

b.safe SYSTEM

Installation Manual b.safe Direct Filling System



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Note: Please read all the following Information carefully before starting the Installation. We urge you to follow the Installationsequence and the corresponding Instructions. Before starting Installation, check the Delivery for Completeness using the the Scope of Delivery. Only install the Direct Filling System in a suitable Location. Two Power-Connections are required at the Installationsite. The Disposal System „Direct Filling“ is mostly pre-assembled in the Safety-Storage-Cabinet. The following Installation Manual describes the remaining Installation and assembly Work

Scope of delivery

b.safe Funnel 130

made of static dissipative PE-EX with GL 45 cap, hinged lid and sieve

b.safe Telescopic disposal tube

made of stainless steel for working height 90 cm with lock nut, canister lid, capacitive fill

b.safe Mini-Display Wall (1 channel)

including power supply, for more details see Cat. No. R 658-01

Marking aid

Extraction bell

level sensor, vent hose and collecting vessel

b.safe Mounting

for Extraction bell level sensor, vent hose and collecting vessel

b.safe Isolated Amplifier

including power supply, for more details see Cat. No. R 660-04

Two b.safe Canisters S60

volume 10l, made of static dissipative PE-EX, Cat. No. R 236-10

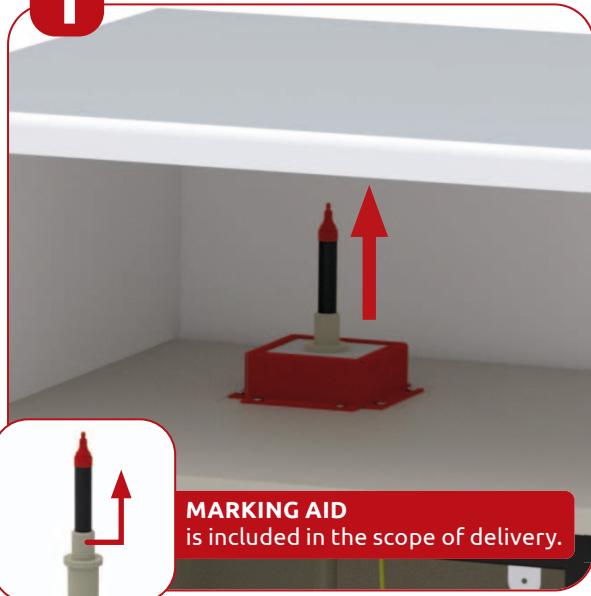
Grounding cable

Safety base cabinet

T90 in colour RAL7035 (light grey), outer dimensions: W 593 x D 574 x 600 mm, all passages in fire protection compliant design

Assembly of the b.safe Direct Filling System

1



MARKING AID
is included in the scope of delivery.

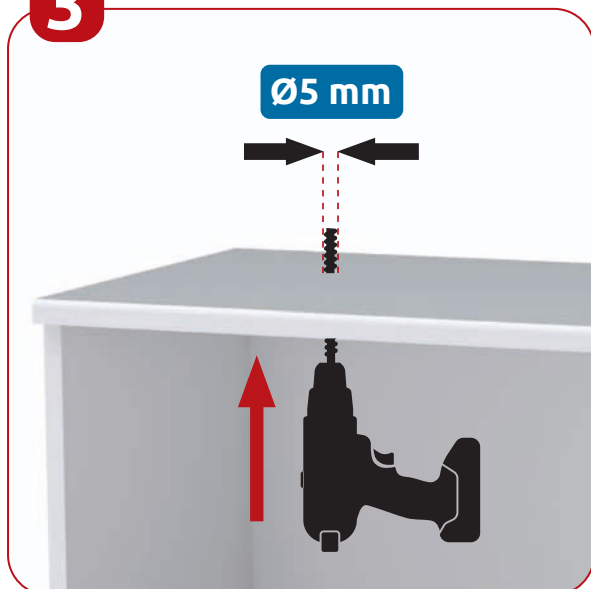
Place the Safety-Storage-Cabinet in front of the final Position. Insert the supplied Marking-Aid with the Pin, onto the Hole in the Fire-Protection-Bushing on top of the Cabinet. Slide the Safety-Storage-Cabinet under the Worktop into the final Position. Now use the Marking-Aid on the Underside of the Table to mark the Position of the Hole for the telescopic Waste-Pipe.

2



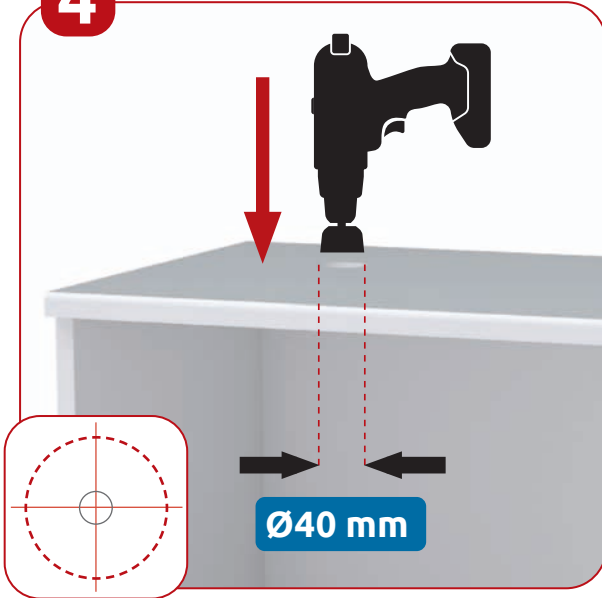
Pull the Safety-Storage-Cabinet forwards again so that you have access under the Worktop.

3



Drill from the Underside of the Table at the Mark made in Step 1 with a Ø 5 mm Drill-Bit from below through the Tabletop.

4



Center the Hole in the Tabletop with a Ø 40 mm core Drill-Bit and drill the necessary Opening required for the subsequent Feed-through of the telescopic Waste-Pipe into the Safety-Storage-Cabinet.

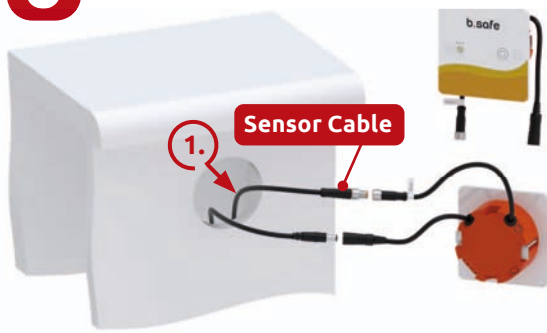
5



Define the Position of the Mini Display on the Front near the Safety-Storage-Cabinet. A Ø 68 mm hole is required for the actual Installation. Check whether there are any Cables or other Installations that could be damaged during Drilling and, if necessary take appropriate protective Measures. Make sure that there is a Power-Connection for the Mini Display nearby (connection cable length approx. 1.5 m). Drill the Mounting-Hole using a suitable hollow Wall-Drill.

ATTENTION!
Watch out for concealed
cables!

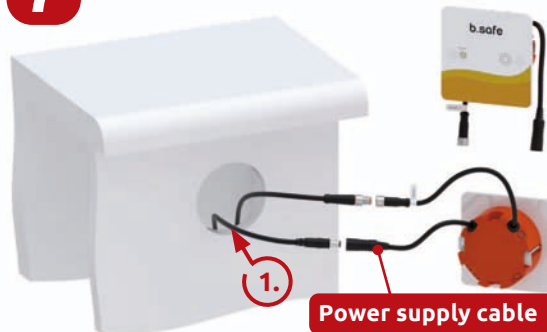
6



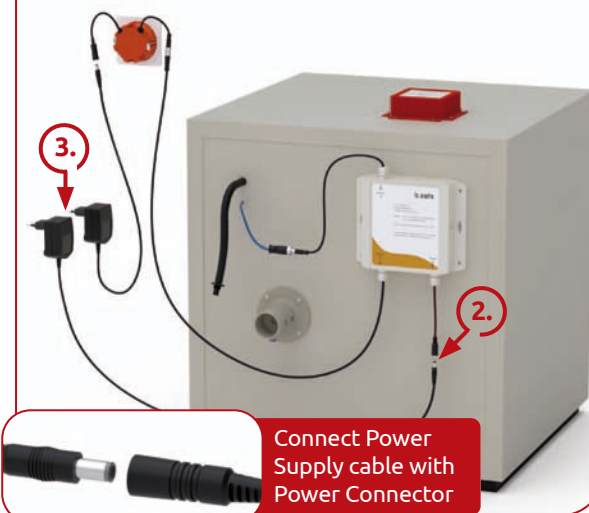
1. Pull out the "Sensor Out" Sensor Cable from the on the Rear of the Safety-Storage-Cabinet mounted isolated Amplifier through the Mounting-Opening for the Mini Display.
2. Connect the Signal Cable to the Sensor-Connection of the Mini Display.



7



1. Guide the Cable of the Power Supply Unit through the Mounting-Hole and connect it to the Power-Connection of the Mini Display.
2. Connect the Power Supply Unit of the isolated Amplifier to the Power Connection of the isolated Amplifier.
3. Plug the Power Supply Unit of the Mini Display and the Power Supply Unit of the isolated Amplifier into the Socket provided.



8



Make a Function Test on the Mini Display. If Power Cable and Signal Cable are connected, the LED lights up green continuously and Installation can be continued. If the LED does not light up, check the Power Connection. If the LED is red and the Alarm sounds the Signal Cable is not connected correctly or is defective. Please check whether the Plug Connections on the Mini Display and on the isolated Amplifier are correctly connected or if there is Damage visible at the Signal Cable.

9



Slide the Mini Display into the Mounting Hole, until the Front Panel rests against the Wall.

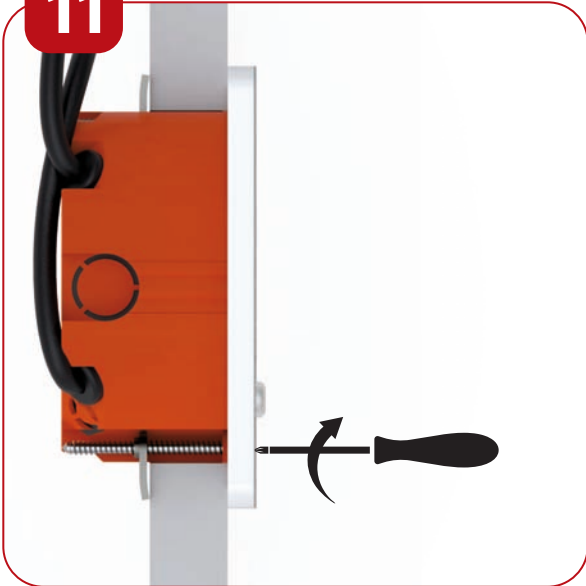
ATTENTION!
Do not crush the cable.

10



ATTENTION!
Tighten the screws **BY HAND!**

Align the Mini Display horizontally using a Spirit Level. Carefully tighten the fixing Screws by hand using a Screwdriver.

11

Tighten the fastening Screws until you feel Resistance and the Mini Display is firmly attached to the Wall.

12

Glue the Covers of the fastening Screws at the Cutouts provided.

13



For the Ventilation of the Waste Canisters, a corresponding Hose is mounted at the Rear of the Safety-Storage-Cabinet, which still needs to be connected to an Extraction System. When you connect the the Safety-Storage-Cabinet directly to an Extraction System via the rear ventilation Connection, we recommend to drill a Ø 14 mm Hole in this Pipe Connection and fit the ventilation Hose directly to the ventilation Connection as shown.

Or

13



Alternatively, the ventilation Hose can also be connected directly to the the in-house Extraction System. For this Purpose, a Ø 14 mm Connection Hole must be provided as shown.

14



Slide the Safety-Storage-Cabinet back into its final Position. Make sure that the Table Hole for the telescopic Waste Pipe and the corresponding Hole in the Fire-Protection-Bushing are exactly perpendicular to each other. Take care not to crush any Cables.

15



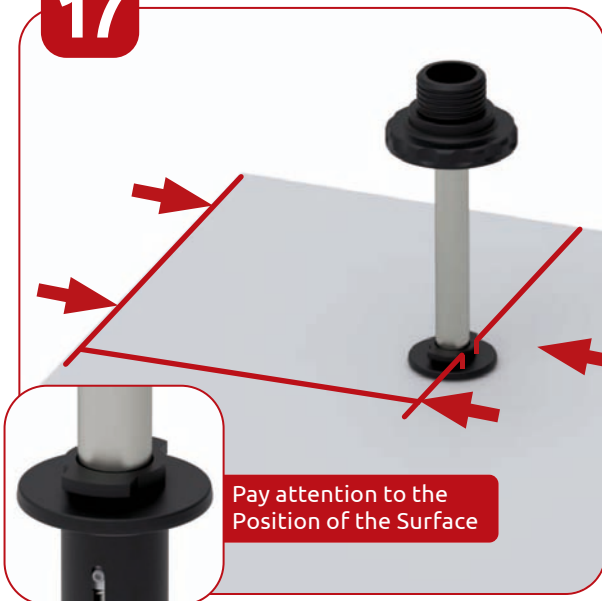
Guide the telescopic Waste Pipe from above through the the Tabletop and the Fire-Protection-Bushing into the Safety-Storage-Cabinet.

16



Remove the protective Film from the Sealing Ring and stick it onto the Tabletop.

17



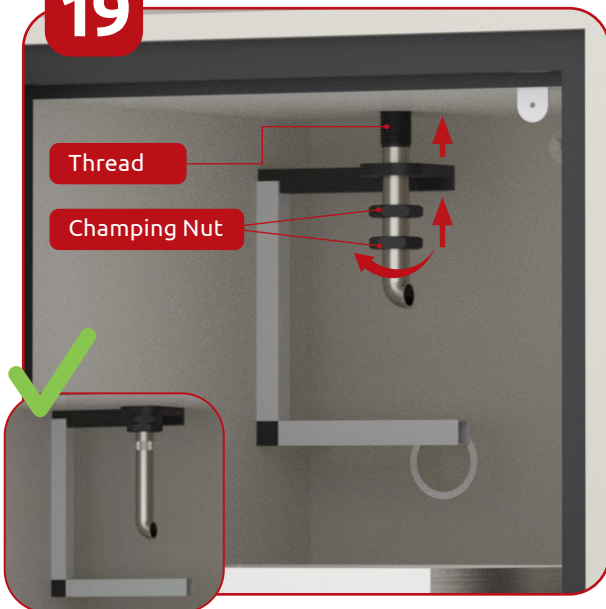
Pay attention to the Position of the Surface in Relation to the Edge of the Table.

18



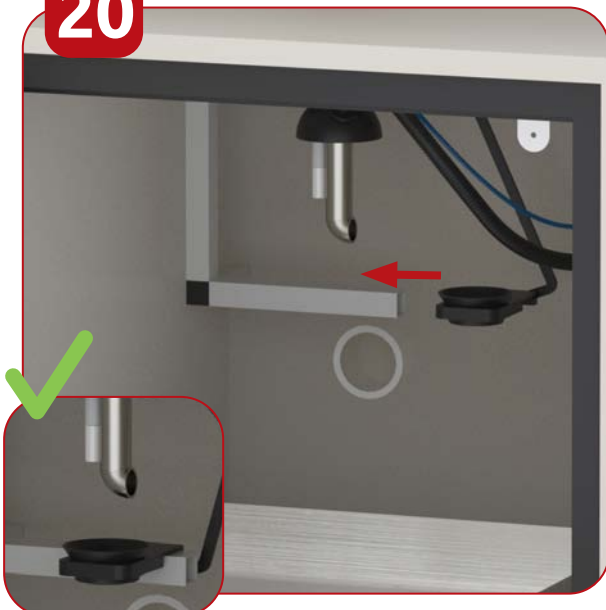
Screw the Funnel onto the Connection Thread on the telescopic Waste Pipe.

19

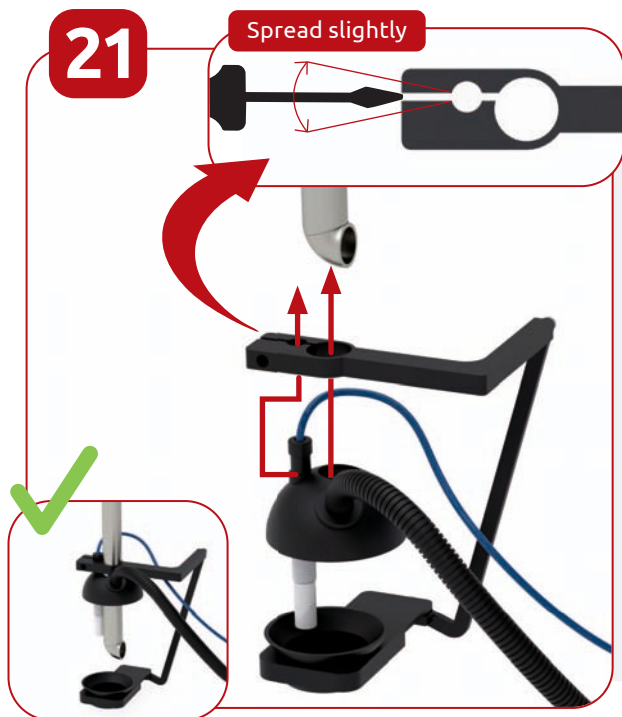


Open the Door of the Safety-Storage-Cabinet. Slide the Holder for the Drip Tray from below onto the telescopic Waste Pipe up to the Cabinet Wall and secure it with two Clamping Nuts on the Thread of the telescopic Waste Pipe.

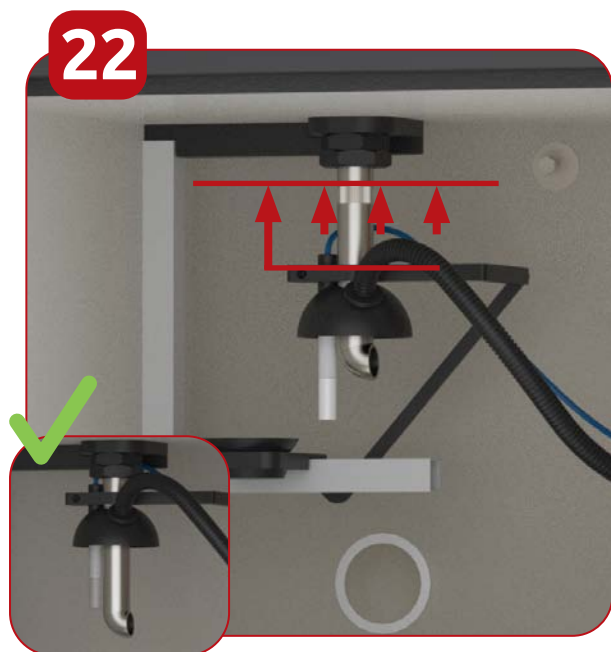
20



Slide the Drip Tray onto the Holder.



Fastening of the Canister Cover: Guide the Canister Cover (pre-mounted in the Safety-Storage-Cabinet) to the Holding Arm on the Drip Tray. Use a Screwdriver to slightly open the Holder as shown. From below, push the Sensor on the Cover (blue Cable) through the corresponding Hole on the Holding Arm. Then slide the Holding Arm and the Canister Cover onto the telescopic Waste Pipe.

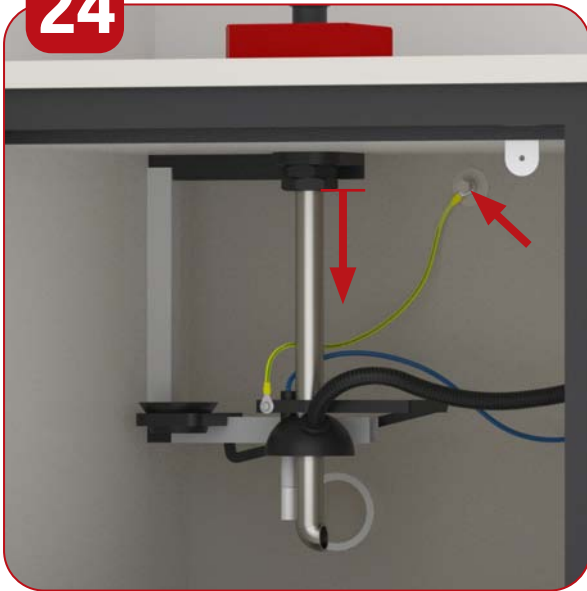


Then slide the Holding Arm and the Canister Cover up onto the telescopic Waste Pipe up to the roughened Area on the telescopic Waste Pipe.



For secure attachment and earthing of the Holding Arm to the telescopic Waste Pipe, use the Grounding Cable supplied. Insert the M6 Cylinder Head Screw through the Ring Cable Lug of the Earthing Cable and screw it to the Holding Arm using a hexagonal Screwdriver.

24



Move the telescopic Waste Pipe to the lower Position. Now attach the Earthing Cable to the Earthing Connection on the Wall of the Safety-Storage-Cabinet.

25



Open one of the Waste Canisters supplied and place it on the left-hand side of the Drawer. This Canister is filled after Commissioning.

26

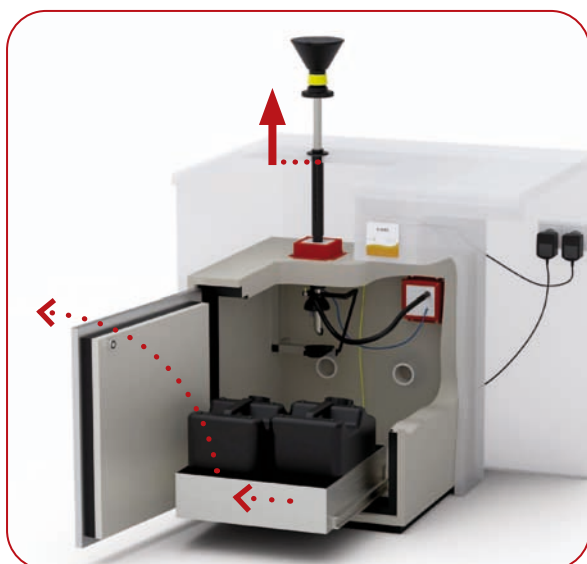


Place the Spare Canister on the right hand side of the Drawer.

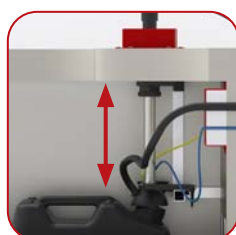
Functional test



1. Move the telescopic Waste Pipe several times from Top to Bottom. The telescopic unit must be inserted and removed without resistance.
2. Filling the Canister
3. Move the telescopic Waste Pipe downwards and lock it to the Table Top by tightening the fixing Screw.
4. Open the Funnel and pour approx. 100 ml of Water into the Funnel.

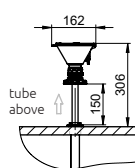


5. Loosen the fastening Screw and move the telescopic Waste Pipe upwards.
6. Open the door of the Safety-Storage-Cabinet and check that the Water has been fed directly into the Canister and that the Waste Pipe is positioned above the drip tray.
7. View of Pipe Position at the Top for Changing the Canister

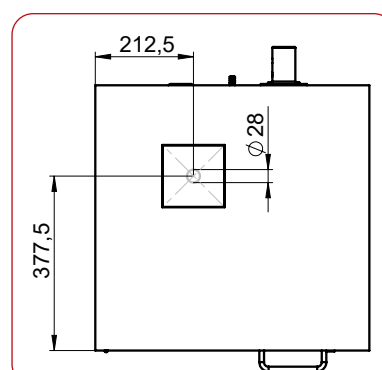
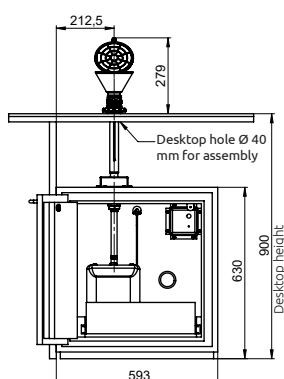
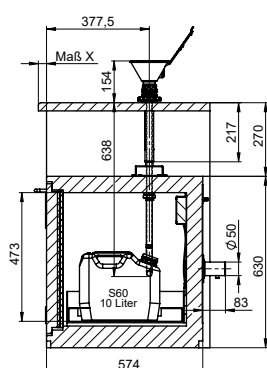


8. Side View of Pipe Position at the Bottom for fill in Solvent Waste into the Canister.

Dimensions



Position of the tube at the top for changing the canister



Information about the b.safe Mini-Display

Scope of Delivery

b.safe Mini-Displays are delivered ready for installation in the variants built-in or stand-alone. Each variant is available with 1 channel or 2 channels. The suitable power plug and various primary plugs for EU, Australia, USA, Japan and UK are included in the delivery of each b.safe Mini-Display.

Functionality

In connection with b.safe Waste Caps and Sensors, the b.safe Mini-Display ensures a reliable optical and acoustic monitoring of filling levels in the lab. Automatic sensor.

Compatibility

Our b.safe Mini-Display is compatible with all filling level monitoring devices we offer, including b.safe Isolated Amplifier. The b.safe Mini-Display enables the use of our Waste Caps with pre-alarm function! If filling level monitoring devices of other brands can be used, has to be checked individually.

Safety Information

Sensors used in explosion-hazardous areas (EX zone) generally have to be secured with an additional isolated amplifier (Cat. No. R 660-01 or R 660-04). All components that are connected, e.g. b.safe Mini-Display, b.safe Splitter and b.safe Isolated Amplifier, have to be installed outside of the explosion-hazardous area. Make sure to use only sensors in this area that are explicitly approved for this purpose! Generally, electronic components have to be installed by qualified personnel only, especially in explosion-hazardous areas.

Taking into Operation

Power Supply

Connect the power supply unit supplied with the b.safe Mini-Display to a suitable socket and prepare the cable for installation. ready for installation.

Input voltage

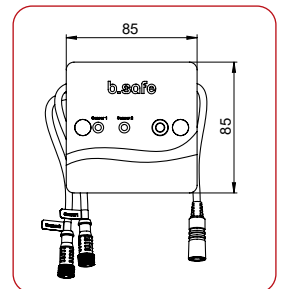
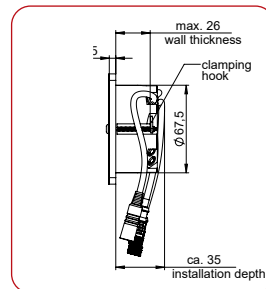
- AC 100 to 240 V
- Alternating voltage 50-60 Hz

Output voltage

- 24 V
- Direct current
- 1 A



Dimensions b.safe Mini-Display Wall



For the following products:

device : **Alarmbox for Filling Level Control**
type designation: **Mini - Display Table** Cat.No. **R 659-01/02/03/04**
Mini - Display Wall Cat.No. **R 658-01/02/03/04**

The manufacturer / distributor

Bohlender GmbH • Waltersberg 8 • 97947 Grünsfeld • Germany

declares that the products fulfil the provisions of **EMC Directive 2014/30EU**
Electromagnetic Compatibility.

Low Voltage Directive 2006/95/EG has been complied with according
to 2006/42/EG in view of its protection targets.

The products are **RoHs** compliant. They comply with **Directive 2011/65/EU**
Directive on the restriction of the use of certain hazardous substances
in electrical and electronic equipment, including **amendment 2015/863**.

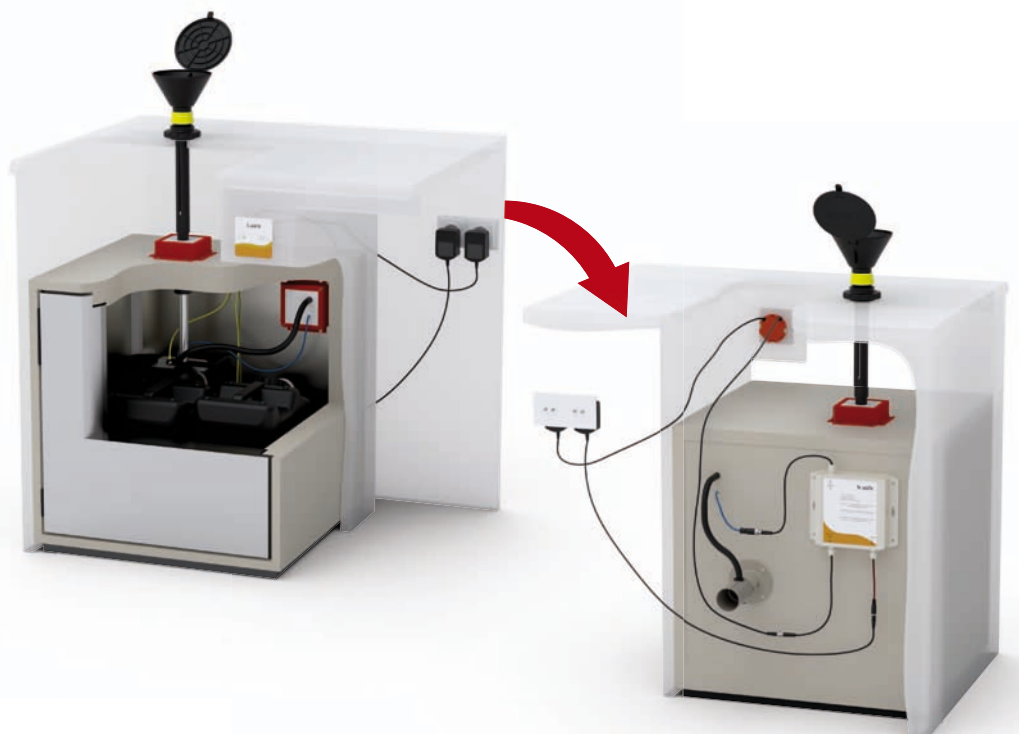
The following standards were used to assess the products:

EN61000-6-2 : 2019
EN61000-6-4 +A1 : 2011

Signed for and on behalf of
Bohlender GmbH
Waltersberg 8
97947 Grünsfeld

Grünsfeld, 20.03.2024


Ernst Schweitzer



Information about the b.safe Isolated Amplifier

Scope of Delivery

The b.safe Isolated Amplifier is delivered ready for installation in a plastic housing that protects against accidental contact of live contacts. A power supply with interchangeable adapter plugs for EU, Australia, UK and USA/Japan is included. With the labelling on the front side of the housing, each through-screw connection is clearly assigned to the respective channels/functions.

Functionality

The b.safe Isolated Amplifier ensures a galvanic isolation of the sensor from the output device. This effectively limits the given voltage as well as the highest possible current flow. Thus, it is ensured, that the alerting electronics will not trigger any ignitable sparks in the explosive atmosphere on the sensor side.

If connected with a b.safe Mini-Display, the isolated amplifier allows an automatic recognition of improperly connected or damaged sensors as well as line break of signal cables.

Compatibility

The b.safe Isolated Amplifier is compatible with all b.safe devices for fill-level control (except for b.safe Disc Sensor, cat. no. R 640-05). The compatibility of devices for fill-level control of other manufacturers has to be checked individually.

Safety Information

Sensors used in explosion hazardous areas (EX zone) generally have to be secured with an isolated amplifier.

All components that are connected upstream of the sensors, e. g. b.safe Display, b.safe Splitter as well as b.safe Isolated Amplifier, have to be installed outside of the explosion hazardous area.

Make sure to use only sensors that are explicitly approved for use in potentially explosive areas.

The installation of electronic components, especially in explosion hazardous areas, must always be carried out by trained specialist staff.

Taking into Operation

Plug the power supply into a suitable power socket. With the included interchangeable adapter plugs a connection to the following power sockets is possible:

Input voltage

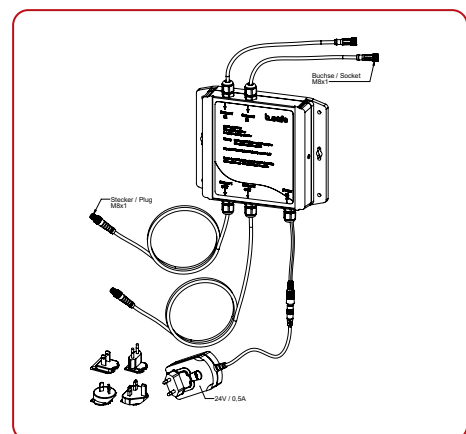
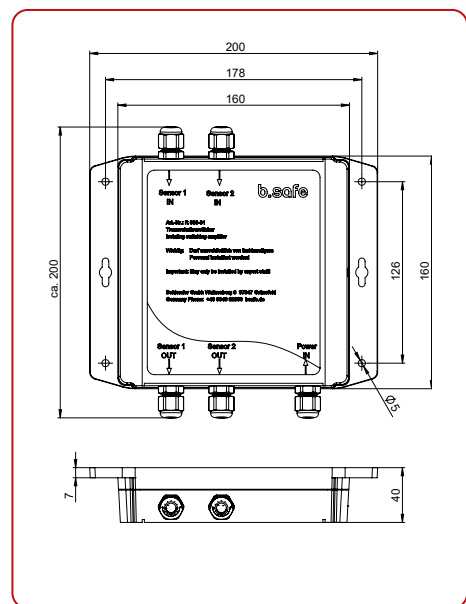
- AC 100 bis 240 V
- 50-60 Hz
- 0,5 A

Output voltage

- DC 24V
- 0,5A



Dimensions b.safe Trennschaltverstärker



Better **b.safe**

Sophisticated
Safety Solutions
for HPLC.



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

Bohlender GmbH · Waltersberg 8 · 97947 Grünsfeld · Germany

