



USER MANUAL

Safety storage cabinets for storage of lithium ion batteries



10 YEARS WARRANTY

Upon conclusion of an asecos service and maintenance agreement (**PREMIUM tariff**), you will get a warranty extension for up to 10 years for your ION-LINE safety storage cabinet.



ION_{LINE}

ION-STORE-90



IO90.195.120.K1.WDC



IO90.195.060.K1.WDC

ION-STORE PRO-90



IO90.195.120.K2.WDC



asecos GmbH

Customer service
Weierfeldsiedlung 16-18
D-63584 Gründau

Fax: +49 60 51 - 92 20-10
email: service asecos.com

YOUR PERSONAL DOCUMENTATION TO THE asecos SAFETY CABINET

Dear Customer,

you have made a decisive investment in safety for your company by purchasing this asecos safety storage cabinet. You now own an innovative product made of top-quality materials guaranteeing the highest quality standards.

asecos safety storage cabinets have complete authorisation documents. We archive the authorisation documents for every individual cabinet, keeping them ready for you should you ever need them (e.g. for a works inspection or similar). Simply request them using this form.

Tear of or copy that page and return to us by fax with your address and serial number of the cabinet on it.

Yours sincerely
asecos GmbH

Contact

| | | |
|--|----------------------|----------------------|
| Company | | |
| <input type="text"/> | | |
| Street | Postal code | Town |
| <input type="text"/> | <input type="text"/> | <input type="text"/> |
| Name of contact person | | |
| <input type="text"/> | | |
| email | Phone No. | |
| <input type="text"/> | <input type="text"/> | |
| Serial numbers of safety storage cabinets | | |
| <input type="text"/> | <input type="text"/> | <input type="text"/> |
| <input type="text"/> | <input type="text"/> | <input type="text"/> |
| <input type="text"/> | <input type="text"/> | <input type="text"/> |

OPERATING INSTRUCTIONS

Dear customer,

Thank you very much for purchasing a safety storage cabinet from our company, with which you have made a decisive investment in the safety within your company. Our safety storage cabinets make the storage of hazardous materials at the workplace safe and convenient for you.

Please read these operating instructions very carefully. Get to know the advantages and simple operability of our safety storage cabinets in detail. This simplifies the daily handling of hazardous materials for you.

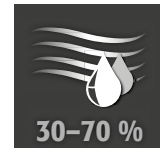
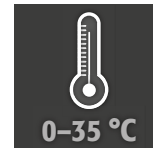
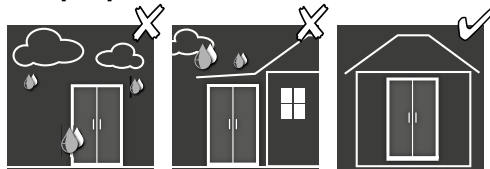
Many thanks
Your asecos team

| | |
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1.1. GENERAL SAFETY NOTES

- When handling lithium-ion batteries, observe the applicable regulations and the information in these operating instructions
- Work on the electrical system is to be carried out only with the power turned off and only by qualified electricians – refer here to the regulations of the local electricity supply company.
- General damage to electronic components is to be repaired without delay by an asecos employee.
- Use only intact and undamaged mains cables for the battery charger
- Electrical protection in accordance with local standards must be provided by the customer (cabinets do not have their own RCD circuit breaker or circuit breaker)
- The on-site installation conditions are to be observed.
- The instructions of the supervisory engineering department must be followed.
- Observe accident prevention regulations and workplace ordinance
- **Ensure that the necessary safety checks are only carried out by authorised staff using original spare parts**
- Only use the cabinet after having been properly instructed; access is to be forbidden to unauthorised persons.
- The pivoting area of the doors is to be kept free at all times; doors are to be kept closed
- By assigning trained/authorised technical personnel you can prevent the malfunctions, damage and corrosion damage that result from inappropriate transport.
- Observe the upper limits for stored quantities, loading etc.
- The following substances may not be stored in the cabinets with a fire suppression system: acids, alkalis, magnesium, other metals (in powder form)

Set-up requirements



1.2. GUARANTEE

The guarantee for this product is agreed between you (the customer) and your dealer (the seller). As the manufacturer, asecos guarantees the products listed in the operating instructions for a period of 24 months from the date of delivery. All model safety equipment are subject to a compulsory annual inspection by specialised staff authorised by the manufacturer. Otherwise the customer's guarantee claim against the manufacturer expires.

1.3. CABINET DETAILS

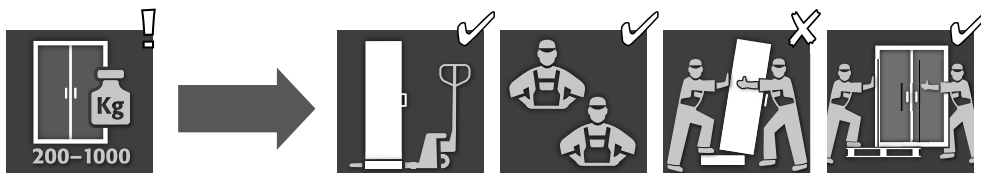
Cabinet data: Logbook (included with the cabinet)
 Technical drawing: Appendix 1
 Technical data: Table in Appendix 2

| Model | Lithium ion batteries | | Extraction air system | Fire suppression unit | Alarm system |
|--------------------------|-----------------------|----------|-----------------------|-----------------------|--------------|
| | Storing | Charging | | | |
| BATTERY STORE | | | | | |
| IO90.195.060.K1.WDC | ✓ | | | | |
| IO90.195.120.K1.WDC | ✓ | | | | |
| BATTERY STORE PRO | | | | | |
| IO90.195.060.K2.WDC | ✓ | | ✓ | ✓ | ✓ |

BATTERY STORE & BATTERY STORE PRO

These models are used for passive storage (warehousing) of lithium-ion batteries. Passive storage involves storing new or used lithium-ion batteries for a specified period of time

2. TRANSPORT



CAUTION:

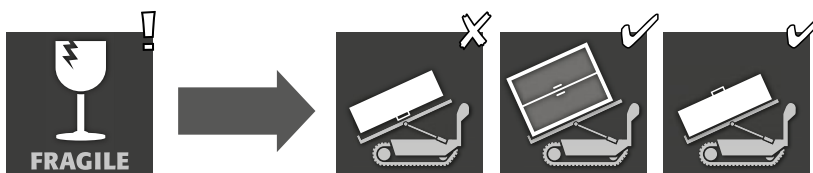
Transport the cabinet in an upright position on a pallet truck, tied and secured against slipping, until the final place of installation is reached. The transport locks in the door joints may only be removed directly at the place of installation! Inappropriate transport can lead to concealed damage to the fire protection insulation! We can only guarantee the necessary quality if the cabinet is transported to the place of its use by our specially trained staff.



ATTENTION:

The doors must be locked prior to transport! The extraction unit is inside the cabinet and is only mounted after the in-plant transport to the place of use.

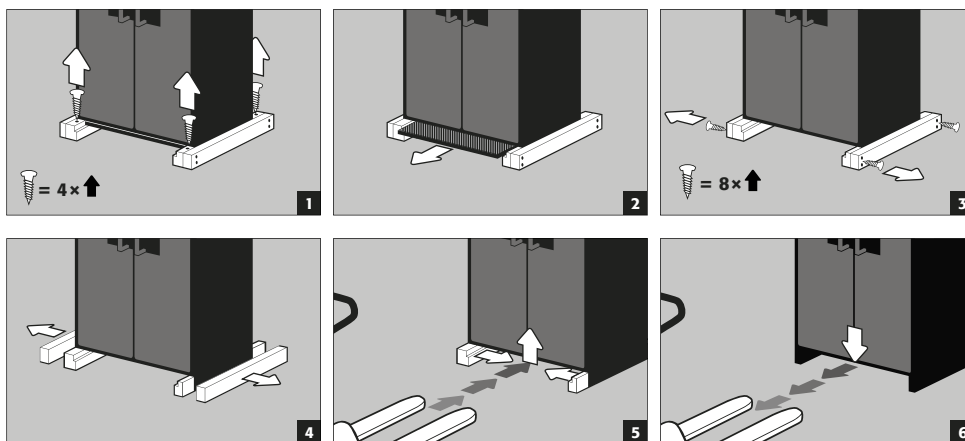
2.1. TILTING THE CABINET



CAUTION:

Tilting the cabinet may only be done without jolts!

2.2. DISMANTLING OF THE TRANSPORT PACKAGING



CAUTION:

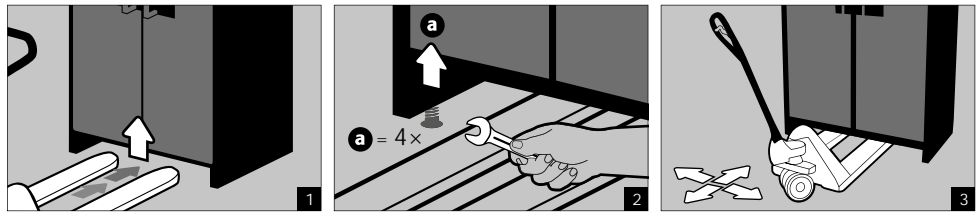
Cabinets with a width of 600 mm: The clear entry width of the base is 520 mm. Please note this when choosing your pallet truck! Devices with widths greater than the entry widths must not be used.

2.3. IN-PLANT TRANSPORT

- In-plant transport is also possible without transport locks (inserted as standard in the door joints)

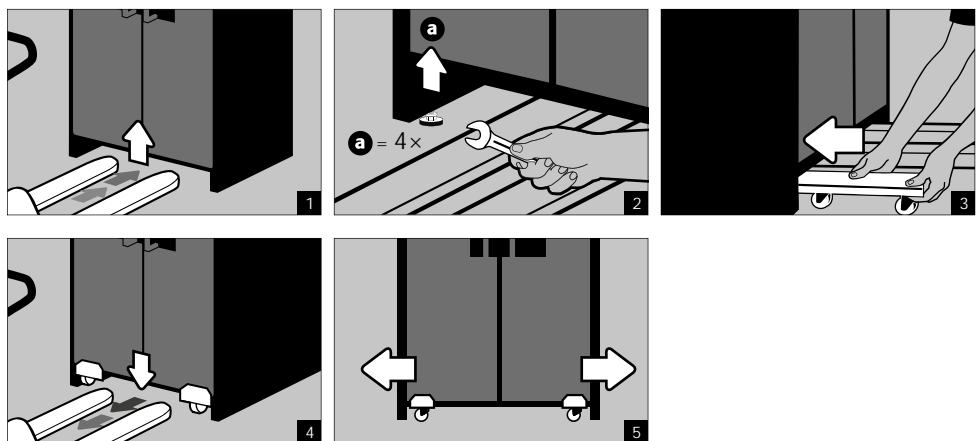
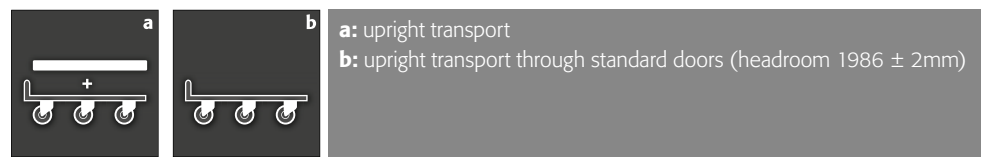


ATTENTION:
The doors must be locked prior to transport! The optional extraction unit is inside the cabinet and is only mounted after the in-plant transport to the place of use.



2.4. Q-MOVER

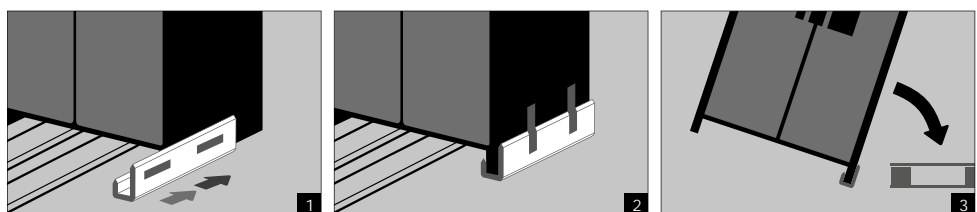
- Order no. 30037, available from your authorised dealer



CAUTION:
Written notification of any damage to the cabinet must be given immediatly!

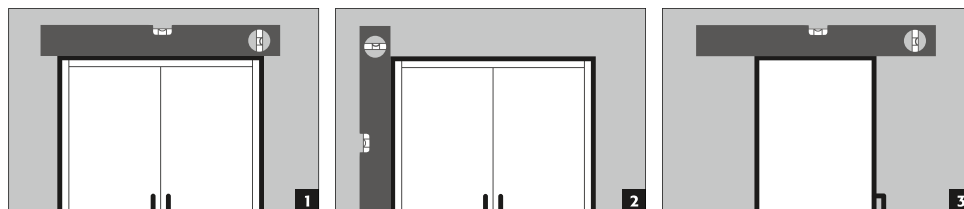
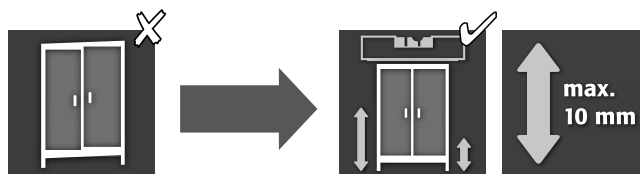
2.5. TITLING ONTO THE SIDE WALL

- Titling onto the side wall is only possible with the optionally available tilting bracket (order no. 29556).



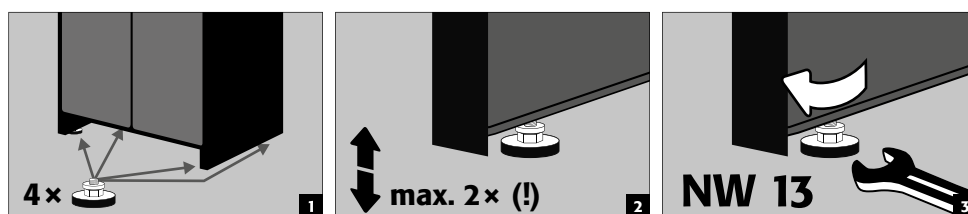
3. INSTALLATION

3.1. ALIGNMENT OF THE CABINETS



CAUTION:

Door elements must not scrape against the fire prevention seals in the fold of the door when opening and closing! Doors with an automatic closing mechanism must close automatically from every position and the lock must be able to lock!

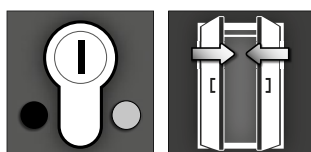


3.2. COMMISSIONING

- Before putting into operation for the first time, the user must carry out an examination of the safety storage cabinet for possible damage, such as defective or loose sealing elements, correct alignment and perfect functioning of the door elements.
Use the cabinet and accessories only if they are in an orderly condition.

4. CLOSING

4.1. IN GENERAL



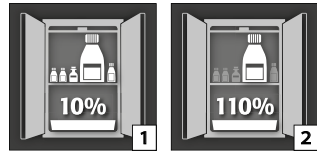
The doors are permanently self-closing.
The cabinets feature a cylinder lock with closing status indicator.
They can be integrated into a master key system.



ATTENTION:

The owner/user must ensure that all doors are kept closed whenever the contents of the cabinet are not being accessed. In general, it must be noted that the cabinets do not possess an emergency unlocking facility. This means that persons trapped inside the cabinet cannot free themselves!

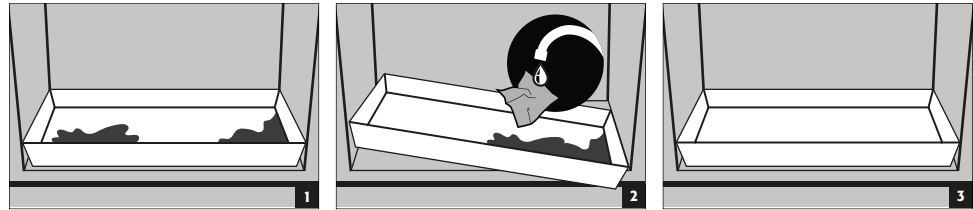
5.1. BOTTOM COLLECTING SUMP



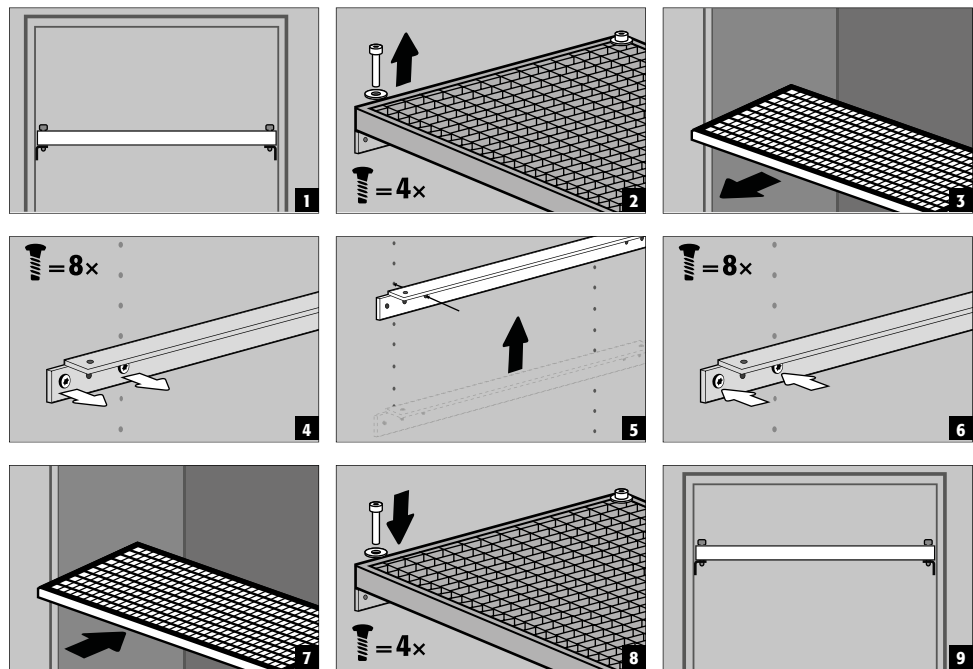
According to EN 14470-1: The bottom collecting sump must be able to hold a minimum volume of 10 % of all the containers stored in the cabinet [1] or at least 110 % of the volume of the largest single container [2] , whichever of these volumes is larger.

Leaks:

- Liquid in the sump is to be collected using suitable means.
- The choice of means is your own responsibility.



5.2. GRID SHELVES (HEIGHT ADJUSTABLE)



Load capacity (kg/drum platform)

IO90.195.120.K1.WDC / IO90.195.120.K2.WDC*

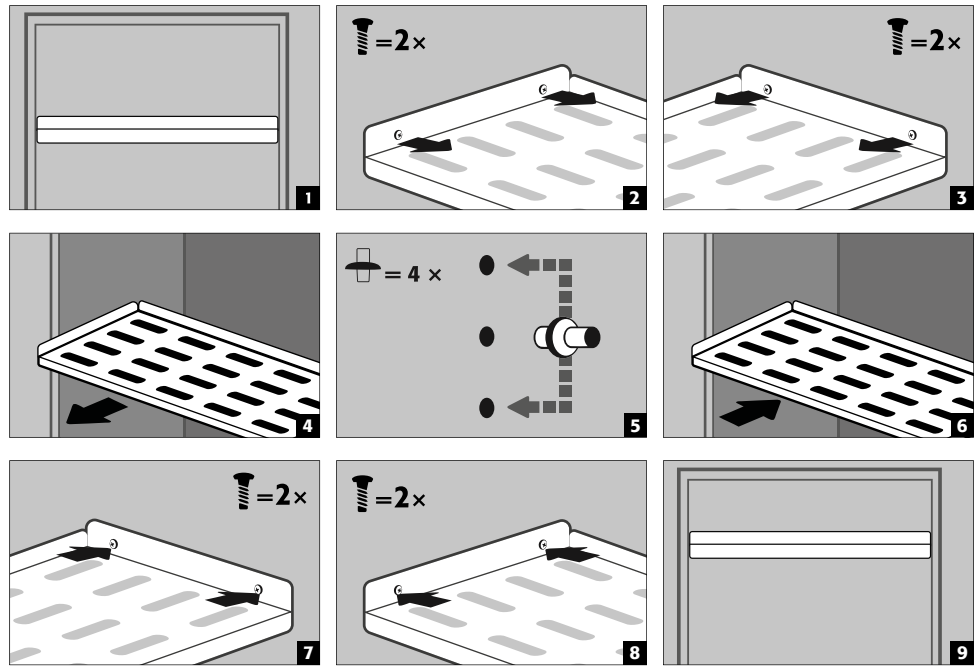
max. 180 kg






ATTENTION:

Model IO90.195.120.K2.WDC: The position of the fire suppression device, smoke detector, thermal sensor must not be changed when adjusting the height of the shelves.

5.3. SHELVES (HEIGHT-ADJUSTABLE)



Load capacity (kg/drum platform)

| IO90.195.060.K1.WDC | IO90.195.120.K1.WDC / IO90.195.120.K2.WDC* | |
|---|--|---|
|  max. 25 kg |  max. 75 kg |  max. 50 kg |
| Gilt bei Special interior equipment: Order No. 38516 / 38517 Order No. 38518 / 38519 | | |



ATTENTION:

Model IO90.195.120.K2.WDC: The position of the fire suppression device, smoke detector, thermal sensor must not be changed when adjusting the height of the shelves.

6. STORAGE



ATTENTION:

Never store obviously damaged lithium-ion batteries inside buildings. Dispose of them without delay in disposal containers that are provided outside the building and approved for transport.

6.1. NOTES ON STORAGE

Storage

- It is recommended to store new and used lithium-ion batteries separately (each on a different storage level) in the safety storage cabinet.

Occupation of the storage levels (IO90.195.XXX.XX.WDC)

Grid shelves may be covered only up to 60% by battery chargers and batteries in order to ensure trouble-free operation of the fire suppression system and sufficient air circulation.



ATTENTION:

Full-surface occupancy of the storage levels is not permitted.

IO90.195.120.K2.WDC:

The following substances must not be stored in the cabinets with fire suppression system: Acids, bases, magnesium, other metals (in powder form).



CAUTION:
A distance of min. 150 mm must be maintained in the area in front of the fire suppression unit.

7. VENTILATION

7.1. EXTRACTION UNIT (OPTIONAL)

- **See point 10.1** for the installation.
The green indicator lamp signals that the fan is switched on.



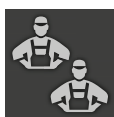
ATTENTION:
Heat is generated during the charging of a lithium-ion battery !
Please note:
 The technical ventilation (for the avoidance of heat accumulation in the interior) must run continuously. A distance of at least 100 mm must be kept to the area of the fire suppression unit.

8. BATTERY FIRE - EVENT OF FIRE - DISPOSAL



CAUTION
 After a battery fire and triggered fire suppression device, the safety cabinet must be subjected to a thorough inspection so that both fire protection and CE conformity are maintained. For this purpose, the cabinet must be handed over to the main factory of asecos GmbH in Gründau, where the specialist department - depending on the degree of damage - makes an assessment of the economic efficiency and technical possibilities of a repair. The customer then receives an offer of either a repair or a replacement, which can be handed over to the responsible property insurer.

8.1. FIRE INSIDE THE CABINET (BATTERY FIRE)

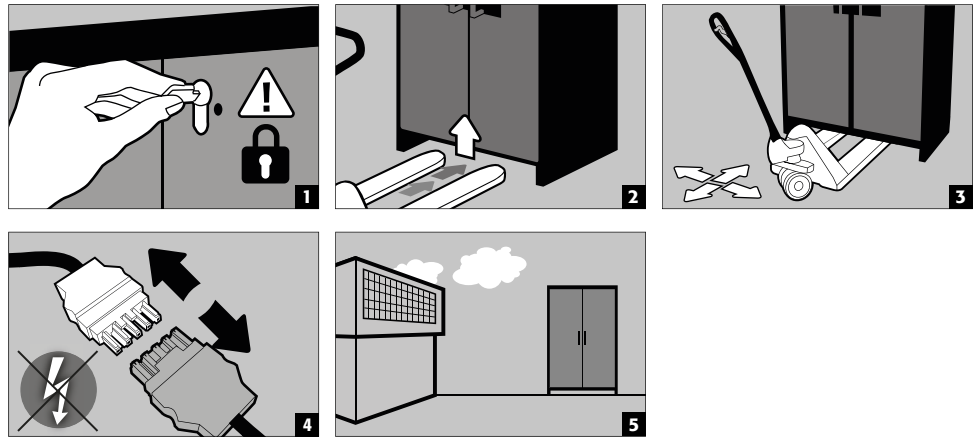


NOTE for 2-door tall cabinets
 Evacuation by at least 2 persons is recommended.

- For fast transport the cabinets are equipped with a transport base.
The cabinets are automatically disconnected from the mains supply in the case of transport.



CAUTION:
 The doors must be locked before transport! Depending on the door heights, it may be necessary to remove the ventilation attachment beforehand. Transport may only be carried out by qualified personnel!



8.2. OPENING THE CABINET AFTER THE FIRE



CAUTION:

Do not open the cabinet until it has cooled down. This is 6 times the fire duration! The cabinet may only be opened by authorised personnel (e.g. fire brigade)!

Depending on the duration of the fire, an ignitable vapour-air mixture may have formed, therefore remove all ignition sources within a 10-metre radius around the cabinets before opening. Use only non-sparking tools! Open the cabinets with extreme caution!

8.3. DISPOSAL



The models can be disposed of once they have been dismantled and the materials sorted.

9. SAFETY CHECKS

As safety equipment the cabinets have to be checked for safety at least once per year. The next checking date can be taken from the service sticker on the outside of the door. This annual check can be carried out with the necessary care, and for securing your warranty claims in the case of fire, only by an authorised asecos employee (refer also to our service brochure regarding this).

IO90.195.120.K2.WDC

A necessary service is automatically indicated by the cabinet by a flashing green LED. Within the context of the annual check, the fire suppression system, smoke detector and sensors will be checked in addition to the check of all safety-related parts.



ATTENTION

In accordance with DIN 14676 the proper function of the smoke detector must be checked at least once per year. In addition, we recommend the regular visual inspection of the battery chargers, batteries and connecting cables.

9.1. CONTACT

The cabinets can be cleaned with a mild household cleaner and a soft cloth.

In case of damage please contact your dealer in order to have the cabinet repaired using original spare parts.

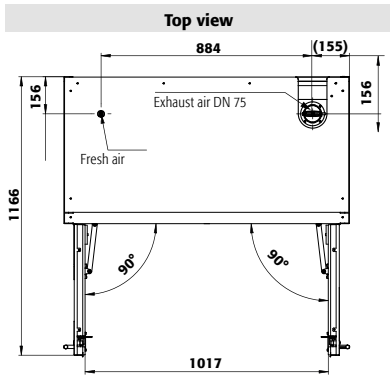


CONTACT:

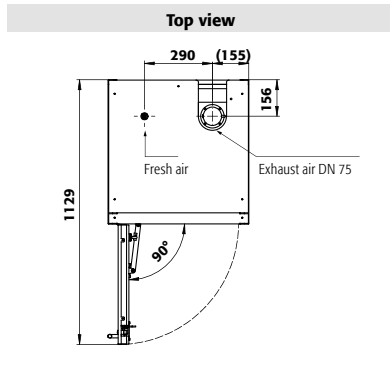
In the case of defects or complaints about our products (within and also after the warranty period), and for requesting safety checks or taking out a service contract, please contact our service hotline on:

Tel: +44 1785 22 70-90 info@asecos.co.uk

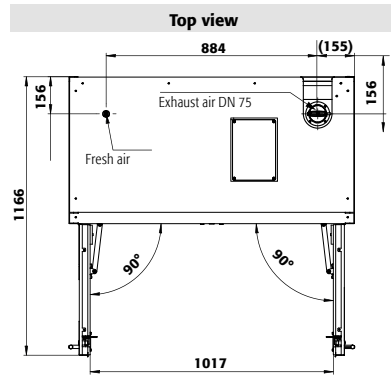
10. TECHNICAL DRAWING



IO90.195.120.K1.WDC



IO90.195.060.K1.WDC

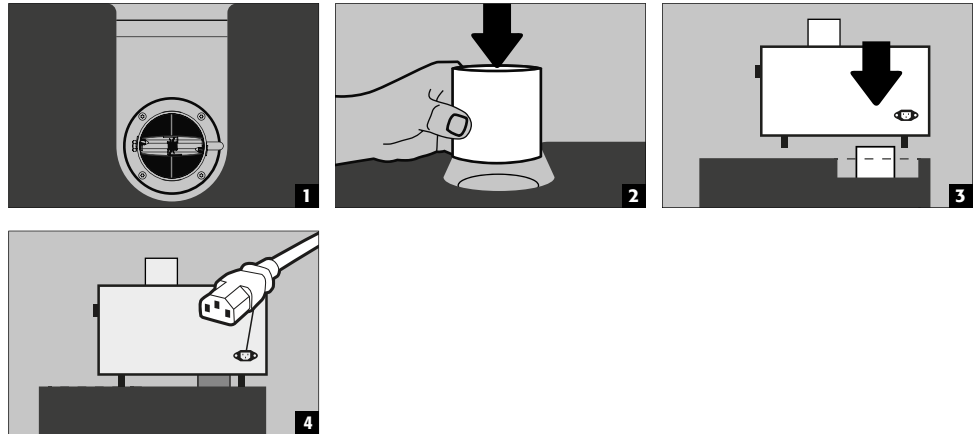


IO90.195.120.K2.WDC

11. TECHNICAL DATA

| | | IO90.195.120.K1.WDC | IO90.195.060.K1.WDC | IO90.195.120.K2.WDC | |
|-----------------------------------|-------------------|----------------------------|----------------------------|----------------------------|--|
| Type | | 90 | 90 | 90 | |
| External dimensions W x D x H | mm | 1193 x 615 x 1953 | 599 x 615 x 1953 | 1193 x 615 x 1953 | |
| Internal dimensions W x D x H | mm | 1050 x 522 x 1647 | 450 x 522 x 1647 | 1050 x 522 x 1647 | |
| Weight without interior equipment | kg | 424 | 265 | 424 | |
| Distributed load | kg/m ² | 531.00 | 894.00 | 531.00 | |
| Extraction air | DN | 75 | 75 | 75 | |
| Entry width transport base | mm | 1120 | 526 | 1120 | |
| Entry height transport base | mm | 90 | 90 | 90 | |
| Power consumption in operation | W | | | 1,5 | |
| Nominal voltage | V | | | 230 | |
| Frequency | Hz | | | 50/60 | |

12.1. INSTALLATION OF THE EXTRACTION UNIT (OPTIONAL)

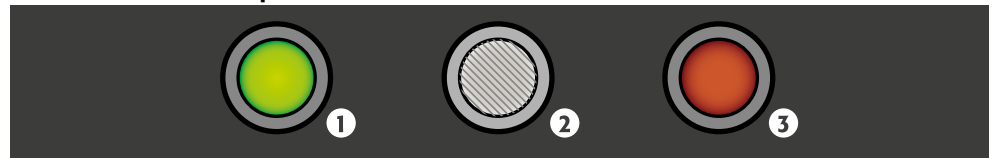


The extraction unit is for the avoidance of a heat accumulation in the interior during the charging process inside the cabinet. The exhaust air from the cabinet is exhausted directly into the room. Connection to an exhaust duct is not necessary.

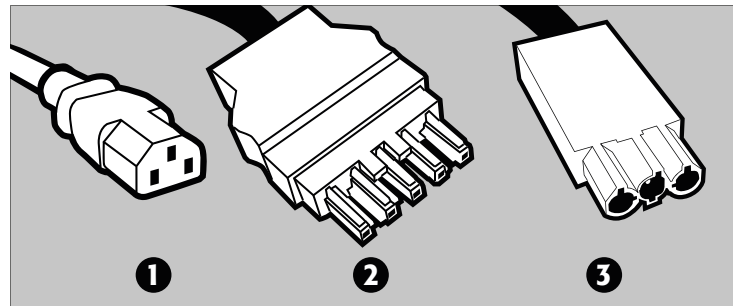
12.2. CONNECTION TO THE POWER SUPPLY

Connections on the headpiece:

IO90.195.120.K2.WDC
IO90.195.120.K3.WDC

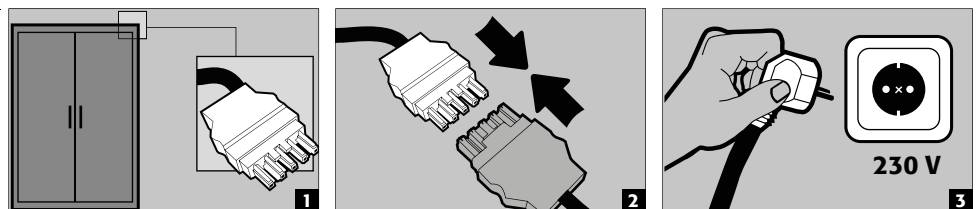


1 LED: Operating (green) 2 RESET BUTTON 3 LED: Error (red)

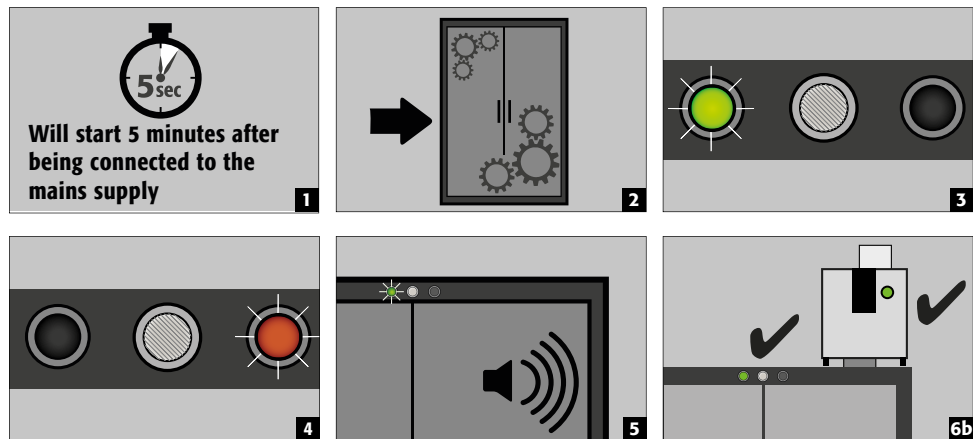


1 Mains connection for extraction unit
2 Mains plug connector
3 Potential-free switch contact

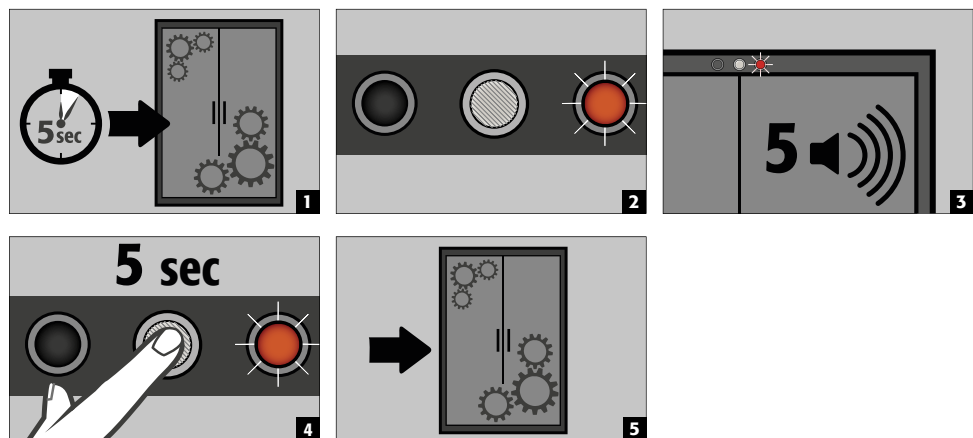
Connection to the power supply



12.3. SELF-TEST



12.4. ERROR DURING SELF-TEST



ATTENTION:
After pressing the reset button, the self-test begins again. If the error persists, please contact the asecos Service department.

12.5. ERROR AND ALARM OVERVIEW

| EVENT | LED GREEN | LED red | ACOUSTIC ALARM | ACTIONS |
|--|-----------|--------------------------|---|--|
| Error during self-test | off | turned on | 5 signal tones | 1.) Restart with RESET button if error persists: 2.) Contact Service |
| Service interval reached | flashing | off | off | Contact Service |
| Power failure | off | Flashes every 20 seconds | 3 short signal tones every 60 seconds | Check power supply |
| Warning message: Temperature in the cabinet >50 °C | off | turned on | Tone interval (every 2 seconds for 250 ms) | see 10.8 |
| Alarm stage 1: Smoke detector detects smoke in the cabinet | off | turned on | medium tone interval (every 0.5 seconds for 250 ms) | see 10.9 |
| Alarm stage 2: Smoke detector detects smoke in the cabinet, Temperature in the cabinet >70 °C | off | flashing | fast tone interval (every 0.25 seconds for 125 ms) | see 10.10 |

12.6. POTENTIAL-FREE ALARM CONTACT

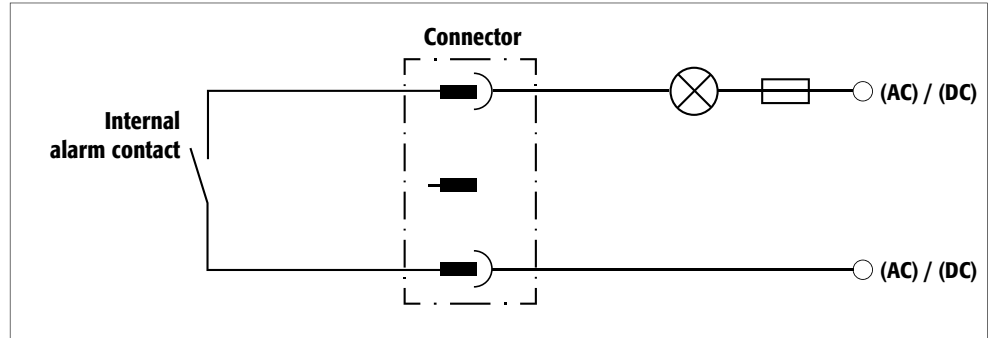


NOTE:

The potential-free alarm contact is used to connect a signal to a control centre/control room. Direct integration into a fire alarm control panel (FACP) is not recommended or may only be carried out in consultation with the person responsible for the system.

However, it is always recommended to connect the signal to a manned control centre/control room!

The potential-free switching contact must always be connected by the customer (not a service).



Connection instructions

- Use only the supplied mating part (colour-coded black) to the plug for the connection
- The connection must be done by a qualified electrician
- The contact is designed for a max. DC voltage of 30 V or a max. AC voltage of 230 V
- The maximum current load is 10 A
- The switch contact is normally closed!
- The switch contact opens as soon as mains voltage is present and no error is pending (device is „ready to operate“)

12.7. WARNING/FIRE SUPPRESSION SYSTEM

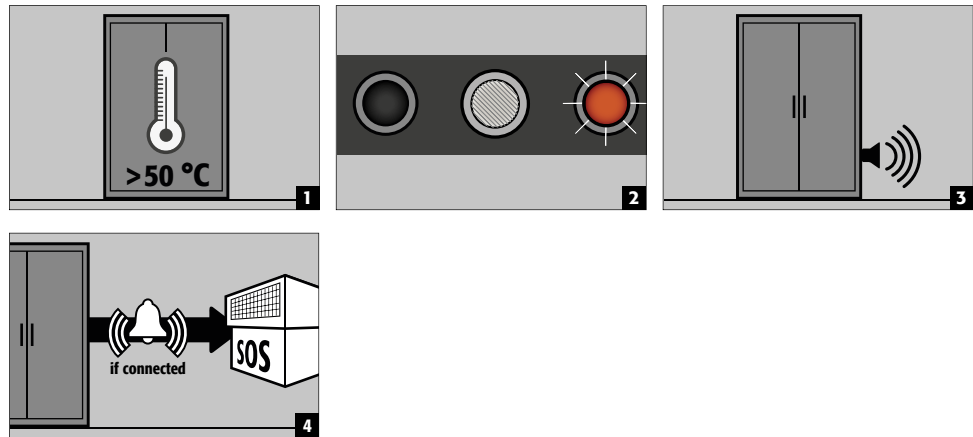
- The warning/fire suppression system offers the option of connection to a constantly manned building management system or fire alarm centre.
- Make use of this option so that trained rescue personnel can be quickly alerted and be on-site in a very short time and, following an initial assessment of the situation, immediately initiate further measures (for example, transporting the cabinet out of the building).
- In this way consequential damage to the building and personal injuries can be avoided.
- The extinguishing agent, based on potassium carbonate, is harmless in the necessary extinguishing agent concentration and has no harmful effects on the human organism.
- In case of triggering, the aerosol is ejected at a high temperature and temperatures of over 300 °C are briefly generated in front of and on the housing of the fire suppression cartridge (according to the manufacturer's data, a minimum distance to combustible materials need not be maintained; however, a distance of at least 150 mm to the fire suppression cartridge should generally be maintained).
- After triggering of the fire suppression cartridge, ventilate the room and the cabinet well, observing the instructions in point 8.



ATTENTION:

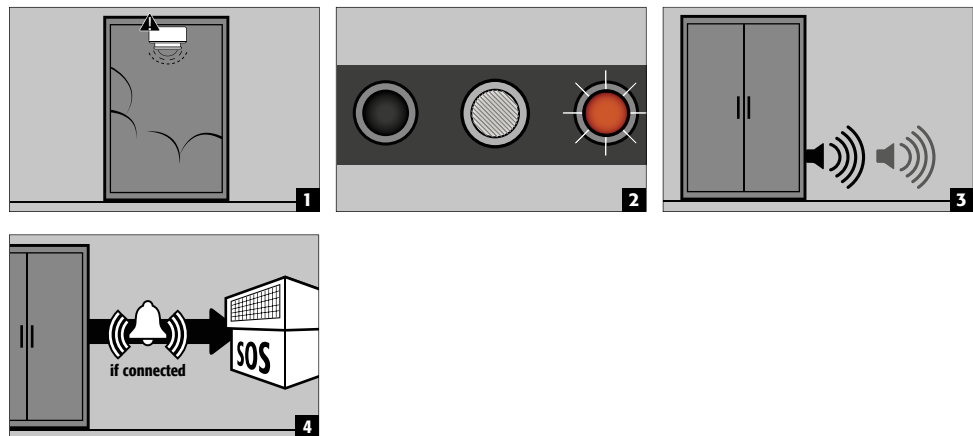
The complete warning/fire suppression system is active only with mains operation. The integrated smoke detector is part of the entire fire suppression system (direct power supply).

12.8. WARNING MESSAGE



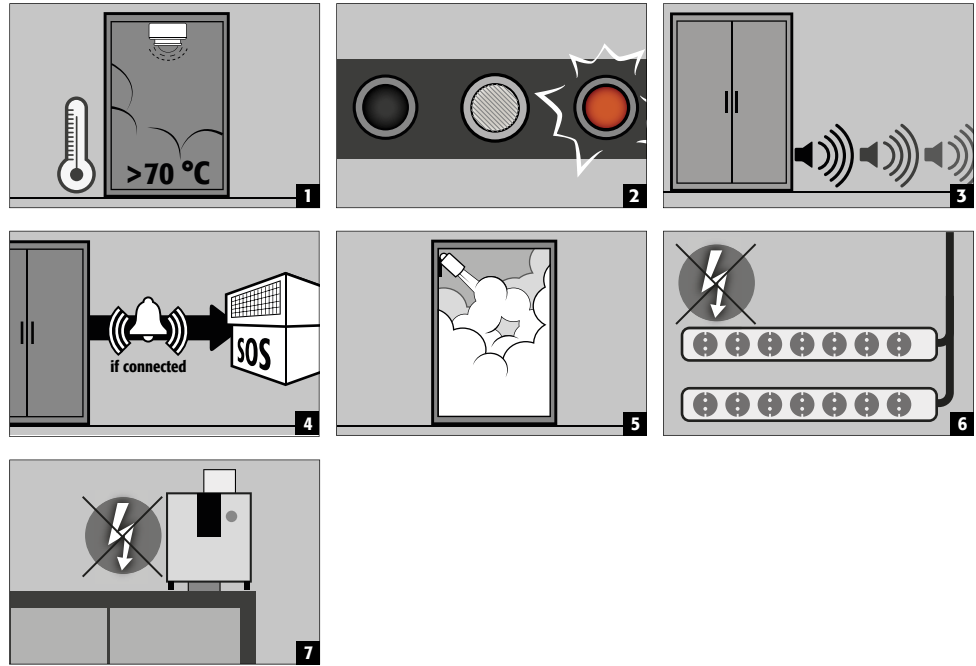
- Actions**
 Immediate visual inspection of the system by the company's own qualified personnel.
 Initiation of necessary actions.
 If the interior temperature falls below 50 °C, the system returns to normal operation and the visual and acoustic signals are switched off.

12.9. ALARM STAGE 1



- Actions**
 Immediate visual inspection of the system **by technical personnel (e.g. fire brigade)**.
 Subsequently, initiation of necessary actions.
 If the smoke detector does not detect any further smoke development in the cabinet, the system can be reset to normal operation by briefly disconnecting the mains voltage.

12.10. ALARM STAGE 2



- **Actions**

Immediate visual inspection of the system by **technical personnel (e.g. fire brigade)**.
Subsequently, initiation of necessary actions.

See 8.2 for the transport of the cabinets out of the building.



NOTE:

After the fire suppression device has been triggered, the safety cabinet must be subjected to a thorough inspection so that both fire protection and CE conformity are maintained. For this purpose, the cabinet must be handed over to the main factory of asecos GmbH in Gründau, where the specialist department - depending on the degree of damage - will make an assessment of the economic efficiency and technical possibilities of a repair. The customer then receives an offer of either a repair or a replacement, which can be handed over to the responsible property insurer.

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