope of delivery\***

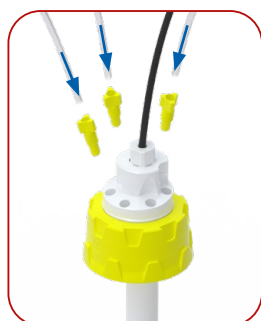
1x Eluent Control Cap  
1x Air Valve with service life indicator

\*Laboratory Screw Joints and suction tubings are not included.



## 2. Assembly for 5 liter barrel, Cap GL45

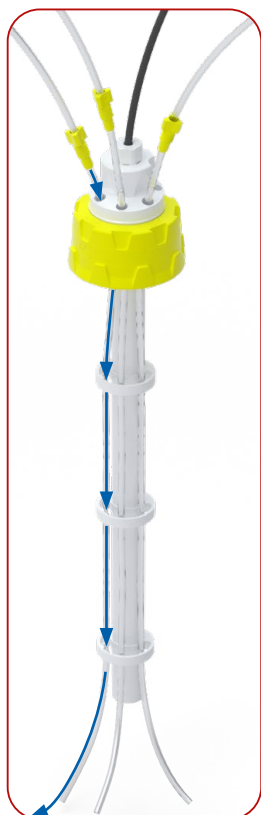
Proceed with the installation as per the steps below:



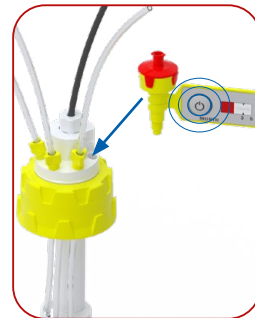
1. Insert the capillaries through the b.safe Fittings.



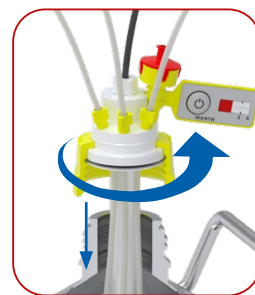
2. Place the capillaries in the connections on the cap.



3. Push the capillaries through the brackets for the suction tubings down to the end of the sensor rod. The recommended length from cap to bottom of the barrel is 320 mm.



4. Screw the b.safe Air Valve into the b.safe cap. **To activate**, press the button on the b.safe Timestrip. Optional: Note the replacement date on the back.



5. Finally, screw the cap firmly onto the drum, until the insert cannot be turned freely anymore.



**6.** Fully assembled HPLC Eluent  
Control Cap GL45 on the barrel



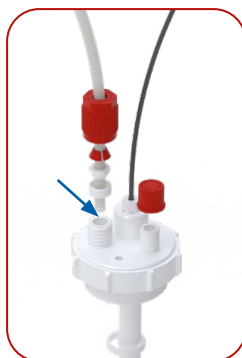
## 2. Assembly for 10 and 20 liter barrel, Cap G2"

Proceed with the installation as per the steps below:



1. Insert the tubings through appropriate BOLA Laboratory Screw Joints (not included).

Here is the link to BOLA Laboratory Screw Joints



2. Place the tubings in the connections on the cap.



3. Push the tubings through the brackets for the suction tubings down to the end of the sensor rod.

**Recommended tubing lengths from cap to bottom:**

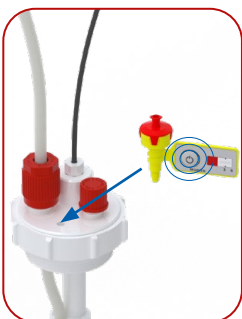
- 10-l-barrel: 265 mm
- 20-l-barrel: 430 mm

**Outer diameters:**

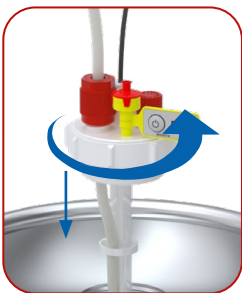
4, 6, 6,35, 8 and 10 mm

**Note:** Seal unused connections with a BOLA Screw Cap (not included)

Here is the link to BOLA Screw Caps



4. Screw the b.safe Air Valve into the b.safe cap. **To activate**, press the button on the b.safe Timestrip. Optional: Note the replacement date on the back.



5. Finally, screw the cap firmly onto the drum, until the insert cannot be turned freely anymore.

**6.** Fully assembled HPLC Eluent Control Cap G2" on the barrel



# Consumables and Accessories

## b.safe Mini-Display Table

| Version            | No. of con-<br>tainers to be<br>monitored | Dimensions<br>(L x W x H mm) | Cat.-No.: |
|--------------------|-------------------------------------------|------------------------------|-----------|
| <b>A</b> 1-channel | 1                                         | 110 x 65 x 30                | R 659-01  |
| <b>B</b> 2-channel | 2                                         | 110 x 65 x 30                | R 659-02  |



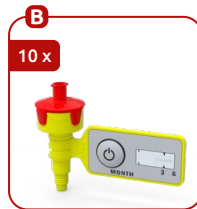
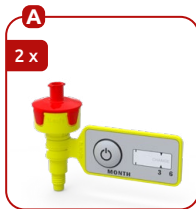
## b.safe Signal Cabels

| Cable length | Connection 1 | Connection 2 | Cat.-No.: |
|--------------|--------------|--------------|-----------|
| 2,0 m        | socket       | plug         | R 645-02  |
| 3,0 m        | socket       | plug         | R 645-03  |
| 5,0 m        | socket       | plug         | R 645-05  |
| 10,0 m       | socket       | plug         | R 645-10  |



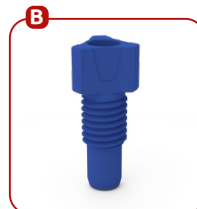
## b.safe Air Valve

|          | Packing Unit | Service life | Cat.-No.: |
|----------|--------------|--------------|-----------|
| <b>A</b> | 2 pcs.       | 6 months     | M 505-01  |
| <b>B</b> | 10 pcs.      | 6 months     | M 505-02  |
| <b>C</b> | 50 pcs.      | 6 months     | M 505-05  |
| <b>D</b> | 100 pcs.     | 6 months     | M 505-10  |



## b.safe Fittings

|          | For Tubing O. D. | Colour      | Packing Unit | Cat.-No.: |
|----------|------------------|-------------|--------------|-----------|
| <b>A</b> | 3,2 mm (1/8")    | milky white | 10 pcs.      | M 501-15  |
| <b>B</b> | 3,2 mm (1/8")    | blue        | 10 pcs.      | M 501-16  |
| <b>C</b> | 3,2 mm (1/8")    | red         | 10 pcs.      | M 501-17  |
| <b>D</b> | 3,2 mm (1/8")    | yellow      | 10 pcs.      | M 501-18  |



**b.safe PTFE Tubing**

| I.D.<br>mm  | O.D.<br>mm  | Wall thickness<br>mm | Cat.-No.: |
|-------------|-------------|----------------------|-----------|
| 0,8 (1/32") | 1,6 (1/16") | 0,4                  | R 750-02  |
| 1,0         | 1,6 (1/16") | 0,3                  | R 750-04  |
| 1,4         | 2,2         | 0,4                  | R 750-06  |
| 1,6 (1/16") | 3,2 (1/8")  | 0,8                  | R 750-08  |



**BOLA Laboratory Screw Joints**

| For tubing O.D. mm | Cat.-No.:<br>Thread GL 14 | Cat.-No.:<br>Thread GL 18 |
|--------------------|---------------------------|---------------------------|
| 0,8                | D 593-02                  |                           |
| 1,0                | D 593-04                  |                           |
| 1,6                | D 593-06                  | D 593-26                  |
| 2,0                | D 593-10                  | D 593-30                  |
| 2,4                | D 593-12                  |                           |
| 3,0                | D 590-02                  | D 590-10                  |
| 3,2                | D 590-08                  | D 590-20                  |
| 4,0                | D 590-04                  | D 590-12                  |
| 6,0                | D 590-06                  | D 590-14                  |
| 6,35               | D 590-62                  |                           |
| 8,0                |                           | D 590-16                  |
| 10,0               |                           | D 590-18                  |



## BOLA **Screw Caps**

For thread

Cat.-No.:

GL 14

H 987-01

GL 18

H 987-18



Also made by Bohlender.

# **b.safe** **SYSTEM**

## Individual System Solutions for Safe Liquid Waste Disposal

Ask for your catalogue or get more information:

[www.bsafe.de/en/system](http://www.bsafe.de/en/system) or +49 (0) 93 46-92 86-0

A product brand of Bohlender



# Better **b**.safe



Sophisticated  
Safety Solutions  
for HPLC.

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

Bohlender GmbH · Waltersberg 8 · 97947 Grünsfeld · Germany