ORIGINAL DÜPERTHAL

DÜPERTHAL®

CLASSIC line, COMPACT line

Safety storage cabinets

Typ 90

Operating instructions

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1 General information

1.1 Notes for reading

The following symbols designate specific types of information.

Tab. 1: Explanation of symbol

Symbol	Type of information
	Information for easier and more effective working
	Procedural step
⇨	Result of a procedural step
	Link to another part of the document

1.2 Type plate

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

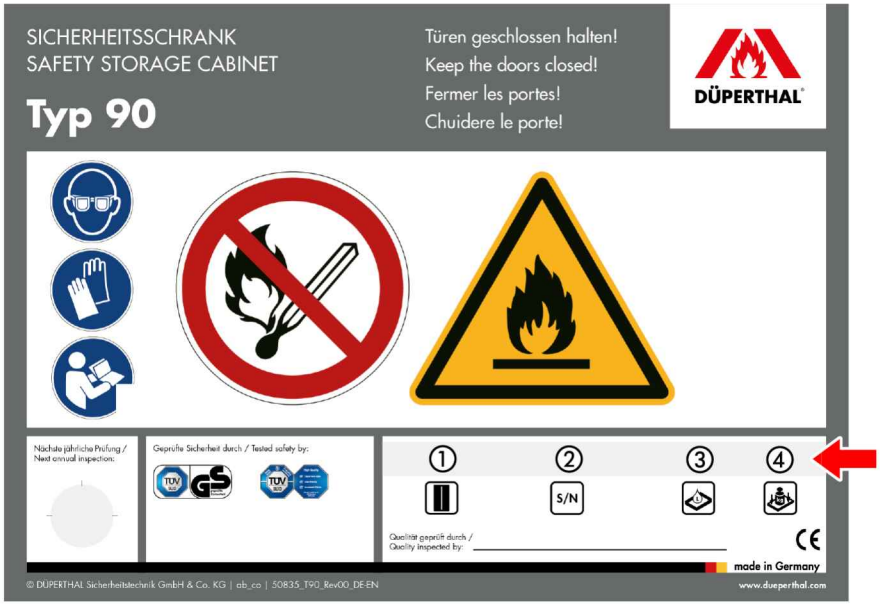

Fig. 1: Type plate

1 Model
2 Serial number 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 identify the degree of danger and the extent of the risk.

⚠ WARNING!

The signal word *'WARNING'* refers to a potential hazard which could result in death or serious injury.

⚠ CAUTION!

The signal word *'CAUTION'* refers to an potential hazard which could result in slight or minor injury.

! NOTICE!

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

2.2 Correct use

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

Any use that is not correct use as define in these operating instructions involves a risk of accidents and a lack of fire protection.

The CLASSIC line and COMPACT line safety storage cabinets are type tested and classified as *Type 90* in compliance with *'EN14470-1'* with a fire resistance of 90 minutes.

The safety storage cabinet is to be used for passive storage of flammable liquids in working spaces.

Passive storage is defined as exclusively storage in a safety storage cabinet in tightly sealed containers without work such as filling, mixing or transfer.

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.

In addition, the following safety notices must be observed:

⚠ WARNING!

Storage of living organisms in the safety storage cabinet

Living organisms can come into contact with the stored hazardous substances.

This may result in death or serious injury.

– Use the safety storage cabinet exclusively for storage of flammable liquids.

⚠ WARNING!

Storage of food in the safety storage cabinet

Food can come into contact with the stored hazardous substances.

This may result in death or serious injury.

– Use the safety storage cabinet exclusively for storage of flammable liquids.

⚠ WARNING!

Transfer, filling and laboratory work in the safety storage cabinet

Inhalation of hazardous vapours can lead to life-threatening injuries to the respiratory system.

This may result in death or serious injury.

– Store flammable liquids in the safety storage cabinet only in closed containers.
– Do not perform any laboratory work in the safety storage cabinet.
– Do not perform any transfer or filling work in the safety storage cabinet.

⚠ WARNING!

Storage of hazardous substances together

Risk of uncontrolled chemical reactions.

This may result in death or serious injury.

– Only store substances and preparations that are permitted to be stored together in the safety storage cabinet.

⚠ WARNING!

Objects on the cabinet roof

In case of fire, objects on the cabinet roof can impair the function of the safety technology.

The consequences may be death or serious injury.

– Do not store any objects on the cabinet roof.

⚠ WARNING!

Spilled liquids

Inhalation of hazardous vapours from spilled liquids can lead to life-threatening injuries to the respiratory system.

Spilled liquids can lead to painful skin reactions.

– Collect and properly dispose of spilled liquids immediately in accordance with accident prevention regulations.

NOTICE!

Alteration and modifications

Do not alter or modify the safety storage cabinet.

This can lead to a lack of fire protection.

– If alteration or modification of the safety storage cabinet is required, contact DÜPERTHAL.

2.4 Obligations of the operator

The operator is obliged to comply with applicable legal regulations. This includes:

- Issuing operating instructions.
- Carrying out risk assessments.
- Creating explosion protection documents.
- Specifying activities by designated employees.

2.5 Demands on employees

WARNING!

Employees who do not meet these requirements

This may result in death or serious injury.

– Designate employees who meet the requirements to carry out activities.

These operating instructions set out the following employee activities:

- Specialist technical employees
- DÜPERTHAL service technicians

Only people who have been trained by the operator in use of the safety storage cabinet and handling of the stored goods are approved as specialist technical employees.

DÜPERTHAL service technicians

DÜPERTHAL employees are specifically trained by DÜPERTHAL to carry out their activities.

2.6 Stored goods

Storage, handling and use of the stored goods must comply with the applicable national standards and regulations, e.g. *'TRGS 510'* in Germany.

2.7 Hazardous areas and their labelling

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

- The instruction "Close the door"
- Fire resistance in minutes (e.g. *'type 90'*)
- Name or trademark of the manufacturer
- Serial number and year of manufacture
- Information on the largest individual container volume that can be stored
- Information on the shelves' maximum load capacity

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

Tab. 2: Prohibited action sign

Symbol	Meaning	Standard
	P003: No naked flames; fire, open ignition source and smoking prohibited	DIN EN ISO 7010:2012

Tab. 3: Warning sign

Symbol	Meaning	Standard
	W021: Warning: Flammable materials	DIN EN ISO 7010:2012

Tab. 4: Mandatory action signs

Symbol	Meaning	Standard
	M002: Read operator's manual	DIN EN ISO 7010:2012
	M004: Wear eye protection	DIN EN ISO 7010:2012

Symbol	Meaning	Standard
	M009: Wear hand protection	DIN EN ISO 7010:2012

3 Technical specifications

3.1 General data

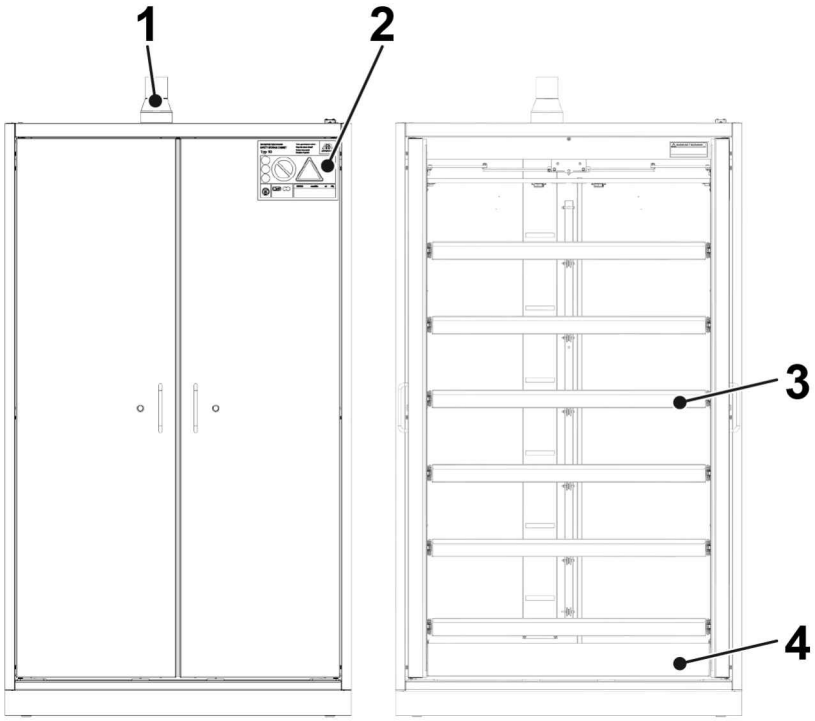

Fig. 2: General diagram of safety storage cabinet Type 90

1 Exhaust air connection
2 Type plate
3 Standing surface
4 Bottom tray

3.2 Dimensions and equipment

3.2.1 CLASSIC line standard (storage shelves)

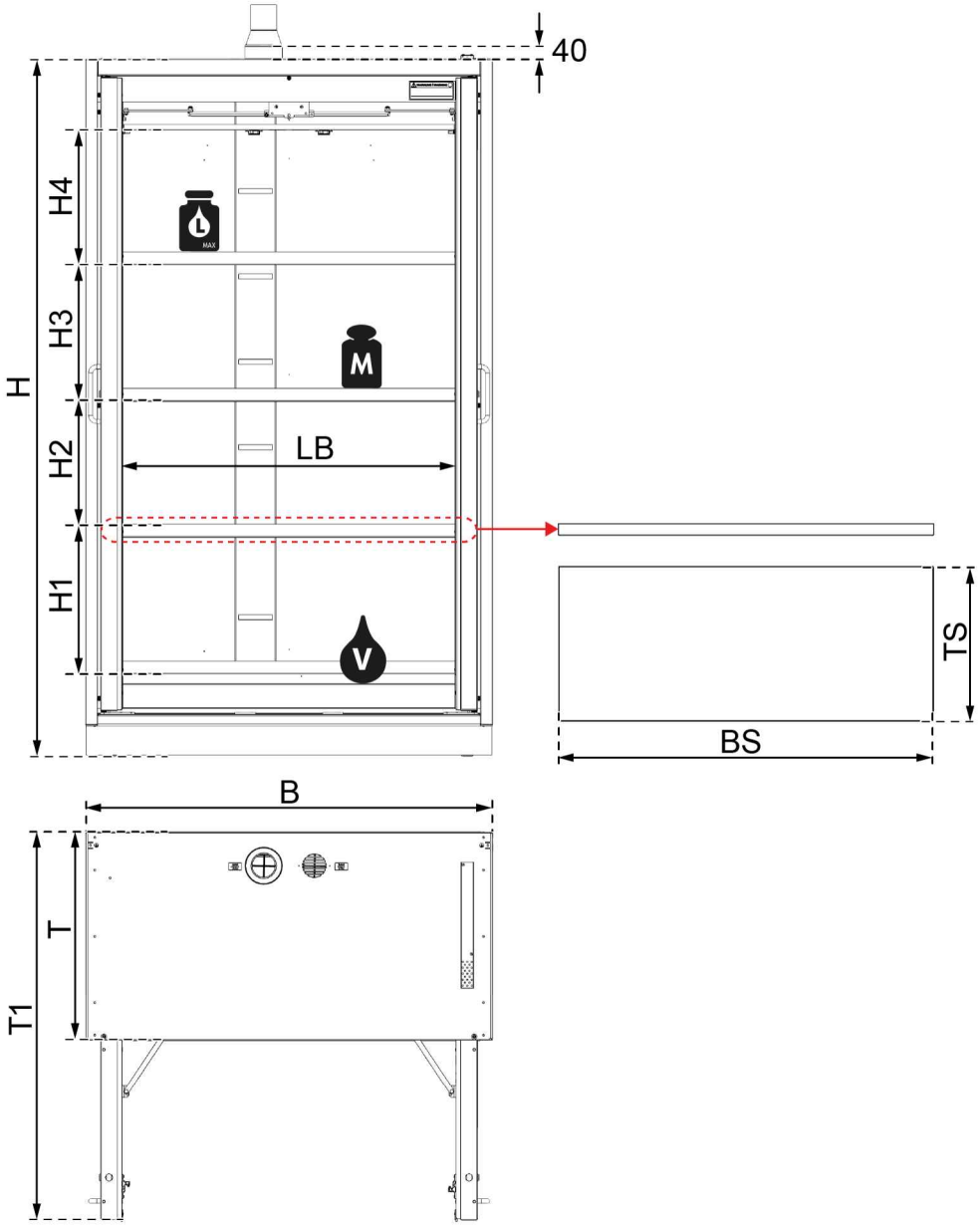

Fig. 3: CLASSIC line standard dimensions

H	Cabinet height
L	Maximum volume of the largest individual container
M	Load-bearing capacity of standing surface (uniformly distributed)
SW	Standing surface width
W	Cabinet width
D1	Cabinet depth with open doors
H_1-H_4	Adjustable heights 1 to 4, adjustable in 16mm grid*
V	Maximum collection volume
CW	Clear width
SD	Standing surface depth
D	Cabinet depth

* Other quantities available on request

Tab. 5: CLASSIC line standard S - ML dimensions

	S	SL	XS	M	ML
H (mm)	1385	1385	1385	2045	2045
W (mm)	594	594	1194	594	594
SW (mm)	479	479	1079	479	479
CW (mm)	374	374	974	374	374
D (mm)	612	747	612	612	747
D1 (mm)	1100	1235	1140	1100	1235
SD (mm)	445	580	445	445	580
L (l)	10	15	30	10	15
V (l)	11	16.5	33	11	16.5
M (kg)	75	75	75	75	75
Empty weight (kg)	200	230	335	275	320
Max. payload* (kg)	240	240	240	360	360

* When using an extra load adapter, the max. payload is reduced.

Tab. 6: CLASSIC line standard L - XXL dimensions

	L	LL	XL	XL (CPW)	XXL
H (mm)	2045	2045	2045	2045	2045
W (mm)	894	894	1194	1194	1650
SW (mm)	779	779	1079	2 x 522	2 x 727
CW (mm)	674	674	974	2 x 479	2 x 684
D (mm)	615	747	612	612	747
D1 (mm)	612	1125	1140	1140	1483
SD (mm)	445	580	445	445	580
L (l)		25	30	15	2 x 25
V (l)	22	27.5	33	16.5	2 x 27.5
M (kg)	75	75	75	75	75
Empty weight (kg)	370	415	455	465	850
Max. payload* (kg)	360	360	360	360	2 x 360

* When using an extra load adapter, the max. payload is reduced.

3.2.2 CLASSIC line pro (pull-out shelves)

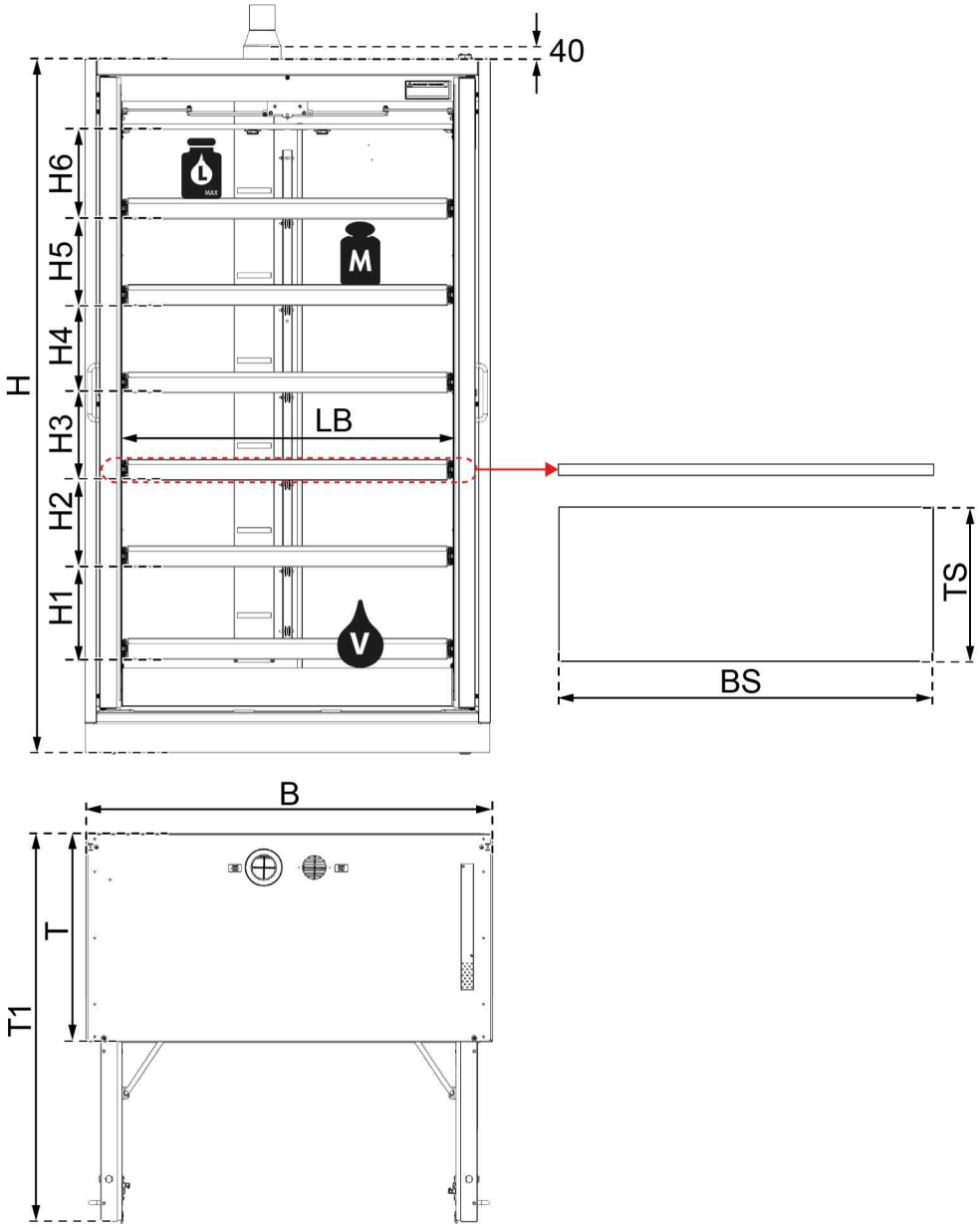

Fig. 4: CLASSIC line pro dimensions

H	Cabinet height
L	Maximum volume of the largest individual container
M	Load-bearing capacity of standing surface (uniformly distributed)
SW	Standing surface width
W	Cabinet width
D1	Cabinet depth with open doors
H_1-H_6	Adjustable heights 1 to 6 (variable on request)
V	Maximum collection volume
CW	Clear width
SD	Standing surface depth
D	Cabinet depth

Tab. 7: CLASSIC line pro S - ML dimensions

	S	SL	XS	M	ML
H (mm)	1385	1385	1385	2045	2045
W (mm)	594	594	1194	594	594
SW (mm)	340	340	940	340	340
CW (mm)	374	374	974	374	374
D (mm)	612	747	612	612	747
D1 (mm)	1100	1235	1100	1100	1235
SD (mm)	417	552	417	417	552
L (l)	10	15	30	10	15
V (l)	11	16.5	33	11	16.5
M (kg)	40	40	60	40	40
Empty weight (kg)	212-216	246-251	359-366	293-305	330-345
Max. payload* (kg)	240	240	240	360	360

* When using an extra load adapter, the max. payload is reduced.

Tab. 8: CLASSIC line pro L - XXL dimensions

	L	LL	XL	XXL
H (mm)	2045	2045	2045	2045
W (mm)	894	894	1194	1650
SW (mm)	640	940	940	2 x 588
CW (mm)	674	974	974	2 x 684
D (mm)	612	747	612	747
D1 (mm)	990	1125	1140	1483
SD (mm)	417	552	417	552
L (l)	20	25	30	2 x 25
V (l)	22	27.5	33	2 x 27.5
M (kg)	60	60	60	60
Empty weight (kg)	378-395	425-442	470-488	835-870
Max. payload* (kg)	360	360	360	2 x 360

* When using an extra load adapter, the max. payload is reduced.

3.2.3 COMPACT line

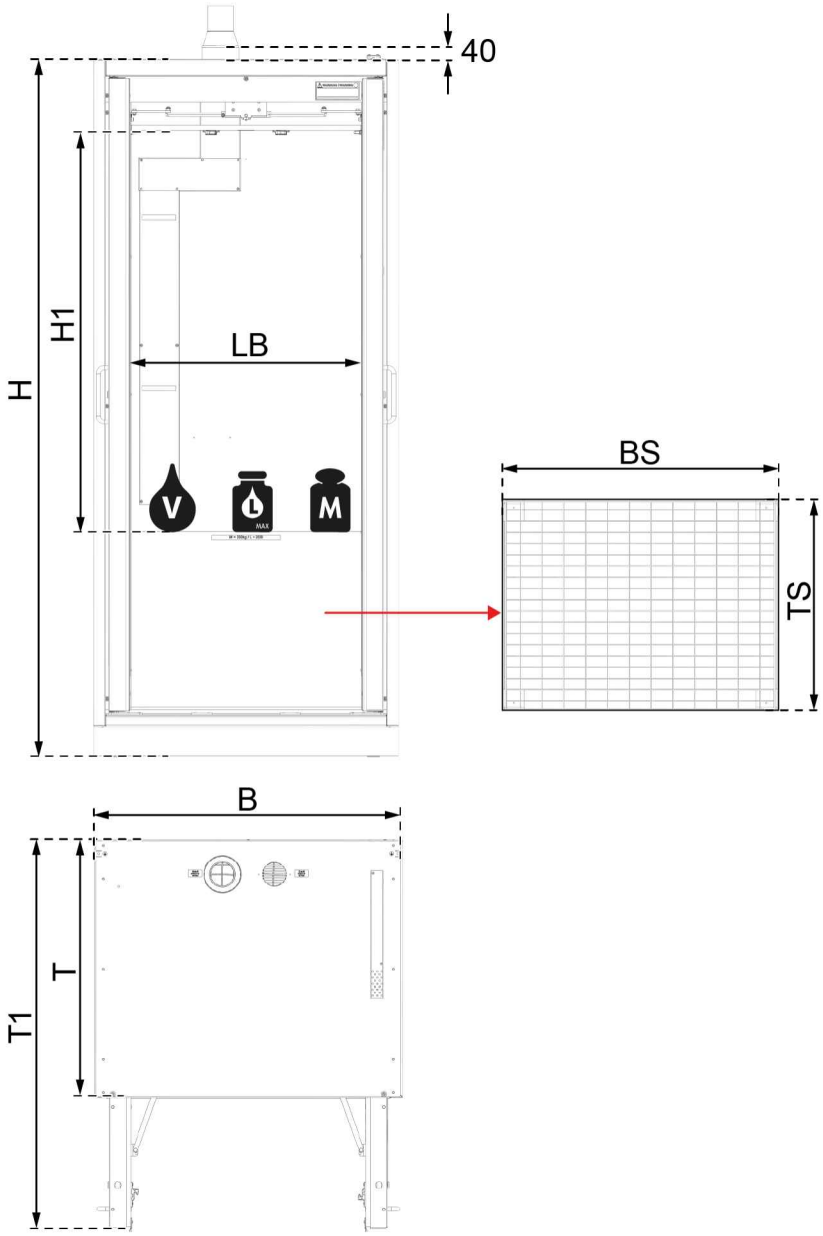

Fig. 5: COMPACT line dimensions

H Cabinet height
L Maximum volume of the largest individual container
M Load-bearing capacity of standing surface (uniformly distributed)
SW Standing surface width
W Cabinet width
D1 Cabinet depth with open doors
H1 Standing surface height
V Maximum collection volume
CW Clear width
SD Standing surface depth
D Cabinet depth

Tab. 9: COMPACT line SL - XXL dimensions

	SL	ML	LL	LL	XXL	XXL
H (mm)	1385	2045	2045	2045	2045	2045
H1 (mm)	762	1432	1522	1117	1522	1117
W (mm)	594	594	894	894	1650	1650
SW (mm)	465	465	765	765	2 x 702	2 x 702
CW (mm)	374	374	674	674	2 x 684	2 x 684
D (mm)	747	747	747	747	747	747
D1 (mm)	1235	1235	1235	1235	1235	1235
SD * (mm)	588	588	588	588	588	588
L (l)	60	60	60	200	60	200
V (l)	66	66	66	220	66	220
M (kg)	250	250	250	250	250	250
Empty weight (kg)	205	325	400	424	820	866
Max. payload ** (kg)	240	360	360	360	360	360

* ↳ *Chapter 3.2.1 'CLASSIC line standard (storage shelves)' on page 80*

** When using an extra load adapter, the max. payload is reduced.

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.

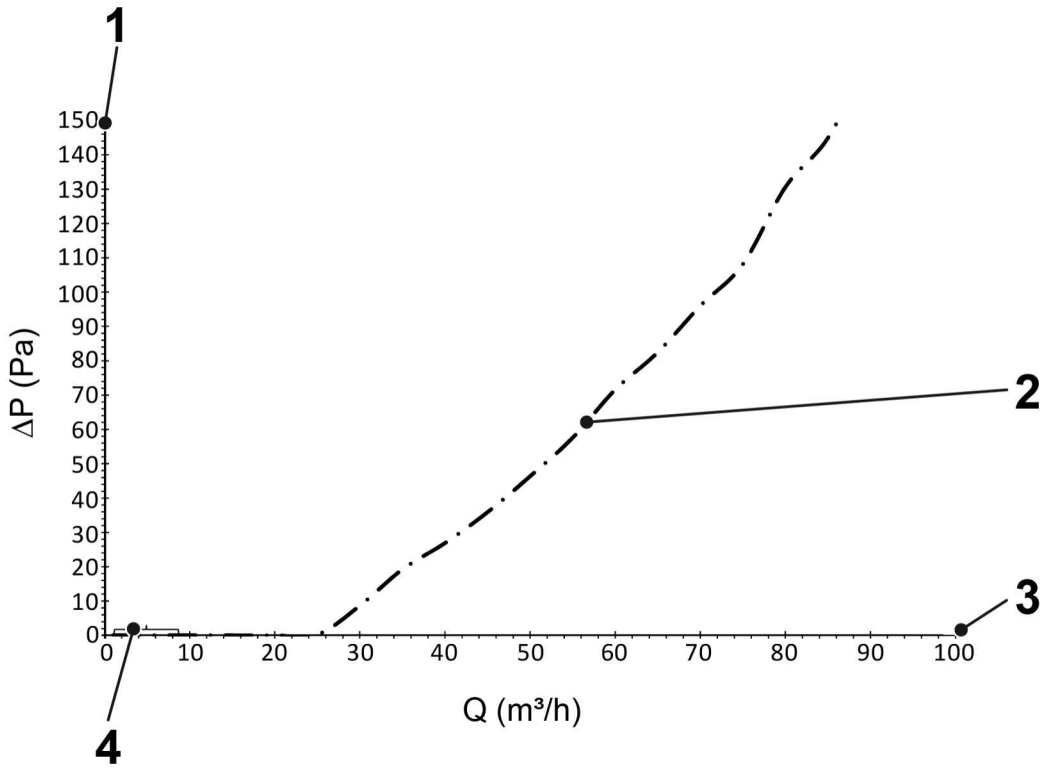

Fig. 6: Average pressure drop for cabinet depths 610 mm and 745 mm

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

Tab. 10: Volumetric flow rate Q and pressure drop ΔP with 10-fold air exchange

Model size	Q [m³/h]	ΔP [Pa]
S	2.8	<1
SL	3.6	<1
XS	6.1	<1
M	4.3	<1
ML	5.5	<1
L	6.9	<1
LL	8.9	<1
XL	9.5	<1
XXL	2 x 8.3	<1

4 Structure and function

4.1 Construction

- Cabinet carcass and doors in multi-layer construction
- External panelling: Powder-coated sheet steel
- Wall construction: Multi-layer design
- Interior surfaces: Light grey-coated decor panels
- Safety technology elements for closure of venting cut-off flaps in case of fire: Brass, spring steel (1.410)

4.2 Earthing options

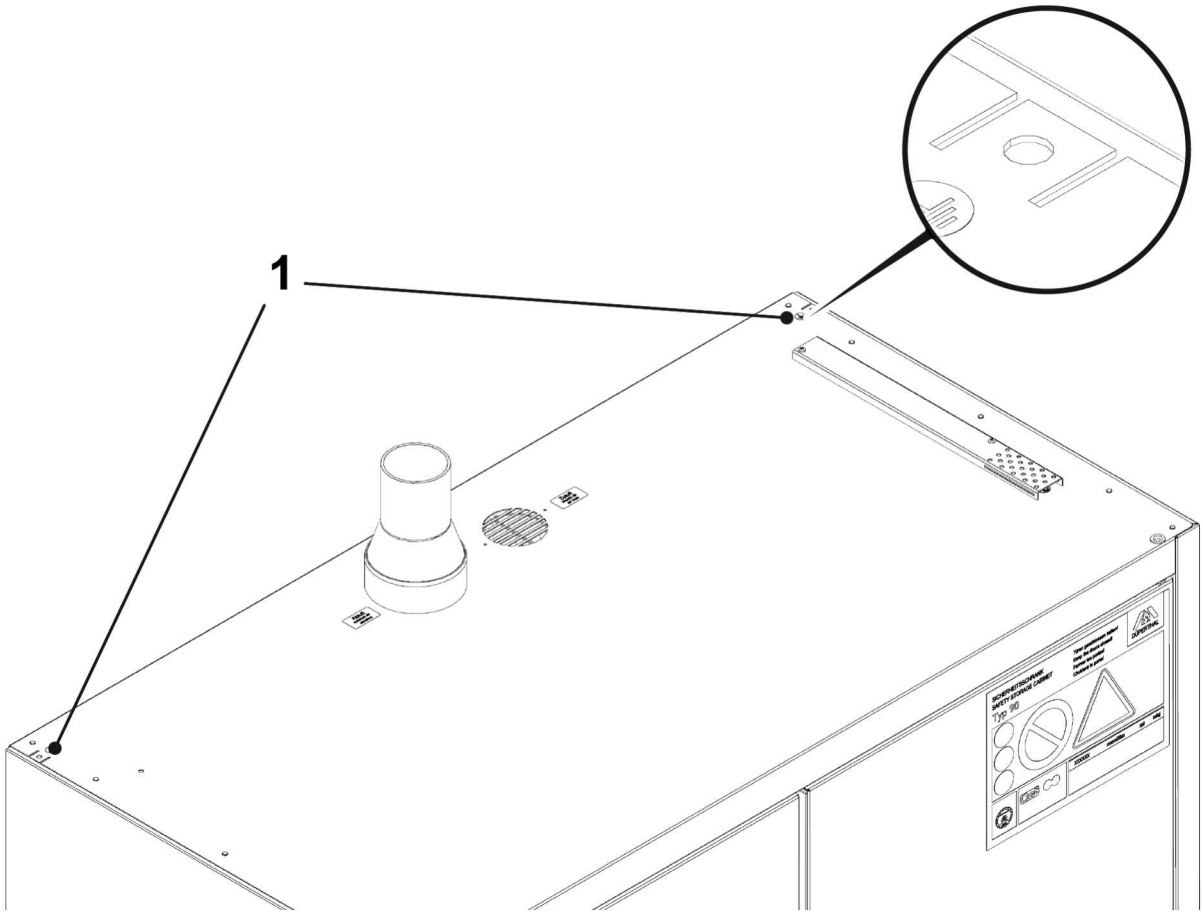

Fig. 7: Earthing options

1 Equipotential bonding saddle on the cabinet carcass

Earthing the safety storage cabinet prevents ignition hazards.

The interior fittings are conductively connected to one another by an equipotential bonding saddle or equipotential bonding screw on the cabinet carcass.

Correct earthing is stipulated in the applicable national standards and regulations, e.g. *'TRGS 727'* in Germany.

4.3 Exhaust air connection and feed opening

The safety storage cabinets can be connected to a technical exhaust air system which ducts outside at a danger-free location. For this purpose, the exhaust air connection and the feed openings are located on the cabinet roof of the safety storage cabinet.

In normal operation, industrial ventilation of safety storage cabinets prevents the occurrence of a potentially explosive atmosphere inside the cabinet.

Exhaust air connection NW 110 mm with adapter reducer NW 75 mm for adaptation to a ventilation system is possible.

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

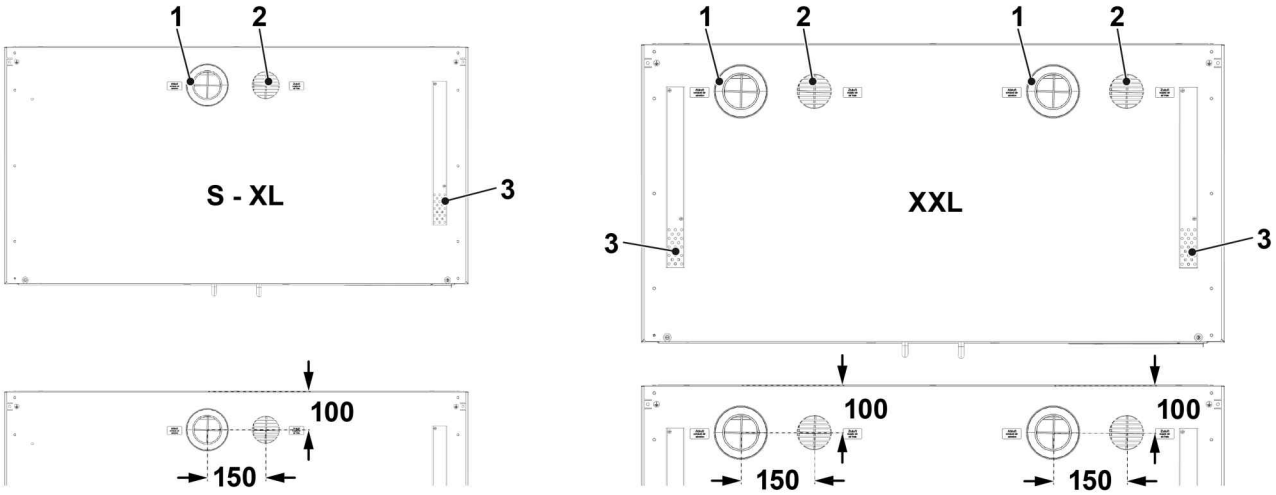

Fig. 8: Exhaust air system (view from above)

1 Exhaust air connection
2 Air supply opening
3 Thermocouple

4.4 Doors

4.4.1 Door options

CLASSIC line and COMPACT line safety storage cabinets have the following door options:

Door operation without arrest system

- The wing door can be opened by pulling on the door handle and remains open in any position.

Door operation with arrest system

- Pulling on the door handle must open the door up until the stop point. The door then locks automatically in the arrest system installed in-house.

Single-handed operation without arrest system

- The wing doors can be opened together by pulling on the door handle and remain open in any position.

4.4.2 Locking cylinder

The door can be locked with the integrated locking cylinder. The key numbers are embossed on the locking cylinder and on the keys supplied, e.g. A007. Locks be subsequently adjusted to the operator's requirements.

4.5 Safety technology

4.5.1 Door closure in case of fire

At an ambient temperature of approx. 50°C, open doors are closed by the safety technology.

Safety storage cabinets with pull-out shelves are equipped with a closure control system. In case of fire and if the pull-out shelves are extended, this system prevents the door from being blocked by the pull-out shelf.

The closure control mechanism first draws in the pull-out shelf and then closes the doors.

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

The cabinet is also equipped with an inspection window for visual inspection of the ventilation openings for air supply and exhaust air. Above the suspended ceiling, inspection cut-outs identify the position of the closing mechanism for the ventilation openings.

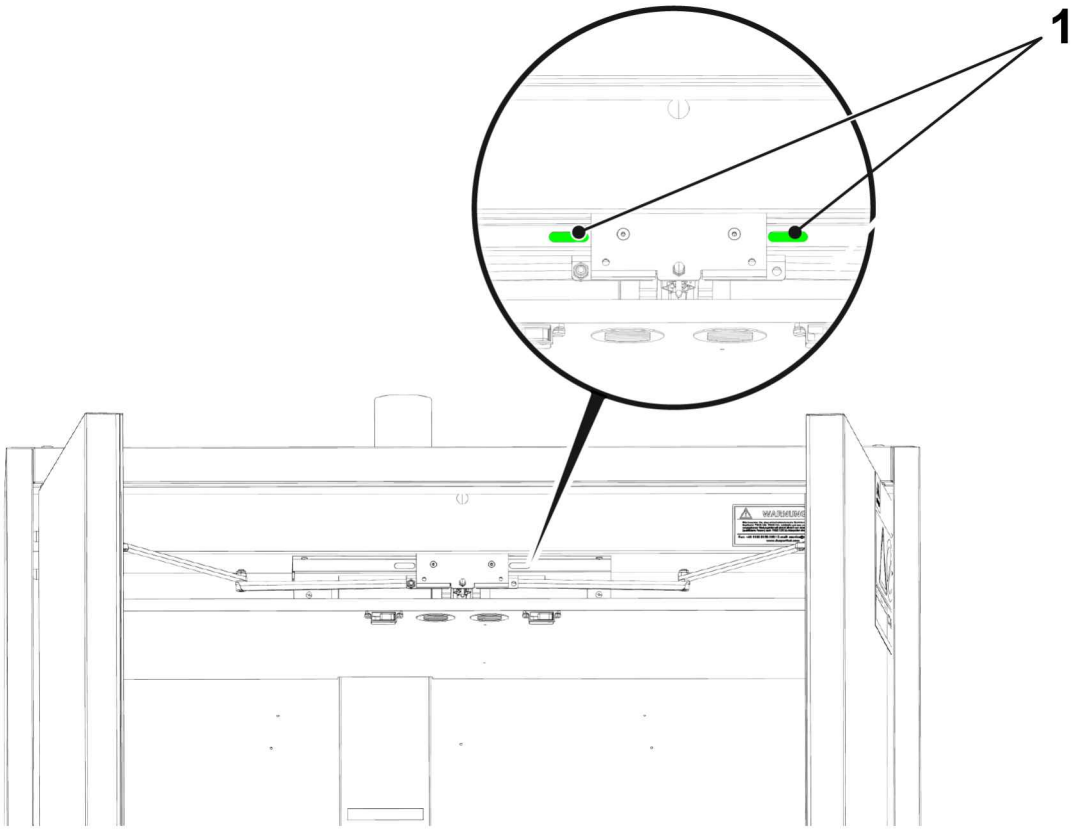

Fig. 9: Ventilation openings open

1 Green inspection cut-outs in the open ventilation openings

At an ambient temperature of 70°C, the closing mechanism is closed by the safety technology. The inspection cut-outs turn red.

4.6 Interior fittings of the CLASSIC line

CLASSIC line models are equipped with multiple, uniformly distributed standing surfaces for the storage of closed containers.

The standing surfaces are either permanently installed storage shelves or retractable pull-out shelves.

4.6.1 Storage shelves

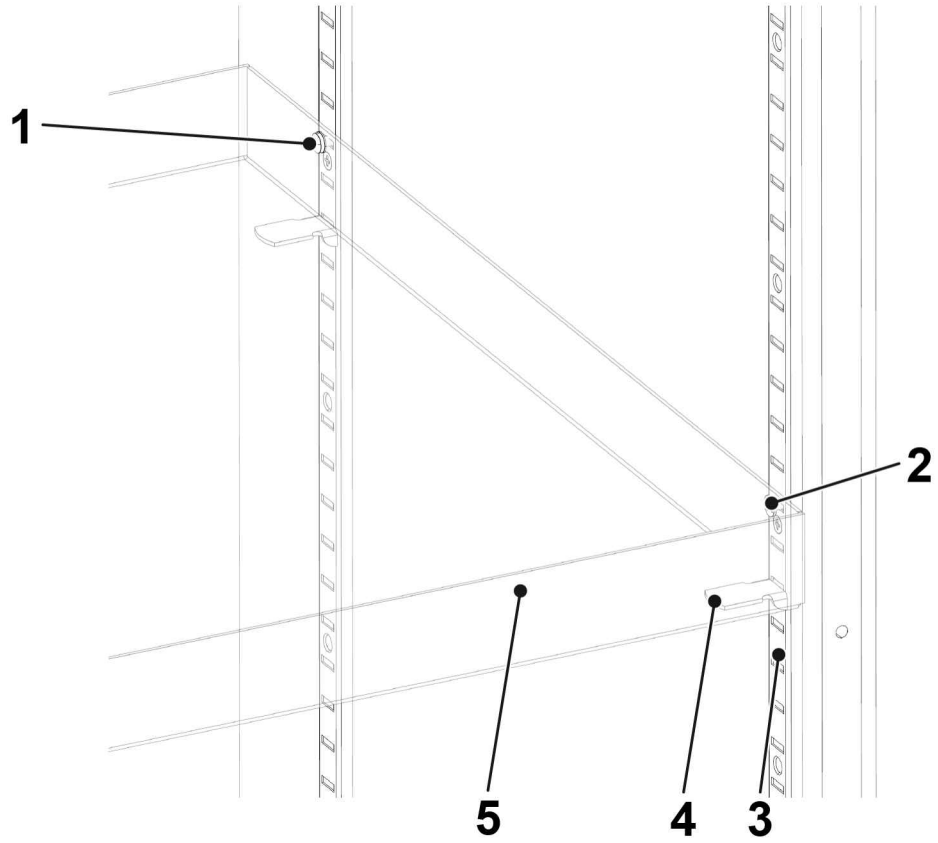

Fig. 10: Safety storage cabinet with storage shelf

1 Earthing screw
2 Fixing screw
3 Support strip
4 Adjustable support
5 Storage shelf

The CLASSIC line standard safety storage cabinet contains storage shelves that are distributed uniformly over the cabinet's interior height.

The heights of the storage shelves can be changed.

The highest shelf must not be more than 1.75 m above the floor.

4.6.2 Pull-out shelves

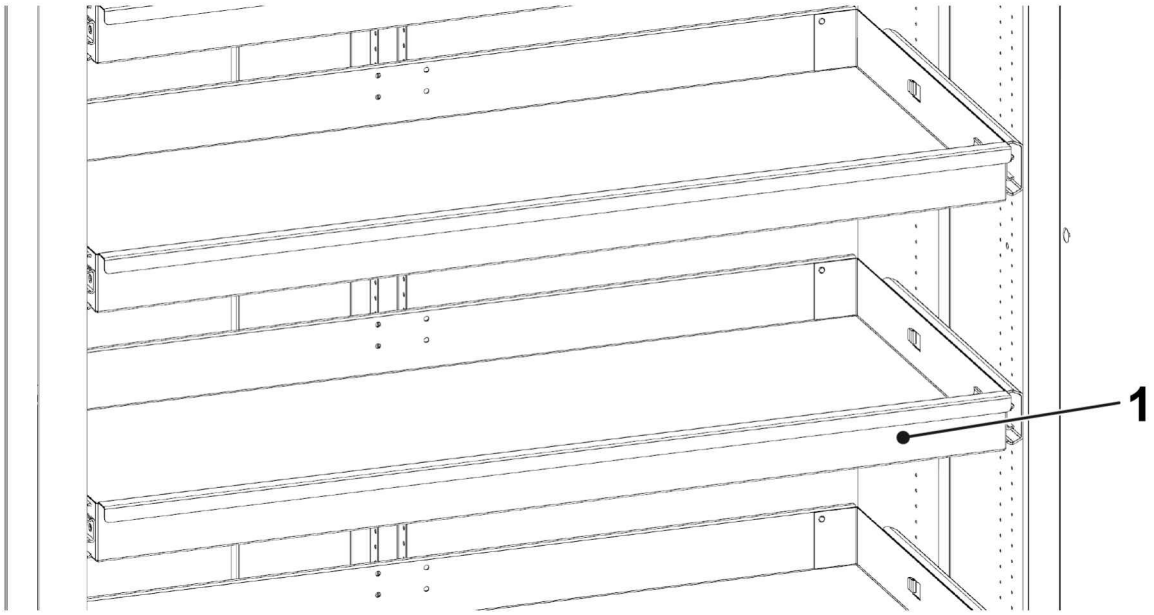

Fig. 11: Safety storage cabinet with pull-out shelf

1 Pull-out shelf

The CLASSIC line pro safety storage cabinet contains pull-out shelves that are distributed uniformly over the cabinet's interior height.

The pull-out shelves are permanently installed in-house.

Subsequent modification may only be carried out by DÜPERTHAL service technicians.

A double pull-out stop prevents multiple pull-out shelves from being pulled out at the same time. This avoids the unfavourable shifting of weight, which can cause the safety storage cabinet to topple over.

4.6.3 Bottom tray

The function of the bottom tray in the floor area of the safety storage cabinet is to collect leaking substances in the cabinet interior. It cannot be used as additional standing surface.

4.6.4 Perforated sheet insert (optional)

A perforated sheet insert in the bottom tray can be used as an additional standing surface.

4.7 Interior fittings of the COMPACT line

4.7.1 Bottom tray with grating

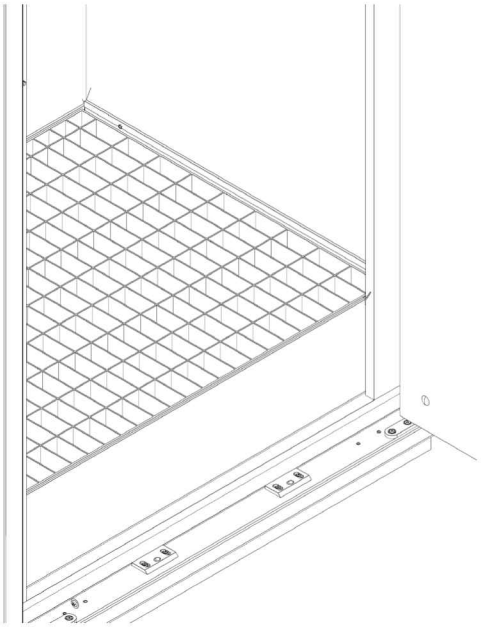

Fig. 12: COMPACT line bottom tray with grating

The COMPACT line safety storage cabinet contains a bottom tray with a grating for use as a standing surface.

4.7.2 Storage shelves (optional)

Storage shelves for storage of smaller containers are available on request. *Chapter 4.6.1 'Storage shelves' on page 90*

4.8 Pipe penetration (optional)

Tested penetrations are optionally available for the safety storage cabinet with Type 90 classification. The penetrations are attached to the safety storage cabinets from the outside and can be provided with holes. Refer to the separate instructions for the pipe penetrations.

When used correctly, it has no negative effect whatsoever on fire resistance. Unused, open holes in the pipe penetrations must be sealed.

! NOTICE!

Later attachment of pipe penetrations

Incorrect attachment in the wrong location can cause damage to the safety storage cabinet.

- They should only be attached on the approved surfaces (see additional instructions for pipe penetrations).
- Holes only based on defined penetration profiles (see separate mounting instructions for each cabinet type).

NOTICE!

Routing and using pipe penetrations

The routing and use of pipes, cables and hoses are the responsibility of the operator.

Incorrect handling can damage the safety technology in the safety storage cabinet and cause it to fail.

– Carry out a separate risk assessment of the overall setup.

4.9 Extra load adapter (optional)

A tested extra load adapter is available as an option for safety storage cabinets with Type 90 classification. The extra load adapter should be mounted on the cabinet roof. The extra load adapter must be used for supporting loads on the safety storage cabinet. When used correctly, it has no negative effect whatsoever on fire resistance. Refer to the separate instructions for the extra load adapter.

WARNING!

Objects on the cabinet roof

In case of fire, objects on the cabinet roof can impair the function of the safety technology.

This may result in death or serious injury.

– Do not store any objects on the cabinet roof.
– Using the extra load adapter

The load-bearing capacity of the cabinet is reduced by the extra load (see additional instructions for extra load adapter).

5 Transport

The safety storage cabinet is packaged for transport and is protected against damage by transport restraints. The transport restraints should be refitted before any transport.

⚠ WARNING!

Crush hazard due to safety storage cabinet tipping over

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 with two people.
- Only transport the safety storage cabinet upright and unladen.
- When driving underneath it, only pick up the safety storage cabinet in the centre from the front or from the side.
- Only drive under the safety storage cabinet using suitable transport equipment.

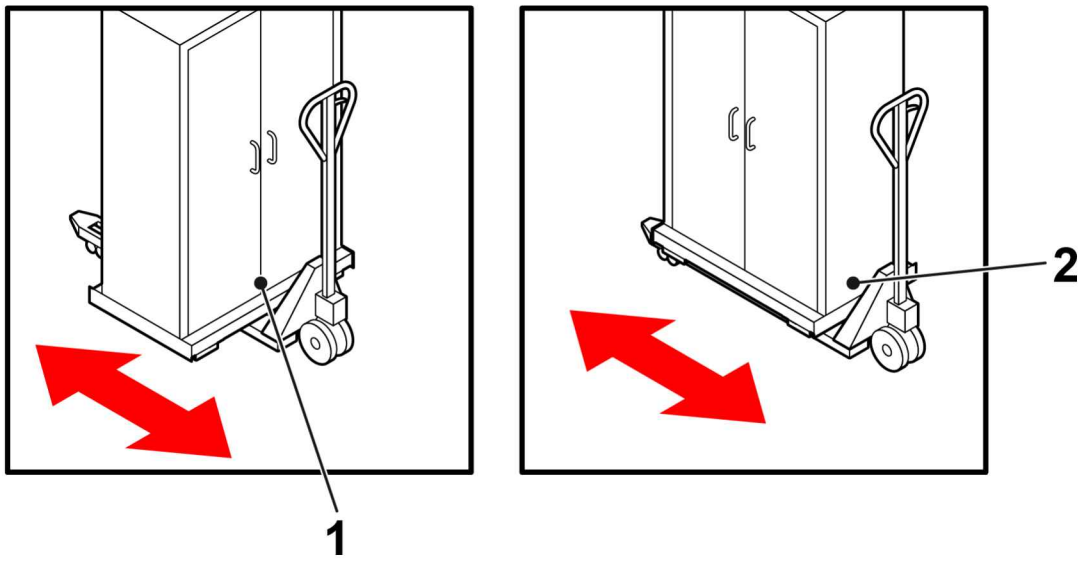

Fig. 13: Transporting the safety storage cabinet

1 Pick up centrally from the front
2 Pick up centrally from the side

! NOTICE!

Handling the transport restraints

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

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

! NOTICE!

Tipping the safety storage cabinet over during transport

Damage to the safety storage cabinet caused by incorrect handling.

- Only pick up the safety storage cabinet from the side or back wall.
- Only pick up the safety storage cabinet using special and suitable transport or lifting equipment.
- Pick up the safety storage cabinet once it is securely lashed and is not at risk of slipping.
- Do not damage the adjustable feet during transport.

6 Installation and commissioning

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

6.1 Requirements on the installation location

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

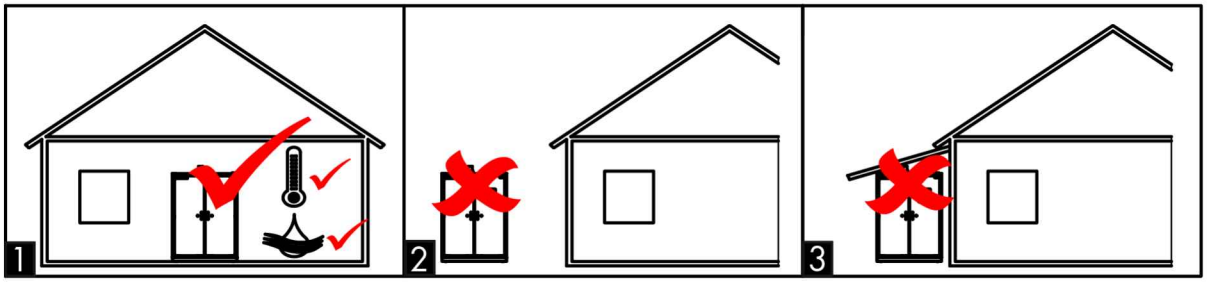

Fig. 14: Requirements on the installation location

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 **-**5°C and **+**40°C.

6.2 Attaching the adjustable feet

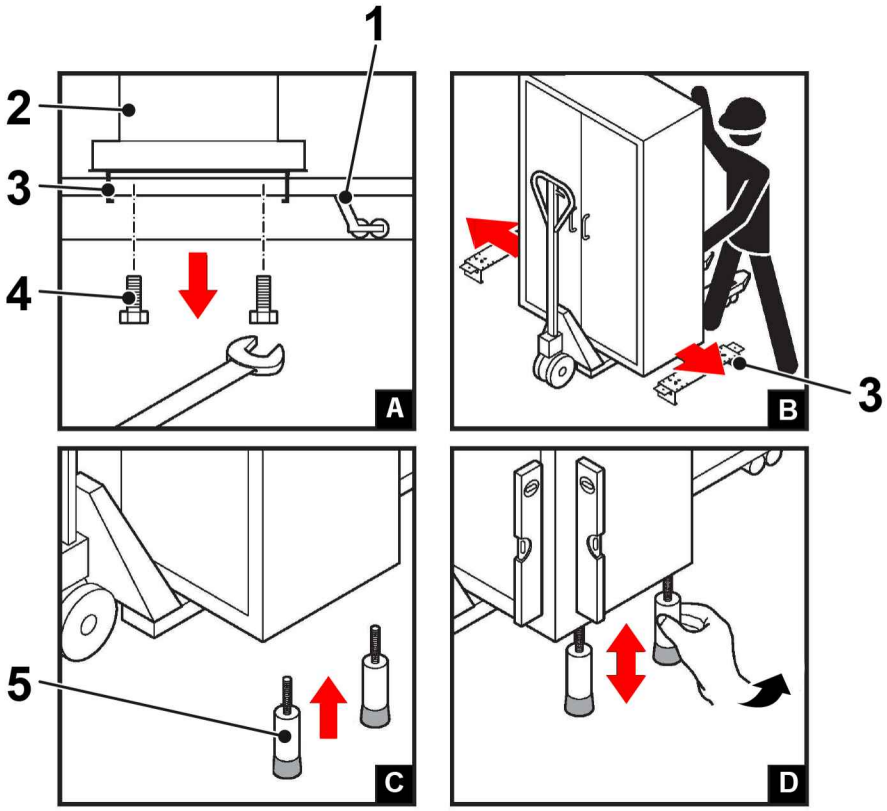

Fig. 15: Attaching the adjustable feet

1 Transport equipment for the safety storage cabinet
2 Safety storage cabinet
3 Safety transport skids
4 Attach the safety transport skids (4x screw, size 19 mm)
5 Adjustable foot

Personal:

- Technical specialist employees

1. Transport the cabinet to its place of use.
2. Remove packaging.
3. Remove the adjustable feet from the cabinet roof.
4. Raise the cabinet and loosen the screws for the safety transport skids. (A)
   ⇨ The safety transport skids can be removed (B).
5. Screw the adjustable feet completely into the bottom of the cabinet from underneath (C-D).
6. Position the cabinet and set it down carefully.

6.3 Align the safety storage cabinet

The alignment procedure described below is used for precision alignment. Remedy any major floor unevenness of more than 15 mm on site.

Long adjustable feet are fitted in the corners of the base as standard. These are used to align the safety storage cabinet.

Aligning with adjustable feet

Personal:
- Technical specialist employees

1. Lift the cabinet using suitable lifting equipment.
2. Screw the adjustable feet in or out by hand.
3. Set the safety storage cabinet back down.

Aligning without adjustable feet

Personal:
- Technical specialist employees

Werkzeug:
- Suitable tool

Optionally, the safety storage cabinet can be supplied without adjustable feet.

The safety storage cabinet is supplied without alignment elements. An alignment may be necessary in individual cases.

1. Raise the safety storage cabinet slightly.
2. Place steel or stainless steel spacers underneath the safety storage cabinet.
3. Set the safety storage cabinet down carefully.

6.4 Check the alignment of the safety storage cabinet

If the safety storage cabinet is not aligned properly, the open wing doors will automatically close themselves or open fully, ↳ Chapter 6.3 'Align the safety storage cabinet' on page 99.

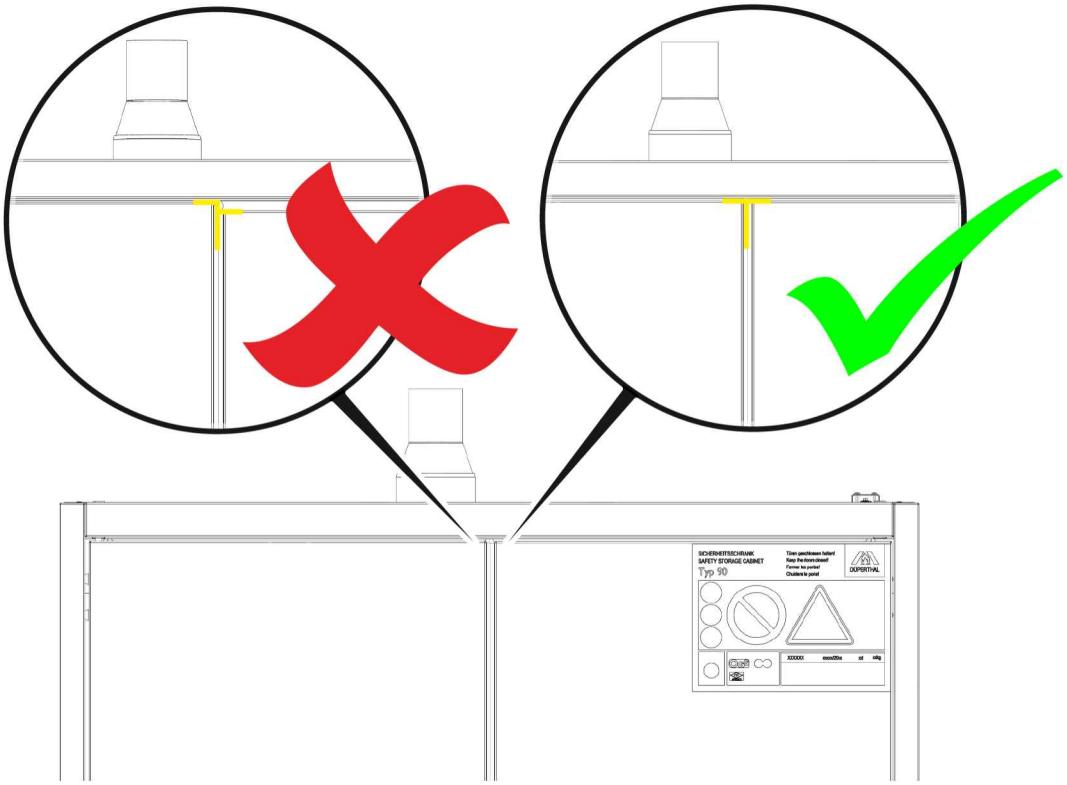

Fig. 16: Checking alignment

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 ceiling gap form an even “T”.

6.5 Mount the plinth panel

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

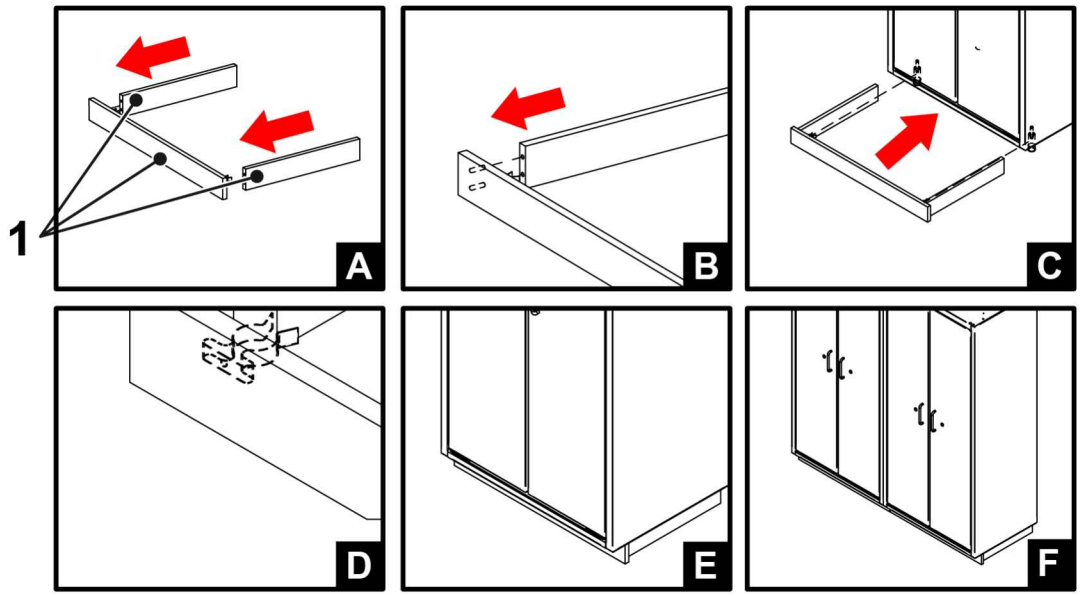

Fig. 17: Mounting the plinth panel

1 Three-part plinth panel

Mounting the plinth panel

Personal:

- Technical specialist employees

1. Connect the side pieces of the plinth panel to the front cover (A-C).
2. Push the three-part plinth panel from the front underneath the cabinet (D-F).
3. Connect the three-part plinth panel using the spring clip to the front adjustable feet.

6.6 Venting the safety storage cabinet

6.6.1 Connection to an exhaust air system

WARNING!

Insufficient safety storage cabinet air circulation

A lack of or insufficient air exchange can lead to formation of an explosive atmosphere in the safety storage cabinet.

This may result in death or serious injury.

– In a safety storage cabinet with ventilation system, a minimum hourly air exchange must take place that is at least 10 times the internal volume of the cabinet when the doors are closed.

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

Connection to the exhaust air system:

Personal:

- Technical specialist employees

1. Connect the exhaust air line to the exhaust air connection socket and secure with a collar.
2. After installing the safety storage cabinet, check the connection to the exhaust air system with smoke tubes.

The power of the exhaust air system can be determined using the technical specifications, ↬ Chapter 3.3 'Pressure drop during ventilation' on page 86.

6.6.2 Operating the safety storage cabinet without industrial ventilation

Safety storage cabinets for passive storage can be operated without industrial ventilation.

Safety storage cabinets that are operated without industrial ventilation must be indicated using an appropriate notice.

WARNING!

Safety storage cabinets without industrial ventilation

Risk of fire and explosion due to ignition of explosive mixtures in the safety storage cabinet.

This may result in death or serious injury.

- Do not use any ignition sources in the safety storage cabinet.
- Earth safety storage cabinets using equipotential bonding.

If an explosive atmosphere is to be expected, measures must be taken in compliance with applicable national standards and regulations, e.g. 'TRGS 722' in Germany, and an explosion protection document must be drawn up.

WARNING!

Potentially explosive area on safety storage cabinet

This may result in death or serious injury.

- Determine the ex-zone in compliance with the applicable national standards and regulations, e.g. *'TRGS 722'* in Germany, and mark it clearly and permanently.
- Naked flames and smoking in potentially explosive areas are prohibited.
- Do not use any tools that cause mechanically generated sparks.
- Avoid electrostatic charges.
- Avoid equipment with surface temperatures above the ignition temperatures of the flammable liquids stored.
- Only operate electrical equipment in potentially explosive areas if it complies with the requirements of the applicable national standards and regulations, e.g. *'TRGS 722'* in Germany.

Clearly mark the Zone 2 potentially explosive area with the following warning sign in compliance with the applicable national standards and regulations, e.g. the European ATEX product directive *'2014/34/EU'*:

The size of all symbols and notices should be appropriate for the size of the safety storage cabinet.

6.7 Earth the safety storage cabinet

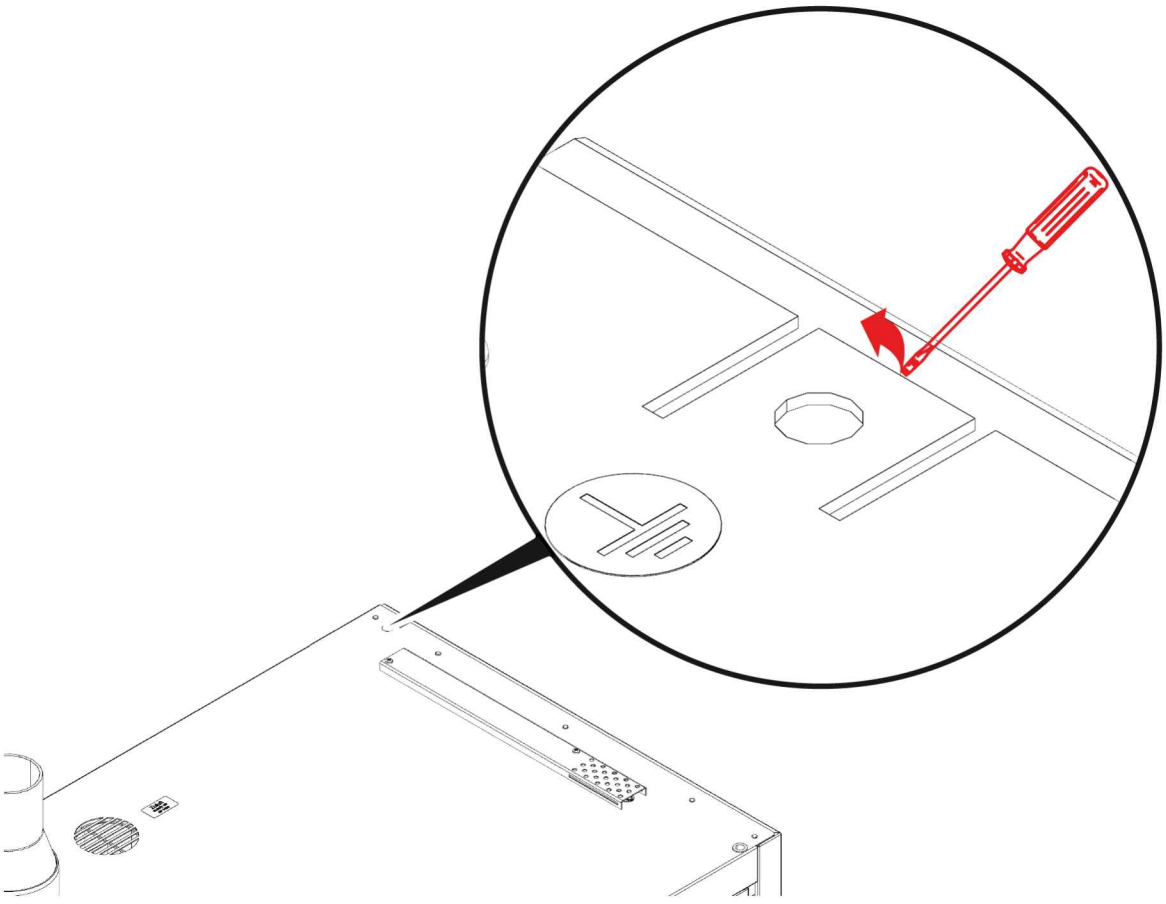

Fig. 18: Earthing connection

Earthing connection

Personal:

- Technical specialist employees

1. Bend the equipotential bonding saddle upwards.
2. Connect the earthing cable (not included in scope of delivery).

7 Operation

7.1 Open the safety storage cabinet

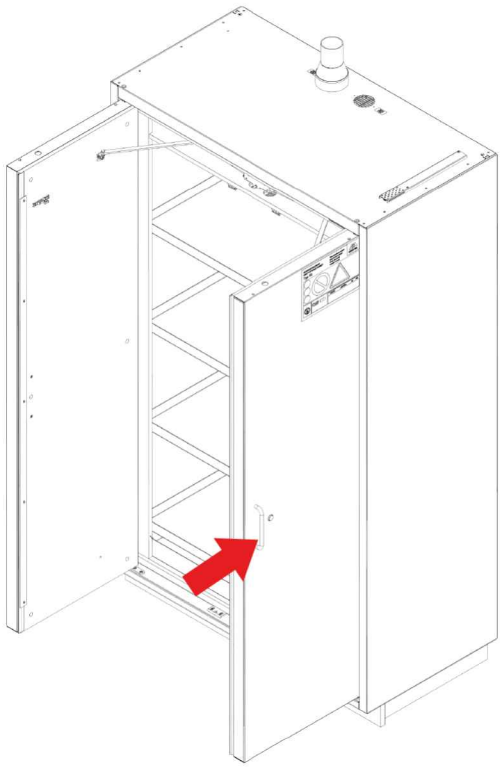

Fig. 19: Door operation

⚠ WARNING!

Blocked doors

Doors that are held open by objects impair the function of the safety technology.

This may result in death or serious injuries as a result of inadequate fire protection.

– Close the doors after every work process.

→ Open the safety storage cabinet by pulling on the door handle of the wing door.

⇨ The wing door remains open in any position.

7.2 Changing the height of the storage shelves

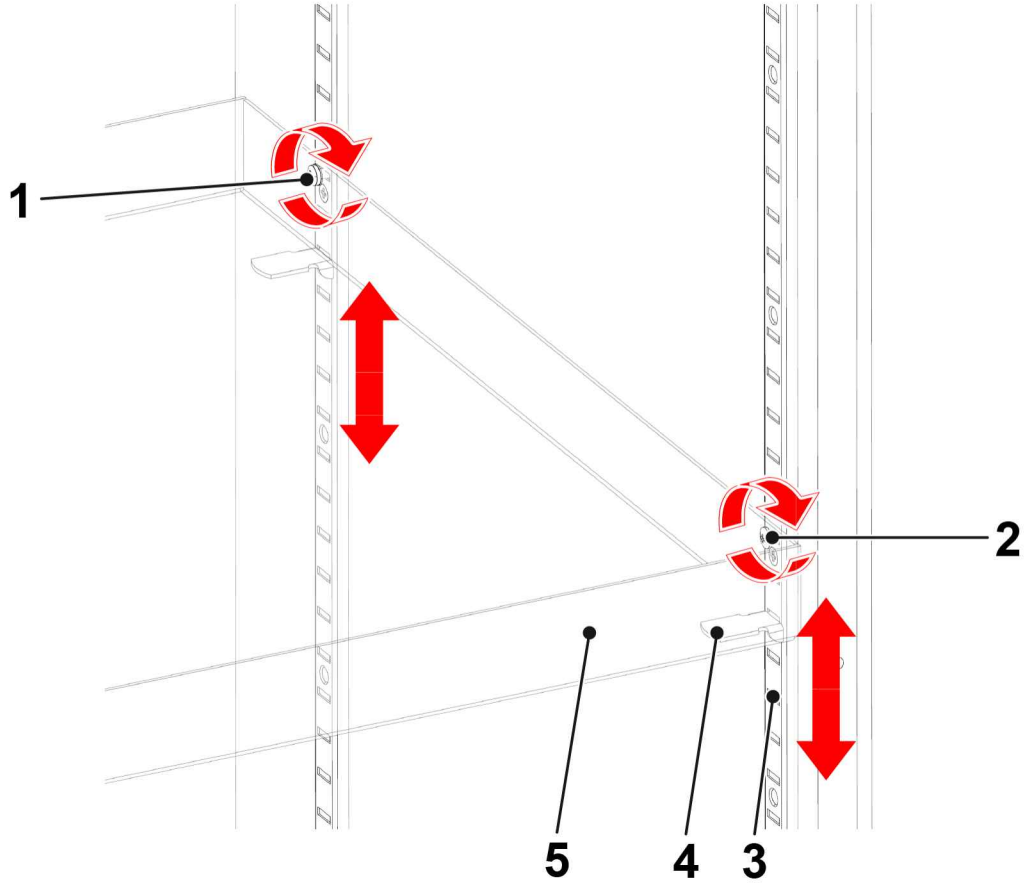

Fig. 20: Open safety storage cabinet with storage shelf

1 Earthing screw
2 Fixing screw
3 Support strip
4 Adjustable support
5 Storage shelf

Changing the height of the storage shelf

Personal:

- Technical specialist employees

1. Remove the earthing screw.
2. Remove the fixing screws.
3. Remove the storage shelf.
4. Move the adjustable support into the support strips.
5. Insert the storage shelf.
6. Tighten the fastening screws.
7. Tighten the earthing screw.

7.3 Pull-out shelf

Personal:

- Technical specialist employees

→ Retract the pull-out shelf from the safety storage cabinet using the front edge.

7.4 Checking and cleaning the bottom tray

Personal:

- Technical specialist employees

→ Perform a daily visual inspection for extraneous substances.

The bottom tray can be removed for better cleaning, ↳ *Chapter 4.6.3 'Bottom tray' on page 91.*

NOTICE!

Store hazardous substances so that a visual inspection of the bottom tray for extraneous substances is possible on working days.

NOTICE!

Following dismantling for cleaning purposes, re-connect the bottom tray to the potential connection.

8 Opening the safety storage cabinet after a fire

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

⚠ WARNING!

Explosive vapour-air mixture

This may result in death or serious injury.

- Before opening the safety storage cabinet, remove all ignition sources within a 10 metre radius.
- Only open the safety storage cabinet with tools that do not cause any mechanically generated sparks.

⚠ WARNING!

Damaged safety storage cabinet due to fire or extinguishing agents

This may result in death or serious injury.

- Do not use safety storage cabinets that have been damaged by fire or extinguishing agents.

9 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	Personnel
Daily	Bottom tray and storage levels ■ Check in accordance with regulations governing water legislation ■ Collect and properly dispose of leaked liquids immediately.	Laboratory and warehouse employees

Interval	Maintenance work	Personnel
Monthly	Closing of the doors ■ Open the door and inspect the closure.	Technical specialist employees
	Ventilation ■ Check the effectiveness of the ventilation with a woollen thread or with a smoke tube in the cabinet in front of the exhaust air duct at the ventilation grilles. ■ Remove contamination at the exhaust air opening.	Technical specialist employees
	Seals ■ Check the sealing strips are seated properly in the carcass frame and on the end faces of the doors. ■ If visible damage is found, replace the sealing strips immediately.	Technical specialist employees
	Labelling ■ Inspect the safety labels on the safety storage cabinet to ensure they are complete.	Technical specialist employees

Interval	Maintenance work	Personnel
Annually	Safety storage cabinet ■ Check of the entire safety storage cabinet	DÜPERTHAL service technicians

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

Safety-relevant safety equipment must be tested annually by a qualified person in compliance with BetrSichV and the maintenance interval stipulated by the manufacturer as set out in TRBS 1203.

10 Faults

Fault description	Cause	Remedy	Personnel
Doors do not close.	Safety storage cabinet is not aligned correctly.	Install the safety storage cabinet so it is horizontal. ↳ *Chapter 6.4 'Check the alignment of the safety storage cabinet' on page 99*	Technical specialist employees
	Doors are held open by objects.	Do not wedge or hold doors open with any objects.	Technical specialist employees
	Safety storage cabinet is not correctly filled.	Make sure that containers in the safety storage cabinet are uniformly distributed.	Technical specialist employees
No extractor present.	Venting cut-off flaps closed, as closing mechanism has been triggered.	Replace the locking mechanism.	DÜPERTHAL service technicians
Doors do not move easily.	Moving parts, such as hinges, are dirty or corroded.	■ Remove rust. ■ Lubricate parts. ■ Remove corrosive substances from the safety storage cabinet. ■ Notify technical customer service.	Technical specialist employees
Doors open again after being closed.	Safety storage cabinet is not aligned correctly.	■ Unscrew the front adjustable feet slightly. ■ Align the safety storage cabinet so it is horizontal. ↳ *Chapter 6.3 'Align the safety storage cabinet' on page 99*	Technical specialist employees
Doors close again after being opened.	Safety storage cabinet is not aligned correctly.	■ Unscrew the rear adjustable feet slightly. ■ Align the safety storage cabinet so it is horizontal. ↳ *Chapter 6.3 'Align the safety storage cabinet' on page 99*	Technical specialist employees

11 Spare parts and accessories

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

- Storage shelves
- Pull-out shelves
- Bottom tray
- PP insert
- Anti-slip mat made from rubber
- Door handle
- Perforated sheet insert
- Plinth panels
- Venting connection socket
- Ventilators
- Exhaust air monitoring units

12 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.

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.

13 Certificates

CE Declaration of Conformity

In accordance with Machinery Directive 2006/42/EC, Annex II A

We,

DÜPERTHAL Sicherheitstechnik GmbH & Co. KG
Frankenstrasse 3, 63791 Karlstein

hereby declare that the following machine:

Machine designation: Safety storage cabinet for the storage of flammable liquids

Machine model: CLASSIC line

Model type: standard and pro

Key:

CLASSIC line	
Model type (standard und pro)	Ca. dimensions (Width x height x depth in mm)
S	594 x 1385 x 612
SL	594 x 1385 x 747
XS	1194 x 1385 x 612
M	594 x 2045 x 612
ML	594 x 2045 x 747
L	894 x 2045 x 612
LL	894 x 2045 x 747
XL	1194 x 2045 x 612
XXL	1650 x 2045 x 747

complies with all relevant requirements of Machinery Directive 2006/42/EC.

Institution responsible for review of QS system according to annex X:

TÜV SÜD Management Service GmbH
Ridlerstrasse 65, 80339 München

Additionally, the machine complies with the following harmonised and national standards and specifications:

Transposed harmonised standards: DIN EN ISO 12100:2011

Transposed national standards and technical specifications:
DIN EN 14470-1:2004
DIN EN 16121:2017
DIN EN 16122:2012

Authorised person for compilation of technical documents:

(signee)
Frank Backhaus / CE-authorised person

Oerlinghausen, 18.11.2019
(place, date)

(signee)
Franz-Josef Hagen / Managing director

CE Declaration of Conformity

In accordance with Machinery Directive 2006/42/EC, Annex II A

We,

DÜPERTHAL Sicherheitstechnik GmbH & Co. KG
Frankenstrasse 3, 63791 Karlstein

hereby declare that the following machine:

Machine designation: Safety storage cabinet for the storage of flammable liquids

Machine model: COMPACT line

Machine size: SL, ML, LL, XXL

Key:

COMPACT line	
Machine size	Ca. dimensions (Width x height x depth in mm)
SL	594 x 1385 x 747
ML	594 x 2045 x 747
LL	894 x 2045 x 747
XXL	1650 x 2045 x 747

complies with all relevant requirements of Machinery Directive 2006/42/EC.

Institution responsible for review of QS system according to annex X:

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Authorised person for compilation of technical documents:

(signee)
Frank Backhaus / CE-authorised person

Oerlinghausen, 18.11.2019
(place, date)

(signee)
Franz-Josef Hagen / Managing director

ZERTIFIKAT ◆ CERTIFICATE ◆ 認證證書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

Product Service

CERTIFICATE

No. Z1A 012906 0507 Rev. 00

Holder of Certificate: **DÜPERTHAL SICHERHEITSTECHNIK GMBH & Co. KG**
Frankenstraße 3
63791 Karlstein
GERMANY

Factories: 062099

Certification Mark:

Product: **Safety cabinets**

Model(s): **CLASSIC line , COMPACT line**

Parameters:

CLASSIC line		COMPACT line	
model type (standard and pro)	approx. size (width x height x depth in mm)	model type	approx. size (width x height x depth in mm)
S	594 x 1385 x 612	SL	594 x 1385 x 747
SL	594 x 1385 x 747	ML	594 x 2045 x 747
XS	1194 x 1385 x 612	LL	894 x 2045 x 747
M	594 x 2045 x 612	XXL	1650 x 2045 x 747
ML	594 x 2045 x 747		
L	894 x 2045 x 612		
LL	894 x 2045 x 747		
XL	1194 x 2045 x 612		
XXL	1650 x 2045 x 747		

Fire resistance class of the safety cabinets: FWF 90.
A detailed description of the specifications can be found in the test report.

Tested according to:
DIN EN 14470-1:2004
DIN EN 16121:2017
DIN EN 16122:2012
EK5/AK4 09-10:2009
TRGS 510:2013 Anlage 3
AfPS GS 2014:01 PAK

The product meets the safety and health requirements of the German Product Safety Act section 20 to 22 ProdSG. The certification marks shown above can be affixed on the product. It is not permitted to alter the certification marks in any way. In addition the certificate holder must not transfer the certificate to third parties. This certificate is valid until the listed date, unless it is cancelled earlier. See also notes overleaf.

Test report no.: 713155294
Valid until: 2024-11-06

Date, 2019-12-04 (Horst Kristen)

A4 / 07.17

Page 1 of 1
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