



OPERATING INSTRUCTIONS



BATTERY station Type 90 safety storage cabinet

Store in a safe place for subsequent use.



The operating instructions can be requested to download by contacting info@dueperthal.com.

Contents

List of figures	5
List of tables	6
1 General information	7
1.1 Operator notes	7
1.2 Notes on reading the instructions	7
1.3 Type plate	8
2 Safety	9
2.1 Function of safety notices	9
2.2 Correct use	9
2.3 Misuse	10
2.4 Owner obligations	10
2.5 Requirements for employees	11
2.6 Stored materials	12
2.6.1 Storage, handling and use of lithium-ion batteries	12
2.6.2 Risks when using lithium-ion batteries	12
2.7 Residual risks	13
2.8 Dangers areas and labelling	14
3 Technical specifications	15
3.1 General data	15
3.2 Dimensions and equipment	16
3.3 Pressure drop during ventilation	19
4 Installation and function	20
4.1 Construction	20
4.2 Earthing	20
4.3 Exhaust air connection	20
4.4 Doors	21
4.5 Safety technology	21
4.5.1 Door closure in case of fire	21
4.5.2 Backdraft locking	21
4.5.3 Closure of venting cut-off flaps in case of fire	21
4.6 Interior fittings	22
4.6.1 Storage levels	22
4.6.2 Integrated electrical sockets	22
4.6.3 Bottom tray	23
4.7 Power supply unit	23
4.8 Pipe penetration	24
4.9 Superimposed load adapter	24

5	Transport and packaging	25
6	Installation and commissioning.....	27
6.1	Requirements for the installation location	27
6.2	Installing the safety storage cabinet.....	27
6.2.1	Instruction video	27
6.2.2	Preparing the safety storage cabinet for installation.....	28
6.2.3	Fit the adjustable feet and align the safety storage cabinet.	29
6.2.4	Fitting the plinth panel.....	31
6.3	Connecting the safety storage cabinet to an exhaust air system	32
6.3.1	Installing the exhaust air connection socket	32
6.3.2	Connection to an exhaust air pipe	32
6.3.3	Connection to an industrial ventilation system.....	33
6.4	Earthing the safety storage cabinet.....	33
6.5	Connection to power supply	33
7	Operation.....	34
7.1	Opening the safety storage cabinet / Storing and charging lithium-ion batteries	34
7.2	Storage area.....	35
7.3	Charging lithium-ion batteries in the safety storage cabinet	36
7.4	Checking the bottom tray and cleaning the safety storage cabinet	36
7.5	Power supply failure	37
8	Behavior in case of fire	38
9	Procedure after a fire	39
10	Maintenance	41
11	Faults	42
12	Spare parts and accessories	44
13	Disposal	45
14	Certificates	46

List of figures

Fig. 1: Type plate	8
Fig. 2: General view of BATTERY station	15
Fig. 3: BATTERY station dimensions	16
Fig. 4: Averaged pressure drop for all cabinet sizes	19
Fig. 5: Cabinet roof with exhaust air connection (view from above)	20
Fig. 6: Opened air ducts	21
Fig. 7: Storage level.....	22
Fig. 8: Bottom tray with perforated sheet insert.....	23
Fig. 9: Power supply unit on cabinet roof with superimposed load adapter	23
Fig. 10: Transporting the safety storage cabinet	25
Fig. 11: Requirements for installation location	27
Fig. 12: "Unpacking and installation" video, left, Positioning the power supply unit video, right	27
Fig. 13: Preparing the safety storage cabinet for installation	28
Fig. 14: Fitting adjustable feet and aligning safety storage cabinet.	29
Fig. 15: Checking alignment	30
Fig. 16: Fitting the plinth panel	31
Fig. 17: Installing the exhaust air connection socket.....	32
Fig. 18: Door operation with door handle and thumbturn	34
Fig. 19: Emergency release on cabinet roof.....	40

List of tables

Table 1: Explanation of symbols.....	7
Table 2: Prohibited action sign	14
Table 3: Warning signs	14
Table 4: Instruction signs.....	14
Table 5: BATTERY station dimensions	17
Table 6: Power supply technical specifications	18
Table 7: Volumetric flow rate Q and pressure drop ΔP with 10-fold air exchange.....	19
Table 8: Number of electrical sockets per safety storage cabinet.....	22

1 General information

1.1 Operator notes

These operating instructions must always be stored with the relevant product.

The operating instructions must be available to all users.






If the product is sold on, these operating instructions must be transferred with it.

Any supplements and updates to the operating instructions must be added.

1.2 Notes on reading the instructions

The following symbols indicate particular types of information

Table 1: Explanation of symbols

Symbol	Type of information
	Information to simplify and improve work
	Process step
	Result of a process step
	Link to another section of the document
	Enumeration

1.3 Type plate

The type plate is attached to the outside of the safety storage cabinet door.

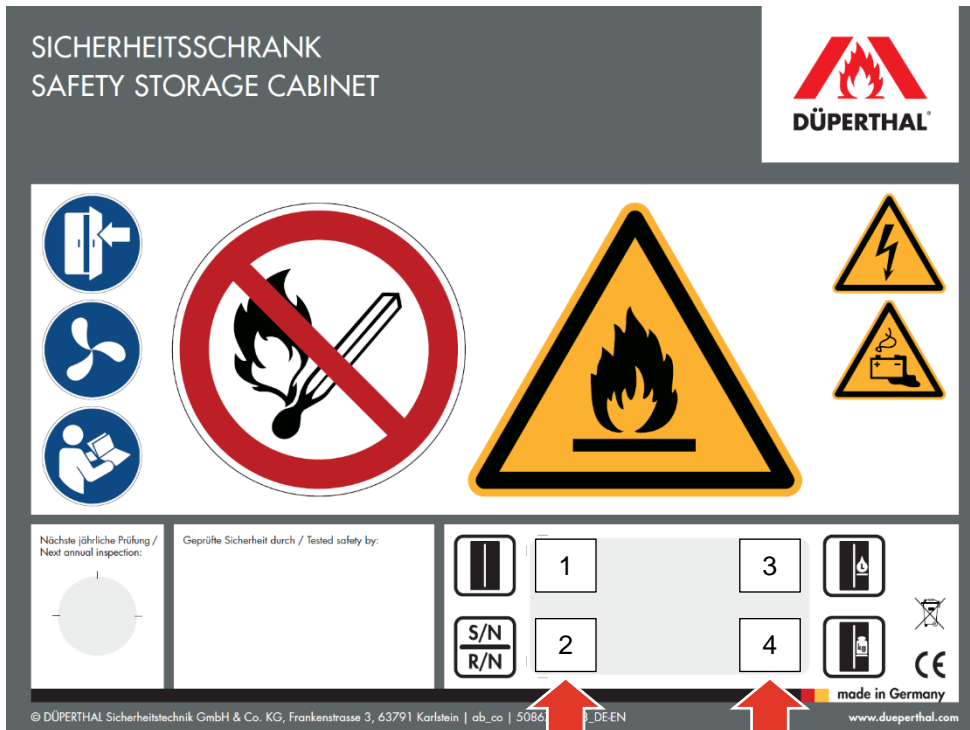


Fig. 1: Type plate

- 1 Model
- 2 Item number (R/N), serial number (S/N) and year of manufacture
- 3 Maximum volume of individual containers
- 4 Maximum load per storage shelf

2 Safety

2.1 Function of safety notices

Safety notices warn against physical or material damage and provide information on how such damage can be avoided.

The following signal words indicate the degree of danger and the extent of the risk.

WARNING



The signal word “*WARNING*” refers to a potential threat which could cause death or serious injury.

CAUTION



The signal word “*CAUTION*” refers to an potential threat which can cause slight or minor injury.

NOTE



The signal word “*NOTE*” indicates a situation that can lead to damage to the safety storage cabinet.

SAFETY INSTRUCTION

The words “*SAFETY INSTRUCTION*” indicate instructions of processes relating to safe operation of the safety storage cabinet.

2.2 Correct use



Observe the safety notices in these operating instructions to reduce health risks and avoid hazardous situations.

Incorrect use that is not in line with these operating instructions involves a risk of accidents and a lack of fire protection.

The BATTERY station line safety storage cabinets are type tested and classified as Type 90 in compliance with EN 14470-1 with a fire resistance of 90 minutes.

The safety storage cabinet is to be used for storing and charging lithium-ion batteries in working spaces.

2.3 Misuse

Any use that goes beyond the specified correct use is considered to be misuse.

DÜPERTHAL accepts no liability for damage arising from misuse.

The following are classed as misuse:

- Use of the electrical sockets to operate electrical equipment other than chargers for lithium-ion batteries.
- Exceeding the maximum electrical power of the safety storage cabinet (1.8 kW).
- Use of the safety storage cabinet and the stored materials under the influence of narcotics, alcohol or medication.
- Storage of living organisms in the safety storage cabinet
- Storage of food in the safety storage cabinet.
- Storage of hazardous substances, such as chemicals, flammable liquids or gas cylinders in the safety storage cabinet.
- Storage of objects on the cabinet roof.
- Blocking the doors of the safety storage cabinet and holding them open with objects.
- Alteration and modifications to the safety storage cabinet without the knowledge and approval of DÜPERTHAL.
- Use of low quality spare parts.
- Exceeding maintenance intervals.

2.4 Owner obligations

The owner has an obligation to comply with the applicable legal regulations. These include:

- Issuing operating instructions.
- Performing a risk assessment.
- Specifying activities of designated employees.
- Specifying personal protective equipment for employees.
- Training employees in using the safety storage cabinet and the stored materials.
- Ensuring that every employee has read and understood these operating instructions before using the safety storage cabinet for the first time.
- Ensuring that these operating instructions are available to employees at all times.

2.5 Requirements for employees

WARNING



Employees who do not meet the requirements

This can result in death or serious injury.

- Activities must only be carried out by designated employees who meet the requirements.

Certain activities involve special requirements for the employees. These operating instructions assign activities to the following employees:

- Users
- Specialist technical employees
- DÜPERTHAL service technicians

Users

The safety storage cabinet may only be used by persons who meet the following requirements:

- Users must have reached the legally stipulated minimum age at the installation location of the safety storage cabinet.
- Users must meet the legal health requirements relating to the stored materials and the assigned activities at the installation location.
- Documented instruction in the function and operation of the safety storage cabinet, the chargers and the stored lithium-ion batteries.
- Documented instruction in behavior in the event of an alarm, a fire or a thermal runaway inside the safety storage cabinet.
- Safety instruction on using the stipulated personal protective equipment and directly relating to the activity to be performed.
- Basic knowledge of handling lithium-ion batteries and the associated risks.

Specialist technical employees

In addition to the requirements set out above, specialist technical employees must also have:

- Professional training in the technical field relating to the activity, which is recognized at the installation location.
- Basic knowledge and skills relating to maintenance, repair and servicing.

DÜPERTHAL service technicians

DÜPERTHAL service technicians are specifically trained by DÜPERTHAL to carry out their activities on the safety storage cabinet.

2.6 Stored materials

2.6.1 Storage, handling and use of lithium-ion batteries

Lithium-ion batteries are rechargeable batteries, which are used to operate machine tools, vehicles, or other equipment.

All applicable national standards and regulations must be adhered to for handling, storage, and use of lithium-ion batteries. These include “NFPA 30” and various regulations issued by the OSHA (Occupational Safety and Health Administration).

In addition, the operating instructions supplied by the manufacturer of the lithium-ion batteries and the associate chargers must be observed.

2.6.2 Risks when using lithium-ion batteries

WARNING

Damaged lithium-ion batteries

Damaged lithium-ion batteries can explode or suffer thermal runaway.

The resulting fire and explosions can cause death or serious injury.



- Before storage and charging of lithium-ion batteries, check that they are not damaged, deformed, or unusually hot.
- Do not continue to use damaged, deformed, or unusually hot batteries.

WARNING

Use of unsuitable chargers

Charging lithium-ion batteries with an unsuitable charger can lead to thermal runaway or damage to the battery.

The resulting fire and explosions can cause death or serious injury.



- Only use suitable chargers specified by the manufacturer to charge lithium-ion batteries.
- Do not continue to use damaged chargers.
- Follow the instructions for charging the battery in the operating instructions supplied by the manufacturer of the chargers and batteries.

WARNING

Hazardous electrical voltage

Touching exposed battery poles can cause a dangerous electric shock.

This can result in death or serious injury.



- Do not touch exposed battery poles or cable ends.
- Use pole caps, if available.
- Observe the operating instructions for the lithium-ion batteries.

2.7 Residual risks

The following residual risks for the user can be identified when using the safety storage cabinet.

WARNING

Exhaust gases and fire residues

Fire involving a lithium-ion battery in the cabinet interior produces exhaust gases and fire residues.

These can cause death or serious injury if touched or inhaled.



- In case of fire in the cabinet interior, leave the danger area immediately.
- The cabinet should only be opened after a fire by specialist fire fighters, with the utmost caution and using suitable protective equipment.
- Only remove fire residues using suitable protective equipment.

WARNING

Damaged electrical components

Touching damaged cables, connectors or electrical sockets can cause a dangerous electric shock.

This can result in death or serious injury.



- Do not continue to use damaged electrical components and have them replaced immediately by specialist employees.
- Switch off damaged components by tripping the relevant fuse or pulling out the mains connector.

2.8 Dangers areas and labelling

The following must be attached to the front of the safety storage cabinet and must be clearly visible:

- The instruction "Close door"
- Fire resistance in minutes (e.g. Type 30)
- Manufacturer's name or trademark
- Serial number and year of manufacture
- Information on the largest individual container volume that can be stored
- Information on the maximum load capacity of the shelves

Furthermore, the following signs must be attached to the front of the safety storage cabinet and must be clearly visible:

Table 2: Prohibited action sign


Symbol	Meaning	Standard
	No naked flames; fire, open ignition sources and smoking prohibited	ANSI Z535.3 ISO 7010

Table 3: Warning signs







Symbol	Meaning	Standard
	Flammable substances warning	ANSI Z535.3 ISO 7010
	Hazardous electrical voltage warning	ANSI Z535.3 ISO 7010
	Hazards due to charging batteries warning	ANSI Z535.3 ISO 7010

Table 4: Instruction signs

Symbol	Meaning	Standard
	Observe instructions	ANSI Z535.3 ISO 7010
	Keep doors closed	Manufacturer specification
	Ventilation system connection	Manufacturer specification

3 Technical specifications

3.1 General data

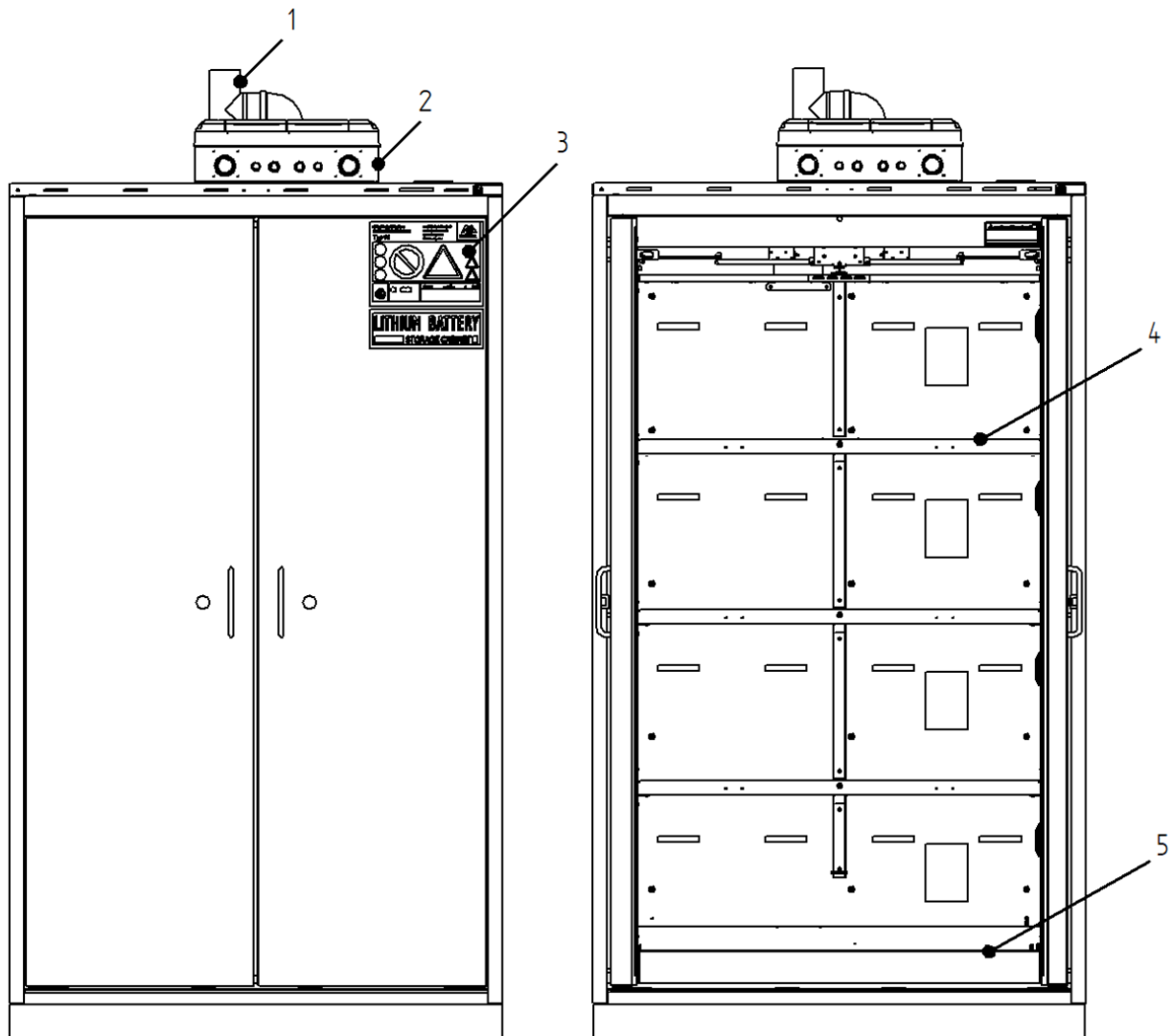


Fig. 2: General view of BATTERY station

- 1 Exhaust air connection
- 2 Power supply unit (PSU)
- 3 Type plate
- 4 Storage shelf
- 5 Bottom tray with perforated sheet insert as standing surface

3.2 Dimensions and equipment

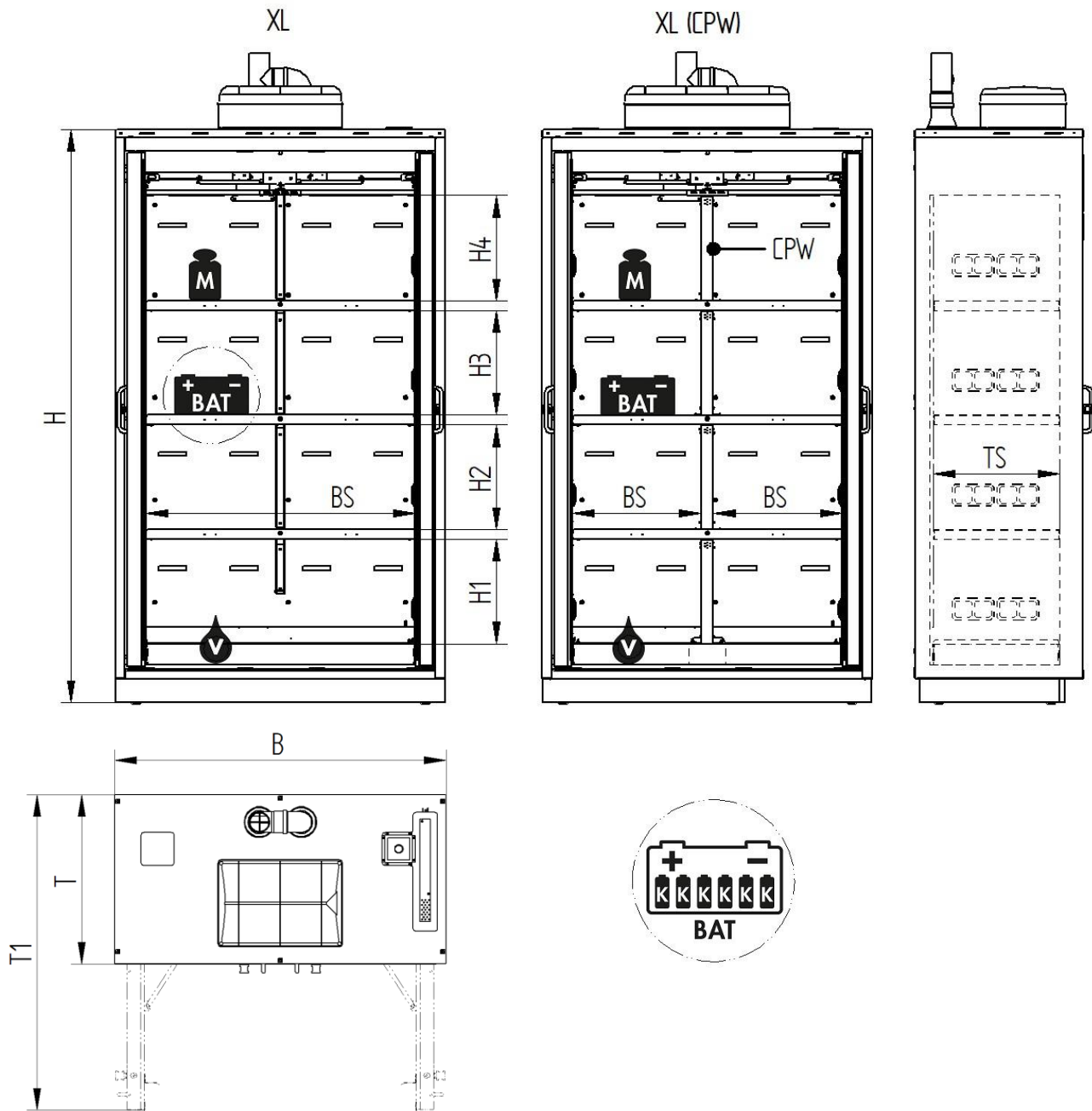


Fig. 3: BATTERY station dimensions

H	Cabinet height	H1-H4	Storage area 1 - 4 height
W	Cabinet width	SW	Standing surface width
D	Cabinet depth	SD	Standing surface depth
D1	Cabinet depth with open door	CPW	Center partition wall
M	Standing surface load-bearing capacity	V	Maximum volume of bottom tray
BAT	Lithium-ion battery – consisting of multiple individual cells	C	Maximum capacity of largest individual cell

Technical specifications

Table 5: BATTERY station dimensions

	M	XL	XL (CPW)
H (mm / in)	2045 / 80.52	2045 / 80.52	2045 / 80.52
W (mm / in)	594 / 23.39	1194 / 47.01	1194 / 47.01
D (mm / in)	612 / 24.10	612 / 24.10	612 / 24.10
D1 (mm / in)	1100 / 43.31	1140 / 44.88	1140 / 44.88
H1 (mm / in)	378 / 14.89	378 / 14.89	378 / 14.89
H2 (mm / in)	378 / 14.89	378 / 14.89	378 / 14.89
H3 (mm / in)	378 / 14.89	378 / 14.89	378 / 14.89
H4 (mm / in)	381 / 15.00	381 / 15.00	381 / 15.00
SW (mm / in)	375 / 14.77	965 / 38.00	2x 465 / 2x 18.31
SD (mm)	457 / 18.00	457 / 18.00	457 / 18.00
M (kg / lbs)	75 / 165.35	75 / 165.35	75 / 165.35
V (l /gal)	11 / 2.91	33 / 8.72	33 / 8.72
C (Ah)	54	54	54
Empty weight (kg / lbs)	320 / 705.48	540 / 1190.50	550 / 1212.54
Max. payload (kg / lbs)	360 / 793.67	360 / 793.67	360 / 793.67
Max. total weight (kg / lbs)	680 / 1499.15	900 / 1984.17	910 / 2006.21

Table 6: Power supply technical specifications

	M	XL	XL (CPW)
Supply voltage (V)	120	120	120
Frequency (Hz)	60	60	60
Max. current rating (A)	15	15	15
Overall fuse protection	RCD type A (300 mA) and Line circuit breaker C15 (15 A)	RCD type A (300 mA) and Line circuit breaker C15 (15 A)	RCD type A (300 mA) and Line circuit breaker C15 (15 A)
Connecting cable	3-wire	3-wire	3-wire
Connector	Type B / NEMA 5-15	Type B / NEMA 5-15	Type B / NEMA 5-15
Short circuit resistance	5 kA symmetrical 120 V maximum	5 kA symmetrical 120 V maximum	5 kA symmetrical 120 V maximum
Protection type	12 / 12k	12 / 12k	12 / 12k
Fuse protection per storage area	Line circuit breaker B10 (10 A)	Line circuit breaker B10 (10 A)	Line circuit breaker B10 (10 A)
Electrical sockets per storage area	4	4	4
Number of storage areas	4	4	8
Electrical socket type	Type B / NEMA 5-15	Type B / NEMA 5-15	Type B / NEMA 5-15

3.3 Pressure drop during ventilation

Industrial ventilation of the safety storage cabinet results in a pressure drop at the exhaust air connection, as shown in the following diagram.

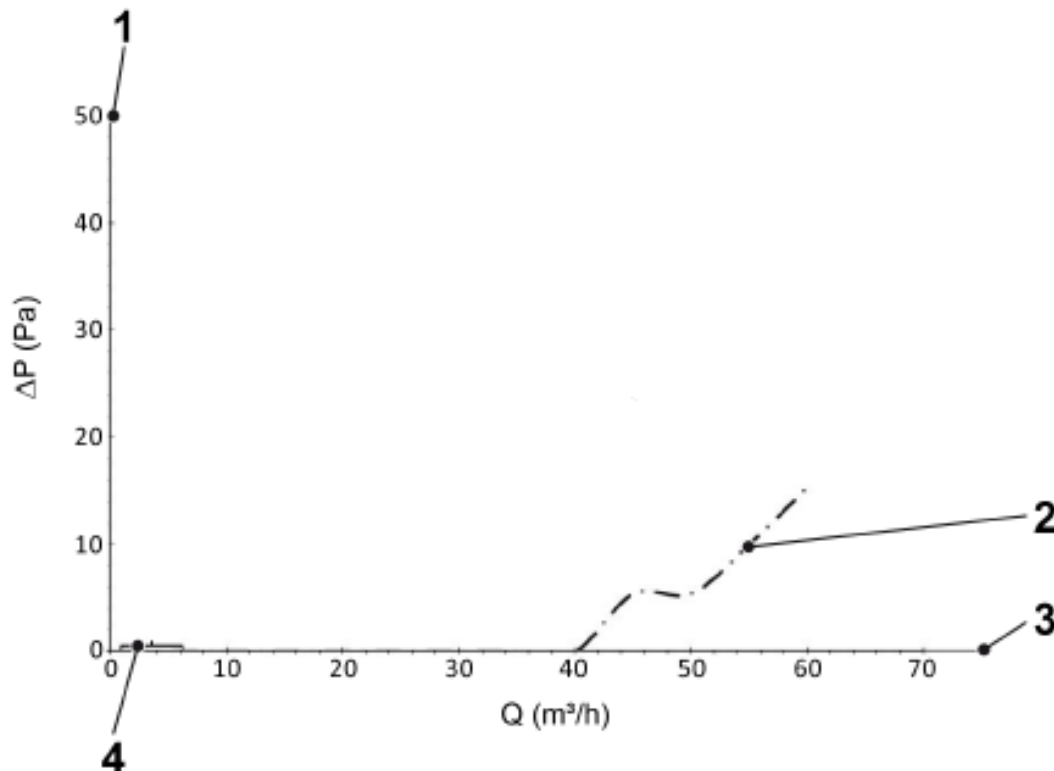


Fig. 4: Averaged pressure drop for all cabinet sizes

- 1 Pressure drop
- 2 Averaged pressure drop from all cabinet sizes
- 3 Volumetric flow rate
- 4 Q with ten-fold air exchange (see table)

Table 7: Volumetric flow rate Q and pressure drop ΔP with 10-fold air exchange

Model size	Q [m³/h / cft/h]	ΔP [Pa]
M	4.3 / 151.9	<1
XL	9.5 / 335.5	<1
XL (CPW)	9.5 / 335.5	<1

4 Installation and function

4.1 Construction

- Cabinet carcass and doors in multi-layer construction
- Outer paneling: Powder-coated sheet steel
- Wall construction: Multi-layer construction
- Interior surfaces: Light gray coated decor panels
- Safety elements for locking in case of fire: Brass, spring steel (1.410)

4.2 Earthing

Earthing the safety storage cabinet prevents ignition hazards.

The interior fittings are conductively connected to one another with an equipotential bonding saddle on the cabinet roof.

The equipotential bonding saddle on the cabinet roof is connected to the power supply unit earthing system.

4.3 Exhaust air connection

The ventilation connections on the roof of the BATTERY station safety storage cabinet can be connected to an exhaust air pipe that feeds into the open air in a safe location.

To adapt the connection for an exhaust air pipe, the safety storage cabinet is supplied with a coupled adapter pipe with a reduction from nominal width 110 mm (4.33 in) to nominal width 75 mm (2.95 in).

The layout of the exhaust air openings in the cabinet means that ventilation takes place directly above the bottom tray and is effective on every cabinet level.

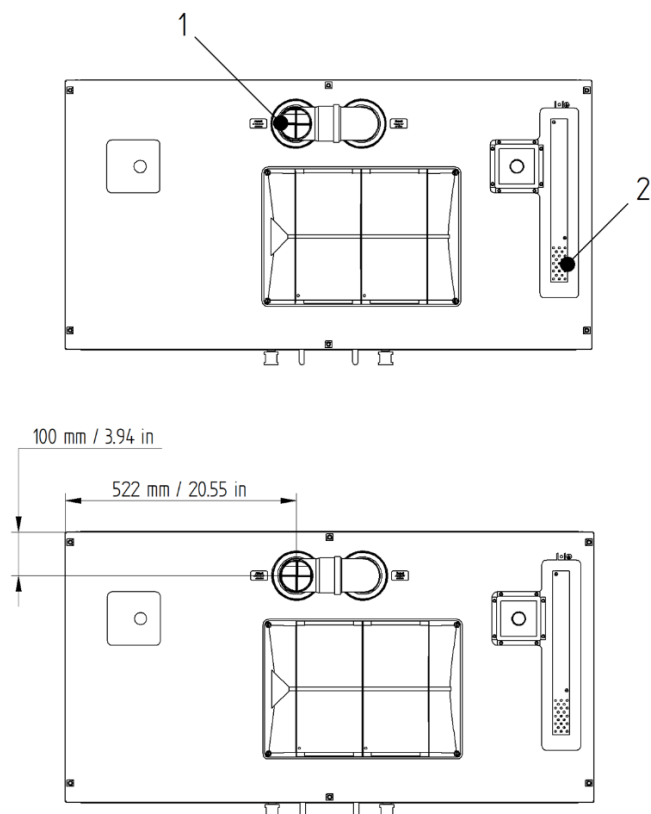


Fig. 5: Cabinet roof with exhaust air connection (view from above)

- 1 Exhaust air connection with adapter pipe
- 2 Thermocouple for closing the venting cut-off flaps

4.4 Doors

The BATTERY station series of safety storage cabinets are equipped with one (model size M) or two (model size XL) wing doors, which can be opened by turning the thumbturn and pulling the door handle. The doors remain open in any position.

Each door is lockable using the integrated locking cylinder. The key numbers are embossed on the locking cylinder and on the keys supplied, e.g. A007. Locks can be subsequently adapted to the operator's requirements.

4.5 Safety technology

4.5.1 Door closure in case of fire

At a temperature of approx. 50°C / 122°F, open doors are closed automatically by the safety technology. To prevent the doors being pushed open by destruction of a lithium-ion battery in the cabinet interior, they are permanently locked.

⚠ WARNING

Holding safety storage cabinet doors open using objects



Blocked doors result in the safety storage cabinet losing its protective function. This can result in death or serious injury.

- Do not block the doors.

4.5.2 Backdraft locking

To prevent the doors being accidentally opened in the event of destruction of a lithium-ion battery in the cabinet interior, they are also locked by the backdraft locking mechanism.

Once the backdraft locking mechanism has been triggered, the doors can only be unlocked and opened using the emergency release on the cabinet roof.

4.5.3 Closure of venting cut-off flaps in case of fire

The safety storage cabinet is equipped with an inspection window for visually checking the ventilation openings for air supply and exhaust air. Above the suspended ceiling, inspection cut-outs indicate the position of the locking mechanism for the ventilation openings.

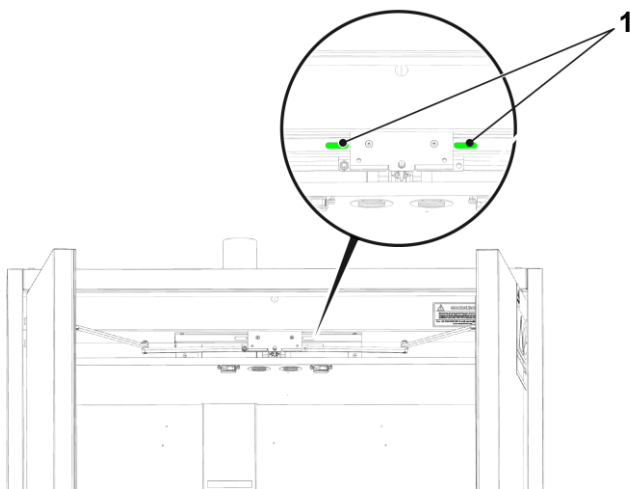


Fig. 6: Opened air ducts

- 1 Green inspection cut-outs in the open ventilation ducts

At a room temperature of 70°C, the locking mechanism is closed by the safety technology. The inspection cut-outs turn red.

4.6 Interior fittings

4.6.1 Storage levels

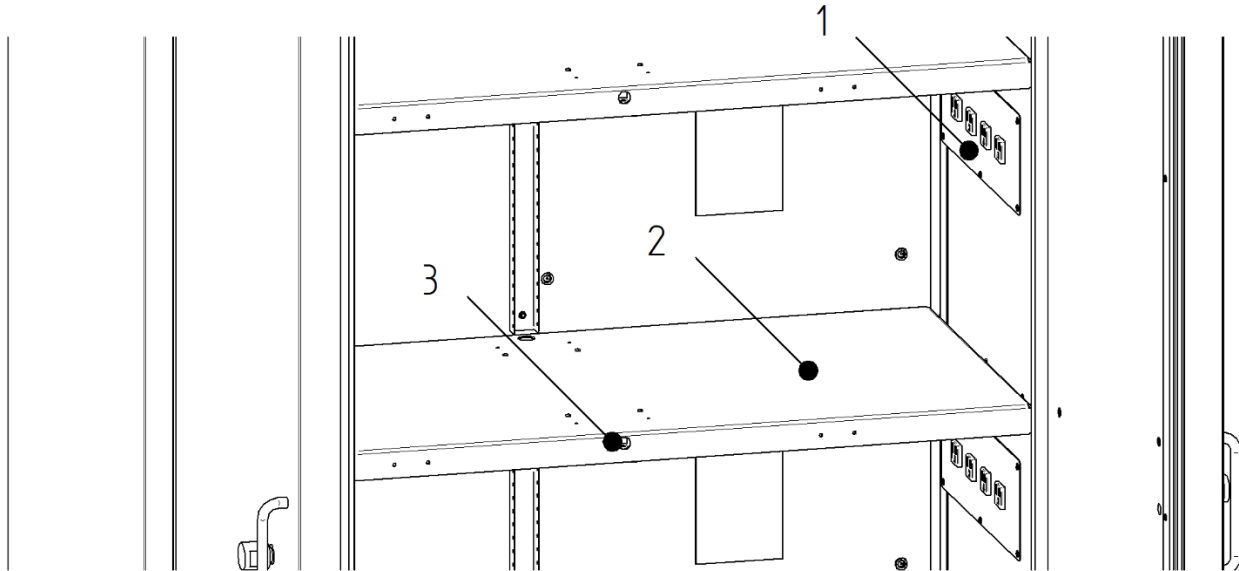


Fig. 7: Storage level

- 1 Integrated electrical sockets
- 2 Thermally insulated storage shelf
- 3 Fusible link (installed in center of storage shelf)

The BATTERY station safety storage cabinets are equipped with several uniformly distributed and fixed storage shelves. The storage shelves are used as standing surfaces for storage of lithium-ion batteries. To prevent a fire from spreading, they are thermally insulated.

Each storage shelf is fitted with a fusible link (approx. 50 °C / 122 °F), which causes the doors to be automatically closed and locked in the event of a fire in the cabinet interior.

The individual storage levels can be divided into two sections using a center partition wall (CPW).

4.6.2 Integrated electrical sockets

Each storage area of the safety storage cabinet is equipped with 4 integrated electrical sockets. The electrical sockets can be used to connect lithium-ion battery chargers fitted with a Type A (NEMA-4) or Type B (NEMA-5) connector.

Table 8: Number of electrical sockets per safety storage cabinet

Model	Number of electrical sockets
BATTERY station M	16
BATTERY station XL	16
BATTERY station XL (CPW)	32

4.6.3 Bottom tray

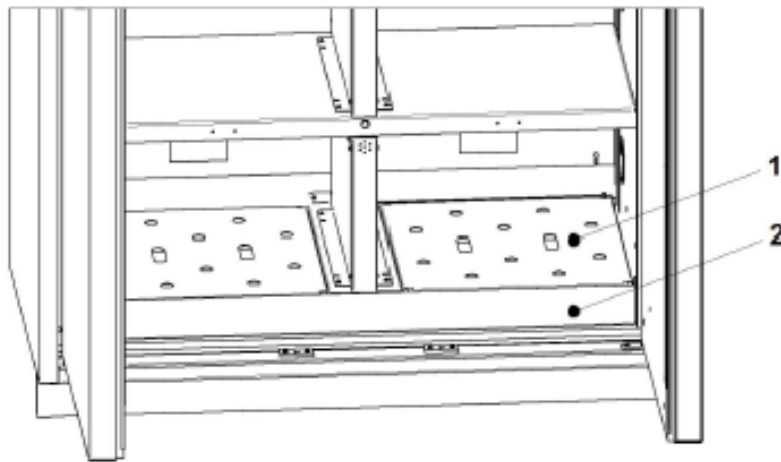


Fig. 8: Bottom tray with perforated sheet insert

- 1 Perforated sheet insert as standing surface
- 2 Bottom tray

The bottom tray is used to collect liquids that have leaked in the cabinet interior. The perforated sheet insert in the bottom tray is used as a standing surface.

4.7 Power supply unit

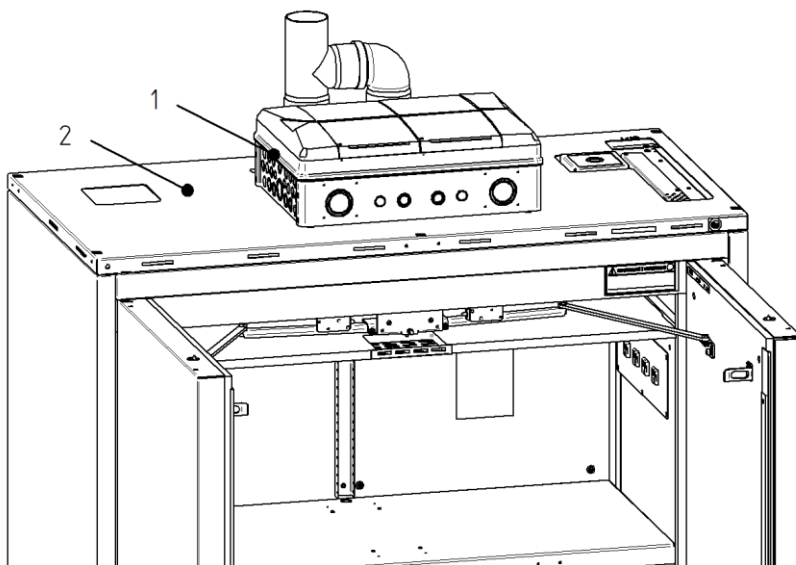


Fig. 9: Power supply unit on cabinet roof with superimposed load adapter

- 1 Power supply unit
- 2 Superimposed load adapter

The power supply unit on the cabinet roof is used as a sub-distributor for the power connection to the safety storage cabinet.

The power supply unit is protected by a fault current circuit breaker and a line circuit breaker. In addition, the electrical sockets in each storage area are protected by a further line circuit breaker.

4.8 Pipe penetration

Type-tested pipe penetrations are fitted on the cabinet roof. The connecting cables for the electrical sockets in the cabinet interior are fed through this pipe penetration.

Proper use does not impair the fire resistance of the safety storage cabinet. Unused, open holes in the pipe penetration must be sealed. Additional holes cannot be fitted.

WARNING

Hazardous voltage

The connecting cables for the electrical sockets in the cabinet interior are fed through the pipe penetration. They can be damaged when installing additional cables.



This can result in death or serious injuries as a result of hazardous voltage.

- Do not install additional cables or other components through the pipe penetration.
- Before maintenance work, switch off the power supply unit and disconnect the mains connector.

4.9 Superimposed load adapter

The BATTERY station safety storage cabinet with Type 90 classification is equipped with a type-tested superimposed load adapter. The superimposed load adapter is to be used for supporting loads on the safety storage cabinet. Proper use has absolutely no negative effect on fire resistance. Refer to the separate instructions for the superimposed load adapter.



The maximum load-bearing capacity of the safety storage cabinet is reduced by the superimposed load (see separate instructions for superimposed load adapter).

WARNING

Objects on the cabinet roof

In case of fire, objects on the cabinet roof can impair the functioning of the safety storage cabinet.



This can result in death or serious injury.

- Do not store any objects on the cabinet roof.
- or
- Use a superimposed load adapter. Do not overload the superimposed load adapter.

5 Transport and packaging

The safety storage cabinet is packed for transport. The transport packaging consists of an outer wooden casing and film packaging with edge protection. In addition, transport restraints made of colored plastic (white, yellow, red) protect the cabinet from damage during transportation. The transport restraints are to be re-fitted before any transportation.

The safety storage cabinet is equipped with special transport skids for transportation. The transport skids must be removed after transportation and replaced with the adjustable feet supplied.

WARNING

Risk of crushing due to tipping safety storage cabinet

If the safety storage cabinet tips over when not transported with due caution, this can cause potentially fatal crushing.



- Wear personal protective equipment (PPE).
- Only transport as a team of at least two people.
- Only transport the safety storage cabinet vertically and unladen.
- Only transport the safety storage cabinet using suitable equipment.
- Only lift the safety storage cabinet after it has been secured and there is no danger of it tipping over or slipping.

NOTE

Handling the transport restraints

Incorrect handling can damage the safety transport skids or the safety storage cabinet.



- Transport restraints and safety transport skids should only be removed at the installation location.
- Replace the safety transport skids with the enclosed adjustable feet after transportation to the installation location.

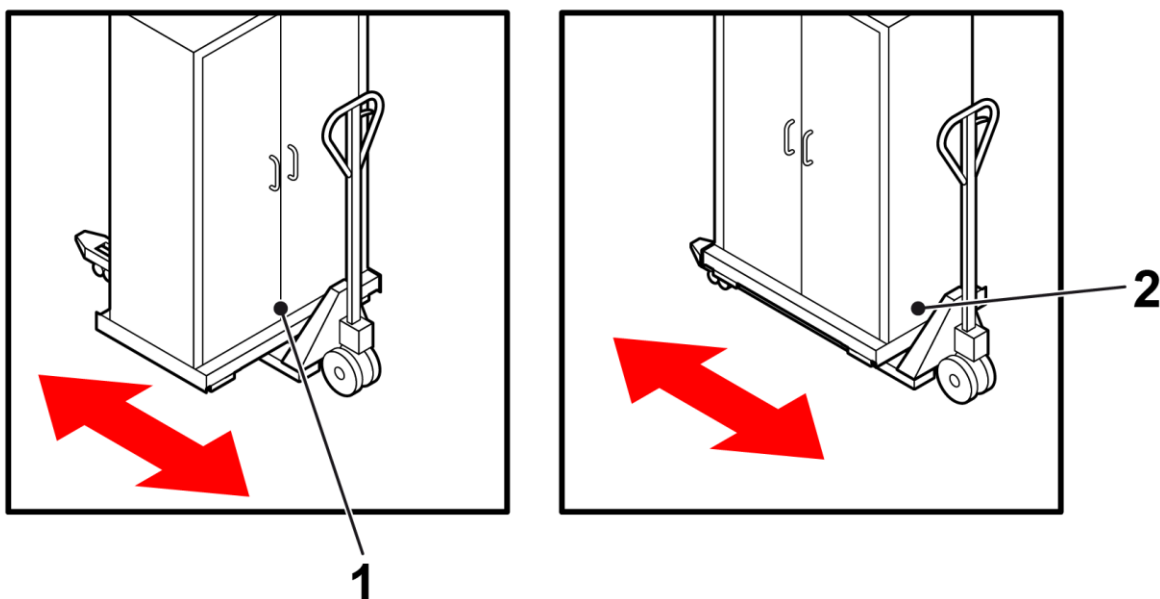


Fig. 10: Transporting the safety storage cabinet

1 Pick up centrally from the front

2 Pick up centrally from the side

Suitable transport equipment:

- Hand pallet truck
- Forklift
- Transport rollers with sufficient load bearing capacity

For transportation, pick up the safety storage cabinet using transport equipment with sufficient load bearing capacity and move it to the desired installation position. During transportation, pay attention to the center of gravity – approximately at the height of the handles – and the empty weight of the safety storage cabinet (☞ *Section 3.2 “Dimensions and equipment” on page 17*).

6 Installation and commissioning



Install the safety storage cabinet so that the annual maintenance activities can be carried out without restriction.

6.1 Requirements for the installation location

The safety storage cabinet is approved for installation in a building.

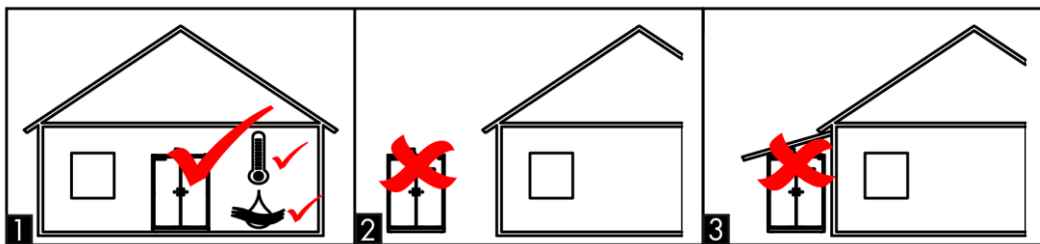


Fig. 11: Requirements for installation location

Consider the following in relation to the installation location:

- The surface must be able to bear the weight of the safety storage cabinet when fully loaded.
- The surface must be horizontal in order to guarantee problem-free functioning of the safety storage cabinet.
- The load-bearing capacity and stability of the surface must be assured both in normal situations and in the event of a fire.
- Do not install the safety storage cabinet near sources of heat.
- Protect the safety storage cabinet against moisture.
 - At a relative humidity of >70 % use in closed and heated buildings is permissible for a few weeks each year.
- The operating temperature must be between 0°C / 32 °F and +40°C / 104 °F.

6.2 Installing the safety storage cabinet

6.2.1 Instruction video

Unpacking and installation of the safety storage cabinet are outlined in detail in the videos that can be accessed using the two QR codes.



Fig. 12: "Unpacking and installation" video, left, Positioning the power supply unit video, right

6.2.2 Preparing the safety storage cabinet for installation

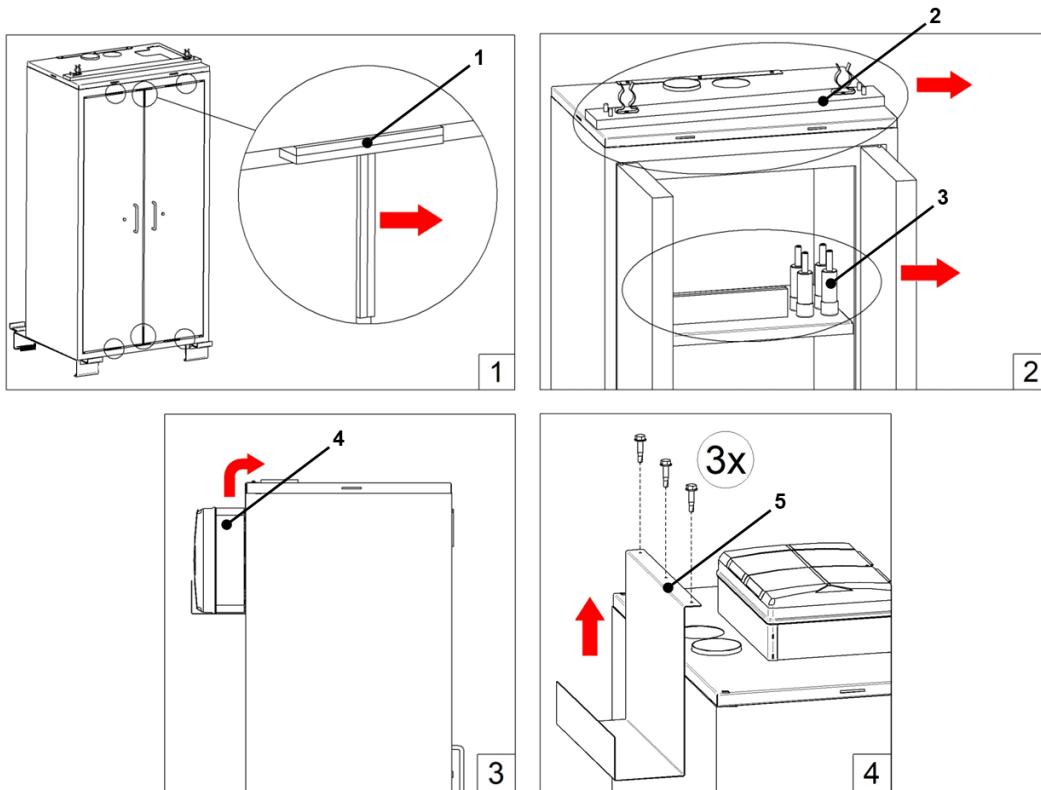


Fig. 13: Preparing the safety storage cabinet for installation

- | | | | |
|---|--|---|-----------------------------|
| 1 | Transport restraints, different colors | 2 | Accessories on cabinet roof |
| 3 | Accessories in cabinet interior | 4 | Power supply unit (PSU) |
| 5 | Transport bracket for PSU | | |

Employees:

- Specialist technical employees

Tools:

- Open-ended wrench, size 10 mm / 0.39 in

- ➔ Position the safety storage cabinet close to the installation location.
- ➔ Before opening the doors, remove the transport restraints (Figure 1).
- ➔ Remove the accessories, consisting of base boards and adjustable feet, from the cabinet or (model size XL) from the cabinet roof (Figure 2). On model size M, the front of the base board is attached to the rear of the cabinet.
- ➔ Lift the power supply unit out of the transport bracket and position it on the cabinet roof (Figure 3). Make sure that the connecting cables are not kinked or damaged and that the ventilation openings are not covered.
- ➔ Unscrew the PSU transport bracket using an open-ended wrench.

6.2.3 Fit the adjustable feet and align the safety storage cabinet.

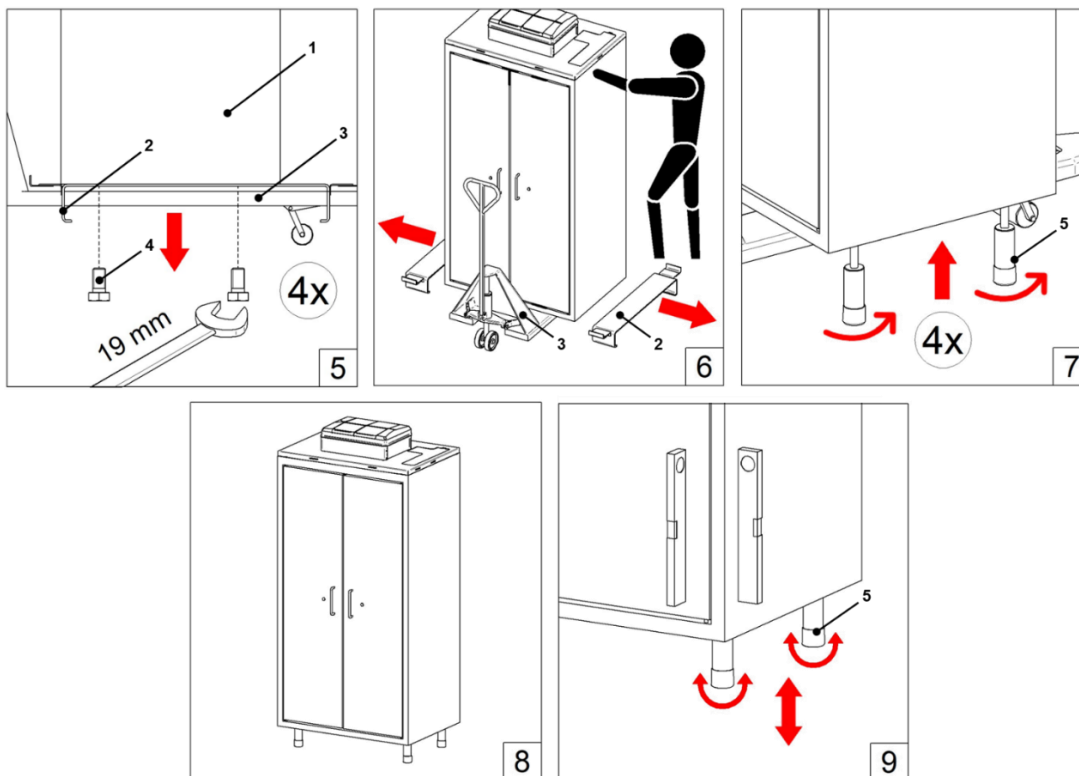


Fig. 14: Fitting adjustable feet and aligning safety storage cabinet.

- | | | | |
|---|--|---|---|
| 1 | BATTERY station safety storage cabinet | 2 | Transport skids |
| 3 | Transport equipment for safety storage cabinet | 4 | Transport skid attachment (4x screw size 19 mm / 0.75 in) |
| 5 | Adjustable foot (4 per cabinet) | | |

Employees:

- Specialist technical employees

Tools:

- Transport equipment for safety storage cabinet, e.g. hand pallet truck
- Open-ended wrench, size 19 mm / 0.75 in
- Spirit level

- ➔ Lift the cabinet using the transport equipment, e.g. a hand pallet truck.
- ➔ Loosen the screws for the transport skids with an open-ended wrench, size 19 mm / 0.75 in (Figure 5).
 - ✓ The transport skids can be removed (Figure 6). Have a second person hold the safety storage cabinet steady.
- ➔ Screw the adjustable feet (x 4) completely into the bottom of the cabinet from underneath (Figure 7).
- ➔ Position the cabinet at the installation position, carefully set it down and check the alignment (Figure 8).
- ➔ Align the safety storage cabinet by screwing the adjustable feet in or out (Figure 9). The safety storage cabinet can be lifted slightly to do this.
- ➔ Set down the safety storage cabinet and check the alignment. If necessary, repeat the alignment.



Alignment of the safety storage cabinet is intended for precise adjustment. Significant surface unevenness of more than 15 mm must be resolved before installation.



In the event of the safety storage cabinet not being aligned properly, the open wing doors will close themselves or open fully.

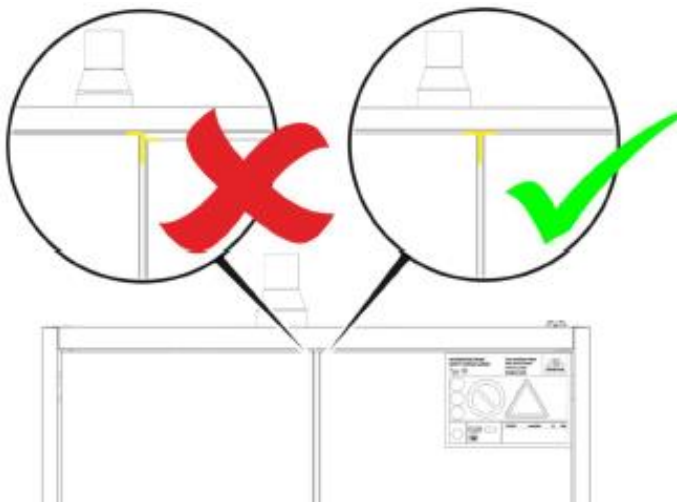


Fig. 15: Checking alignment

Correct alignment of the safety storage cabinet:

- When the doors are closed, the door gaps are of equal width.
- With two doors, the central gap and roof gap form an even "T" (see Fig. 15)
- The alignment can also be checked using a spirit level.

6.2.4 Fitting the plinth panel

The adjustable feet are covered and protected by the plinth panel.

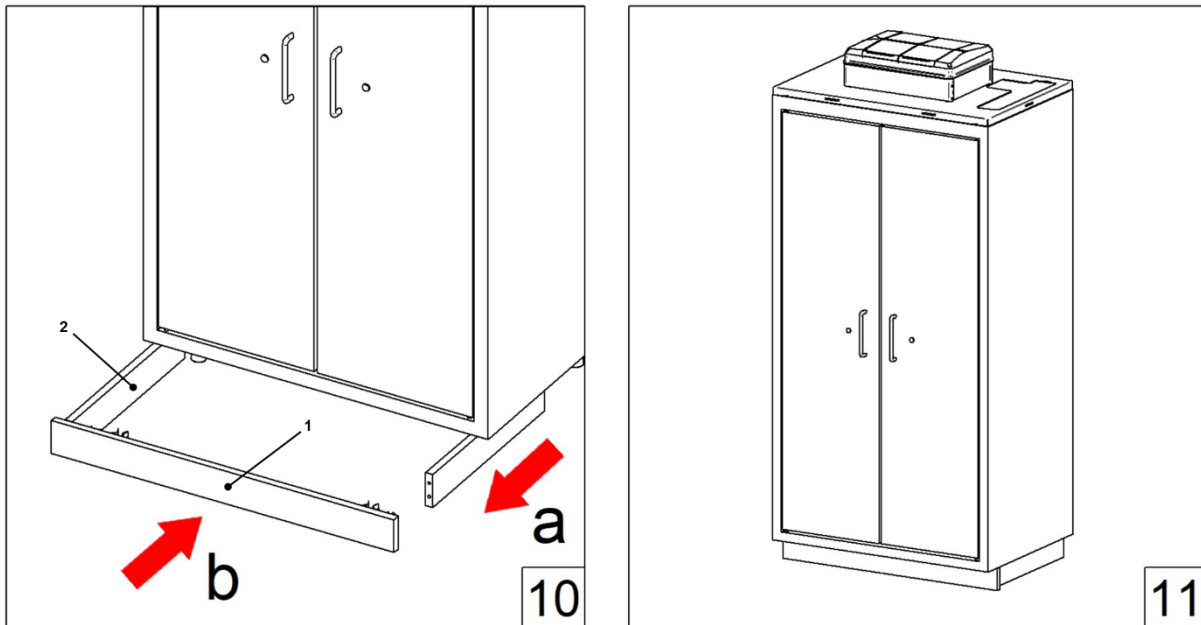


Fig. 16: Fitting the plinth panel

1 Front panel with spring clips

2 Side panel

Employees:

- Specialist technical employees

- ➔ Fit the side panels on the wooden dowels inserted in the front panel (Figure 10).
- ➔ Slide the three-part plinth panel under the safety storage cabinet (Figure 10).
- ➔ Attach the plinth panel to the adjustable feet using the spring clips attached to the front.

6.3 Connecting the safety storage cabinet to an exhaust air system



Installation of industrial ventilation and/or connection to an existing exhaust air system must be carried out by qualified employees and is not a service provided by DÜPERTHAL.

6.3.1 Installing the exhaust air connection socket

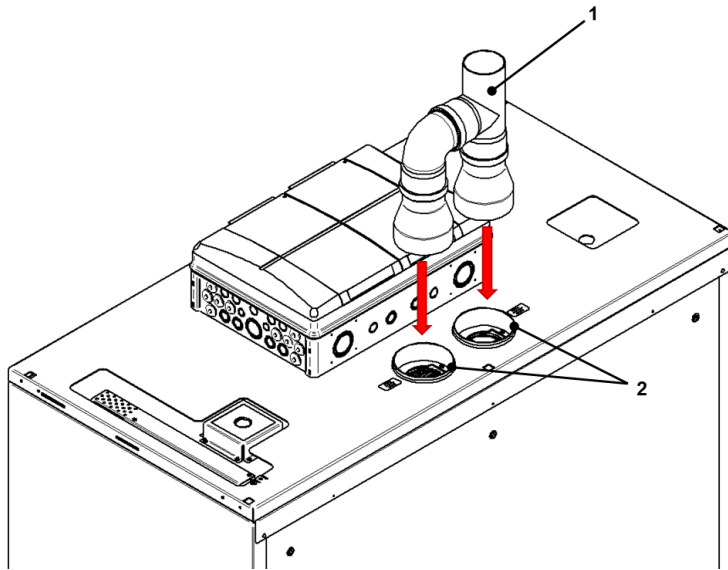


Fig. 17: Installing the exhaust air connection socket

1 Exhaust air connection socket

2 Exhaust air connections

Employees:

- Specialist technical employees
- ➔ Connect the exhaust air connection socket (nominal width 75 mm / 2.95 in) to the exhaust air connections on the safety storage cabinet.

6.3.2 Connection to an exhaust air pipe

SAFETY INSTRUCTION

We recommend connecting the safety storage cabinet to an exhaust air pipe that is as short as possible, is made of non-flammable or flame-retardant material, and discharges into the open air in a non-hazardous location.

In case of fire, some of the hazardous exhaust gases can be discharged to the outside through the exhaust air pipe.

Employees:

- Specialist technical employees
- ➔ Connect the exhaust air connection socket (nominal width 75 mm / 2.95 in) to the exhaust air pipe.
- ➔ If necessary, seal the connections.

6.3.3 Connection to an industrial ventilation system

SAFETY INSTRUCTION

In the event of a fire in the cabinet interior, the industrial ventilation must be switched off to prevent uncontrolled oxygen entry into the safety storage cabinet.

The BATTERY station safety storage cabinet can be connected to an industrial ventilation system to dissipate the heat produced when charging the lithium-ion batteries.

Employees:

- Specialist technical employees
- ➔ Connect the exhaust air connection socket (nominal width 75 mm / 2.95 in) to the exhaust air pipe.
- ➔ If necessary, seal the connections.
- ➔ After installation of the safety storage cabinet, check the effectiveness of the industrial ventilation, e.g. using a smoke tube.



The power of the exhaust air system can be determined using the technical specifications, [Section 3.3 "Pressure drop during ventilation" on page 19](#).

6.4 Earthing the safety storage cabinet

The BATTERY station safety storage cabinet is connected to the power supply unit earthing system. The power supply unit is connected to the building earthing system using a connecting plug.

6.5 Connection to power supply

SAFETY INSTRUCTION

We recommend connecting the safety storage cabinet to a separately fuse protected power circuit with at least 15 A of fuse protection.

The safety storage cabinet is connected to an electrical socket (NEMA-5) at the installation location using the mains connector.

Employees:

- Specialist technical employees
- ➔ Connect the power supply unit mains connector to an electrical socket (NEMA-5) with fuse protection of at least 15 A.

7 Operation

7.1 Opening the safety storage cabinet / Storing and charging lithium-ion batteries

⚠ WARNING

Blocked doors



Doors that are held open by objects impair the function of the safety technology. This can result in death or serious injuries as a result of inadequate fire protection.

- Close the doors after every work process.
- Do not block the doors with any objects.

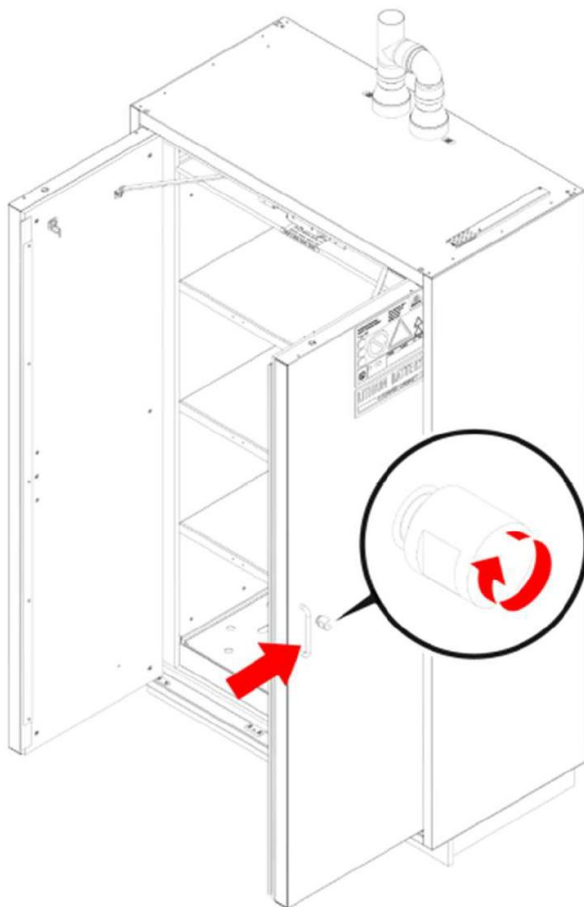


Fig. 18: Door operation with door handle and thumbturn

Employees:

- Users

Opening the doors:

- ➔ Turn the thumbturn next to the door handle by 180° and hold.
- ➔ Open the safety storage cabinet door by pulling the door handle.
 - ✓ The rotary door remains open in any position.
- ➔ Release the thumbturn.
 - ✓ The thumbturn returns to its original position and the lock is locked.

Storing and charging lithium-ion batteries:

After opening the safety storage cabinet, the lithium-ion batteries can be placed in or removed from the cabinet. Before placing them in or after removing them, check that the lithium-ion batteries are not damaged or deformed, and that they have not heated up abnormally.

To charge lithium-ion batteries in the BATTERY station safety storage cabinet, only use suitable chargers supplied by the manufacturer of the batteries.

When work in the safety storage cabinet is complete, the doors must be securely locked again.

Locking the door:

- ➔ Close the safety storage cabinet door using the door handle.
 - ✓ The rotary door is locked automatically. The locking bolt engages with an audible click.
- ➔ Gently pull the door handle to check that the door is correctly closed and locked.



In the event of the safety storage cabinet not being aligned properly, the open wing doors will close themselves or open fully.

7.2 Storage area

NOTE

Covering the fusible links



If the fusible links fitted in the center of the relevant storage level are covered, they trip too late and impair the fire protection function.

- Store the lithium-ion batteries in such a way that the area around the fusible links is not covered.

Store batteries and chargers with a large a space as possible between them.

Do not stack batteries and chargers.

7.3 Charging lithium-ion batteries in the safety storage cabinet

NOTE

Charging lithium-ion batteries

Lithium-ion batteries that are not correctly charged can be damaged or cause damage to the safety storage cabinet.



- Charge lithium-ion batteries as stipulated by the manufacturer.
- Do not use multiple sockets in the safety storage cabinet.
- When charging, observe the maximum amount of current required for the chargers. The total amount of current required must not exceed the maximum current rating of the safety storage cabinet (15A) and the individual storage areas (10A).
- Only use the safety storage cabinet for charging lithium-ion batteries. Do not connect any other devices to the electrical sockets in the cabinet interior.

Charging lithium-ion batteries:

Employees:

- Users
- ➔ Connect the charger for the lithium-ion battery to the electrical socket in the cabinet.
- ➔ Connect the lithium-ion battery to the charger.
- ➔ Wait until charging has been started before connecting the next battery.
- ➔ Charge the lithium-ion battery as stipulated by the manufacturer.
- ➔ When charging is complete, disconnect the charger from the power supply.

7.4 Checking the bottom tray and cleaning the safety storage cabinet

⚠ WARNING

Leaking electrolyte

Contact with leaked electrolyte can cause potentially fatal injuries or painful skin reactions.

This can result in death or serious injury.



- Wear appropriate personal protective equipment (PPE).
- Soak up any leaked electrolyte in the bottom tray and in the cabinet interior immediately in compliance with accident prevention regulations.
- Dispose of defective lithium-ion batteries in compliance with national and local waste disposal regulations.

Checking the bottom tray:

Employees:

- Users
- ➔ Store hazardous substances in such a way that a visual inspection of the bottom tray is possible every working day.
- ➔ Perform a visual inspection for extraneous substances every day.
- ➔ Immediately soak up and dispose of spilled liquids in compliance with the accident prevention regulations. Wear personal protective equipment.

Cleaning the safety storage cabinet:

Employees:

- Users

- ➔ Wipe down the safety storage cabinet with a damp cloth and a mild and neutral cleaning agent.
- ➔ Wipe damp surfaces dry with a soft cloth.

NOTE

Cleaning the safety storage cabinet



Incorrect cleaning of the safety storage cabinet can shorten the service life of the safety storage cabinet or damage the cabinet.

- Do not use corrosive or abrasive cleaning agents.
- Only use a damp cloth for cleaning.
- Wipe surfaces dry with a soft cloth. Any remaining moisture can lead to corrosion damage.

7.5 Power supply failure

If the power supply fails, charging of the lithium-ion batteries is interrupted.

SAFETY INSTRUCTION

The fire protection fittings in the safety storage cabinet continue working during a power supply failure.

Resolve the cause of the failure before switching the power supply on again.

NOTE

Restarting the loaded safety storage cabinet



Excessive starting currents, which can occur when starting a loaded BATTERY station safety storage cabinet, can damage the electrical components of the safety storage cabinet.

- Disconnect the chargers before switching the power supply on again.
- After restarting, connect chargers to the power supply in turn at intervals. This enables high starting currents to be avoided.
- Wipe surfaces dry with a soft cloth. Any remaining moisture can lead to corrosion damage.

8 Behavior in case of fire

WARNING

Exhaust gases and fire residues

In case of a fire in the cabinet, exhaust gases and fire residues can escape from the ventilation openings and the door gaps.

This can result in death or serious injury.



- Leave the danger area immediately.
- Notify the fire brigade and emergency medical services.
- If it is possible to do so safely, switch off or disconnect the power supply.
- After a fire, the safety storage cabinet must only be opened by the fire brigade. Before opening, the fire brigade must check that safe opening is possible. Initiate decontamination measures after a fire.

9 Procedure after a fire

WARNING

Exhaust gases and fire residues



In case of a fire in the safety storage cabinet, exhaust gases and fire residues accumulate in the cabinet interior and on the surfaces of the cabinet.

If the cabinet is not opened carefully, they can cause death or serious injuries.

- After a fire in the cabinet interior, the safety storage cabinet must be opened by fire brigade employees using protective equipment.
- Before opening, it is essential to check whether safe opening is possible.
- After opening, the safety storage cabinet and the remaining stored materials must be decontaminated.

WARNING

Hazards due to damaged lithium-ion batteries



Damaged lithium-ion batteries can explode or re-ignite after the fire in the cabinet interior has been extinguished.

They can cause death or serious injuries if the cabinet is not opened carefully.

- After a fire in the cabinet interior, the safety storage cabinet must be opened by fire brigade employees using protective equipment.
- Before opening, it is essential to check whether safe opening is possible.
- Handle damaged lithium-ion batteries with the utmost care. Wear protecting equipment when handling them.
- Damaged lithium-ion batteries must be transported in a special safety transport container.

WARNING

Hazards due to electric current



After a fire in the cabinet interior, the electrical installation inside may be damaged.

Touching live parts can cause death or serious injuries.

- Before touching and opening the safety storage cabinet, disconnect the power supply unit from the mains and check that safe opening is possible.

WARNING

Safety storage cabinet damaged due to fire or extinguishing agents



A damaged safety storage cabinet can no longer provide its safety function.

This can result in death or serious injury.

- A safety storage cabinet damaged by a fire in the cabinet interior must not continue to be used and should be replaced.

After a fire, the safety storage cabinet must not be opened for at least 24 hours, and then only with extreme caution by specialist employees.

Operating the emergency release:

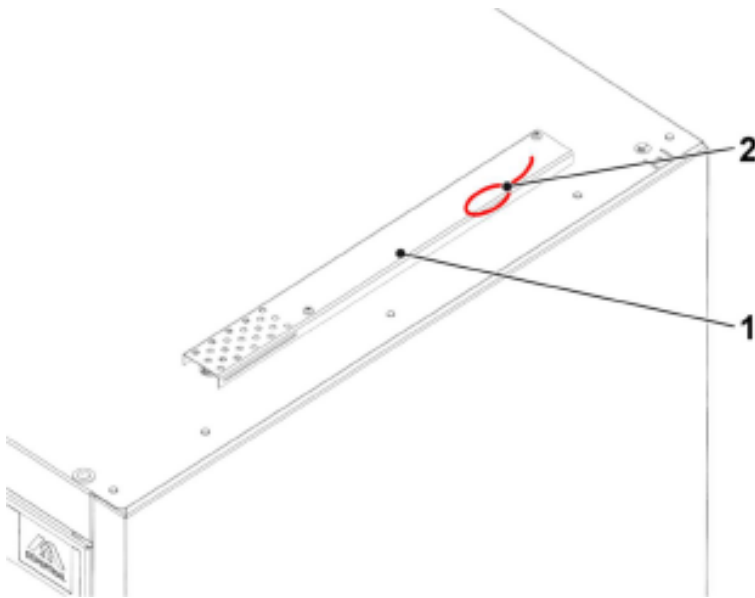


Fig. 19: Emergency release on cabinet roof

1 Cover

2 Emergency release pull cable

In case of a fire and triggering of the door self-closing function, the safety storage cabinet's backdraft locking mechanism is triggered and the doors are permanently locked. An emergency release is installed on the cabinet roof to open the cabinet.

Employees:

- Fire brigade employees or specialist technical employees

Tools:

- Crosshead screwdriver size PH2

- ➔ Unscrew the cover on the emergency release (1) using a crosshead screwdriver and remove.
- ➔ Pull the emergency release pull cable as far as it will go and hold it.
- ➔ Open the doors by turning the thumbturn and pulling the door handle.



If the fire protection seals have been triggered due to a fire, the doors can only be opened with increased effort or additional tools.

10 Maintenance

Check the safety storage cabinet for any externally visible damage or defects.

Always perform checks:

- After installation.
- Before commissioning.
- After changes.
- After maintenance.

The safety storage cabinet should also be inspected periodically at the following intervals.

Interval	Maintenance work	Employees
Daily	Bottom tray and storage levels <ul style="list-style-type: none"> ▪ Check in accordance with regulations to comply with water legislation. ▪ Immediately soak up leaked electrolyte or other extraneous and hazardous substances and dispose of properly. 	Users

Interval	Maintenance work	Employees
Monthly	Closing of the doors <ul style="list-style-type: none"> ▪ Open the door and inspect the closing mechanism. 	Specialist technical employees
	Ventilation <ul style="list-style-type: none"> ▪ If the cabinet is connected to an industrial ventilation system, check the effectiveness of the ventilation using a smoke tube or similar in the cabinet at the ventilation slots in front of the exhaust air duct. ▪ Remove any contamination and dust from the ventilation opening. 	Specialist technical employees
	Seals <ul style="list-style-type: none"> ▪ Check that the sealing strips are fitted properly on the carcass and all the way around the doors. ▪ Check that the fabric seals on the doors are fitted correctly. ▪ If visible damage is found, replace the seals immediately. 	Specialist technical employees
	Labelling <ul style="list-style-type: none"> ▪ Inspect the safety signs on the safety storage cabinet to ensure they are complete. → Section 2.8 “Danger areas and labelling” on page 14. 	Specialist technical employees

Interval	Maintenance work	Employees
Annually	Safety storage cabinet <ul style="list-style-type: none"> ▪ Mechanical and electrical test on the entire safety storage cabinet. 	DÜPERTHAL service technicians



If faults occur, assist our technical customer service team by providing details of the cabinet model, production and key number, along with a description of the fault.



To guarantee the functionality of the safety equipment, annual maintenance of the safety storage cabinet is recommended.

11 Faults

Description of fault	Cause	Remedy	Employees
Doors do not close.	Safety storage cabinet is not aligned correctly.	Install safety storage cabinet horizontally and align. ↳ <i>Section 6.2.3 "Fit the adjustable feet and aligning the safety storage cabinet" on page 29.</i>	Specialist technical employees
	Doors are held open by objects.	Do not wedge or hold open the doors with objects.	Specialist technical employees
	Safety storage cabinet is not filled correctly.	Make sure that stored materials in the safety storage cabinet are uniformly distributed.	Specialist technical employees
No extraction fitted.	Venting cut-off flaps closed, as locking mechanism has been triggered.	Replace the locking mechanism.	DÜPERTHAL service technicians
Doors do not move easily.	Dirt or corrosion on moving parts, e.g. hinges.	<ul style="list-style-type: none"> Remove rust. Lubricate parts. Remove aggressive substances from the safety storage cabinet. Notify technical customer service. 	Specialist technical employees
Doors open automatically.	Safety storage cabinet is not aligned correctly.	Install safety storage cabinet horizontally and align. <ul style="list-style-type: none"> ↳ <i>Section 6.2.3 "Fit the adjustable feet and aligning the safety storage cabinet" on page 29.</i> 	Specialist technical employees
Doors close automatically after being opened.	Safety storage cabinet is not aligned correctly.	Install safety storage cabinet horizontally and align. ↳ <i>Section 6.2.3 "Fit the adjustable feet and aligning the safety storage cabinet" on page 29.</i>	Specialist technical employees

Description of fault	Cause	Remedy	Employees
Lithium-ion batteries are not being charged.	Line circuit breaker in the power supply unit has tripped due to short circuit or another fault type.	<ul style="list-style-type: none"> Check line circuit breaker and switch on again. Identify the reason for tripping (for example a faulty charger). 	Specialist technical employees
	Fault current circuit breaker in power supply unit has tripped.	<ul style="list-style-type: none"> Check fault current circuit breaker and switch on again. Identify the reason for tripping (for example a faulty charger). 	Specialist technical employees

12 Spare parts and accessories



Only genuine parts from DÜPERTHAL are to be used for the safety storage cabinets.

For technical questions, to arrange repairs, or to order spare parts, contact us at info@dueperthal.com.

- Storage shelf
- Bottom tray
- Door handle, key, lock, and thumbturn
- Perforated sheet insert
- Plinth panel
- Venting connection socket
- Ventilators
- Sensor systems
- Superimposed load adapter

Other spare parts and accessories are available on request.

13 Disposal

CAUTION

Dismantling the safety storage cabinet



Risk of injury due to improper dismantling of the safety storage cabinet.

- Ensure that the safety storage cabinet is only dismantled by specialist technical employees.
- Use suitable tools for dismantling and wear personal protective equipment.

The safety storage cabinet can be completely dismantled by specialist technical employees.

Recycle the individual material components separately.

Comply with national and local disposal regulations.

To save resources, do not place parts of the safety storage cabinet or the whole cabinet in bulky or domestic waste.

14 Certificates

LABTEST
CERTIFICATION INC.

ISO 17020

ISO 17025

ISO 17065

CERTIFICATE OF CONFORMITY

Certificate No.: LC21058-1


Project No.: 21058

Client No.: LC1231751

Applicant: DÜPERTHAL Sicherheitstechnik GmbH & Co. KG
Rudolf-Diesel-Straße 11-15
33813 Oerlinghausen
Germany

Date Issued: September 15, 2022

Certification System: Type 3
(ISO / IEC 17067)



Kenneth Shellen
Issued by: _____
Certification Manager

Products:

- Safety Storage Cabinet
- Model No.: Battery Station Line
- Ratings:
 - 120V ~; 60Hz; 10A; SCCR 5kA; 10A per storage area
 - 120V ~; 60Hz; 15A; SCCR 5kA; 10A per storage area

Applicable requirements:

- UL 508A 3rd Edition
- CSA C22.2 No. 286-17

Conditions of acceptability:

- None

General Notes:

- Refer to LC Listing report 10.00.21058-1_Rev.0

Page 1 of 1

The 'C' and 'US' indicators adjacent to the LabTest Certification Mark shall signify that the product has been evaluated by an accredited laboratory to the applicable Canadian and US Standards. The subject area shall be displayed with the LabTest Certification Mark to identify the Standard Number, and Revision Level.

LabTest Certification Inc. • 1 855 346 0444 • www.labtestcert.com • 205 – 8291 95 Street Delta, BC V4G 0A4 DCN 3012 Rev 6



DÜPERTHAL Sicherheitstechnik GmbH & Co. KG
Frankenstraße 3 | 63791 Karlstein | Germany
Phone/WhatsApp +49 6188 9139-0
info@dueperthal.com | dueperthal.com

Your contact person – Technical Service
Phone: +49 6188 9139-166
service@dueperthal.com | service.dueperthal.com