

asecos®

ION_{LINE}

**BATTERY CHARGE
BATTERY CHARGE PRO**

USER MANUAL

Safety storage cabinets for storage and charging of lithium ion batteries



**10 Jahre
Garantie***
10 years warranty*

10 JAHRE GARANTIE*

* Bei jährlicher Beauftragung des **Premium-Tarifs** verlängert sich die Garantie für Ihren ION-LINE Sicherheitsschrank auf bis zu 10 Jahre.

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.

Weitere Informationen zu unseren Garantieleistungen finden Sie unter www.asecos.com/service-leistungen

For detailed information about our warranties please visit www.asecos.com/service-conditions



BATTERY CHARGE PRO
IO90.195.120.K3.WDC



BATTERY CHARGE
IO90.195.060.K9.WDC



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IHRE PERSÖNLICHE DOKUMENTATION ZUM asecos-SICHERHEITSSCHRANK

Sehr geehrte Kundin, sehr geehrter Kunde,

mit dem Kauf Ihres asecos-Sicherheitsschranks haben Sie eine entscheidende Investition für die Sicherheit in Ihrem Haus getätigt. Vor Ihnen steht ein innovatives Produkt aus hochwertigen Materialien, das höchste Qualität garantiert.

Sicherheitsschränke aus dem Hause asecos verfügen über eine lückenlose Zulassungs-Dokumentation. Wir archivieren Ihre Zulassungsdokumente jedes einzelnen Schrankes für Sie, bis Sie diese im Bedarfsfall (z. B. einer Betriebsbegehung o. ä.) mit diesem Formular von uns anfordern.

Dazu einfach dieses Formular heraustrennen/kopieren und mit Ihrer Adresse und der Seriennummer des Schrankes versehen per Fax zurück an uns.

Mit freundlichen Grüßen

asecos GmbH

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 off 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

Firma • company	
Abteilung • department	
Name • name	
Straße • street	
PLZ • postal code	
Ort • city	
Schrank • cabinet Seriennummer(n) • serial number(s)	

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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 respective regulations for the prevention of accidents, the VDE regulations and 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 must 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)

Installation and environmental conditions



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 equipments 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	⇒ page 18
Technical data	⇒ page 18

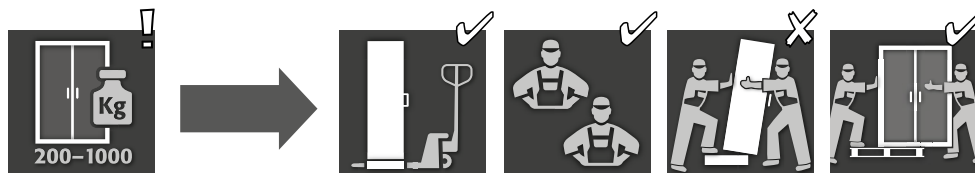
Models	Lithium ion batteries		Extraction air unit	Fire supression unit	Alarm system
	Storing	Charging			
BATTERY CHARGE					
IO90.195.060.K9.WDC	✓	✓			✓
BATTERY CHARGE PRO					
IO90.195.120.K3.WDC	✓	✓	✓	✓	✓

BATTERY CHARGE & BATTERY CHARGE PRO

These models are for the active storage (charging) of lithium-ion batteries. .

With active storage, lithium-ion batteries or battery packs in the cabinet are charged or partially discharged using a charger (60—70%).

2. TRANSPORT



ATTENTION:

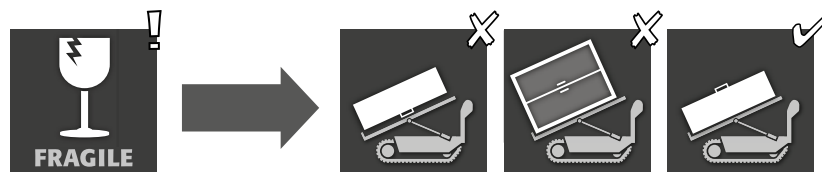
Transport the cabinet in an upright position on a pallet truck, tied and secured against slipping, until the final place of installation is reached. The transport locks in the door joints may only be removed directly at the place of installation! Inappropriate transport can lead to concealed damage to 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.

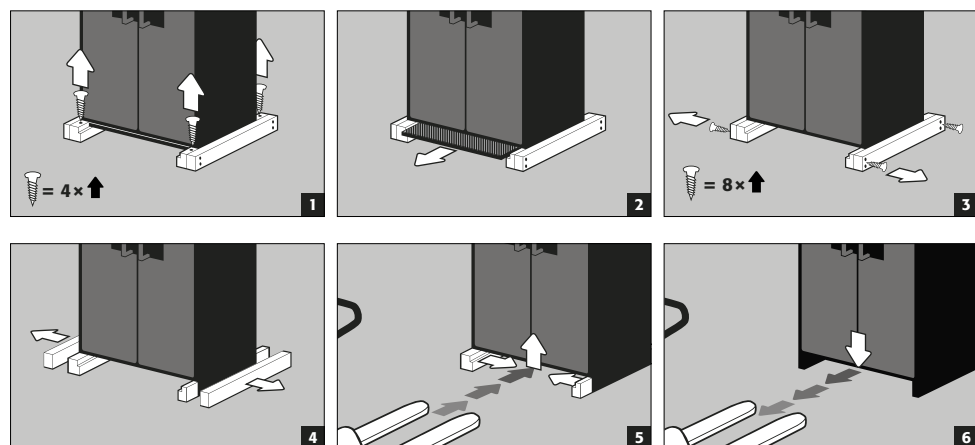
2.1. TILTING THE CABINET



ATTENTION:

Tilting the cabinet may only be done without jolts!

2.2. DISMANTLING OF THE TRANSPORT PACKAGING



ATTENTION

Cabinet width 600 mm

The clearance drive-in width of the base is 520 mm

You must observe this when selecting a pallet truck! Appliances with a carrying width larger than the drivein width may not be used

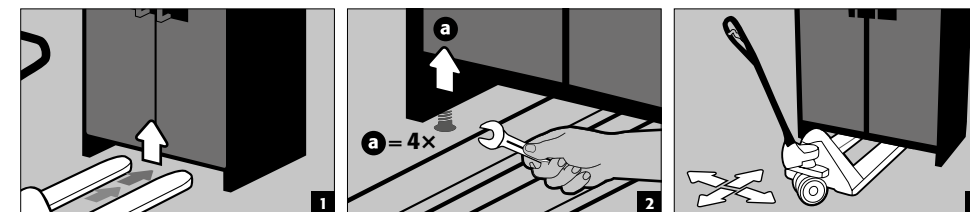
2.3. IN-PLANT TRANSPORT

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



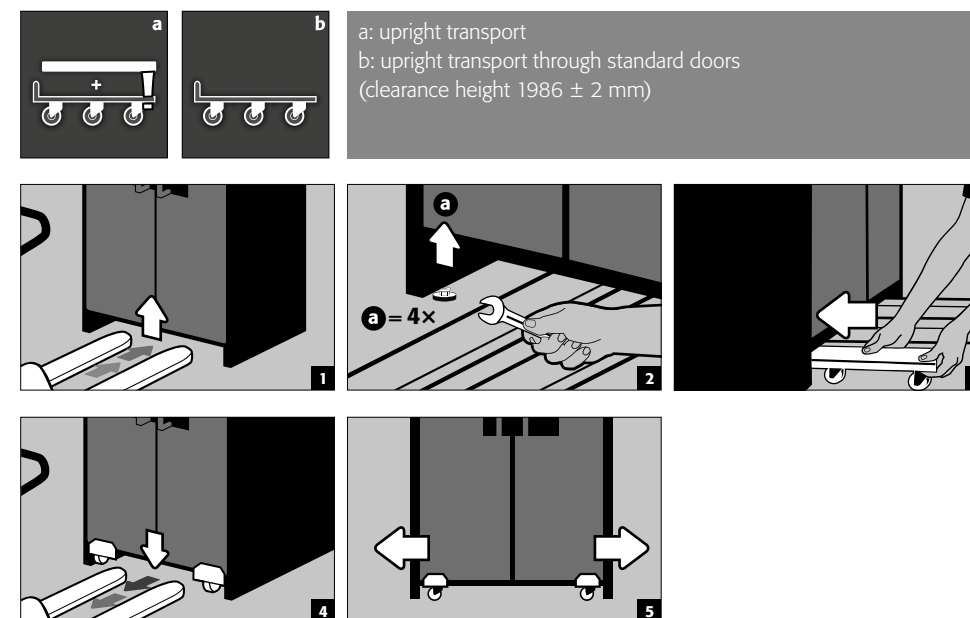
ATTENTION:

The doors must be locked prior to transport! The extraction unit must be removed from the top of the cabinet



2.4. Q-MOVER

- Order no. HFI.23526, available from your authorised dealer

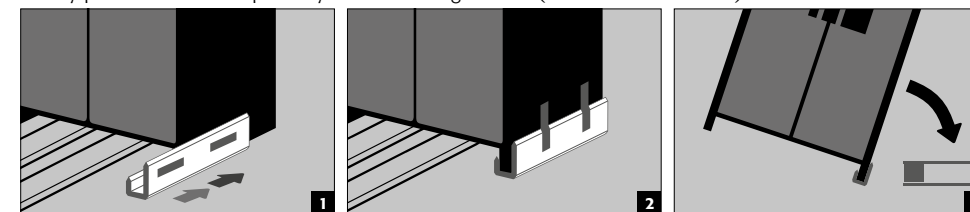


ATTENTION:

Damage to the cabinet must be reported in writing without delay!

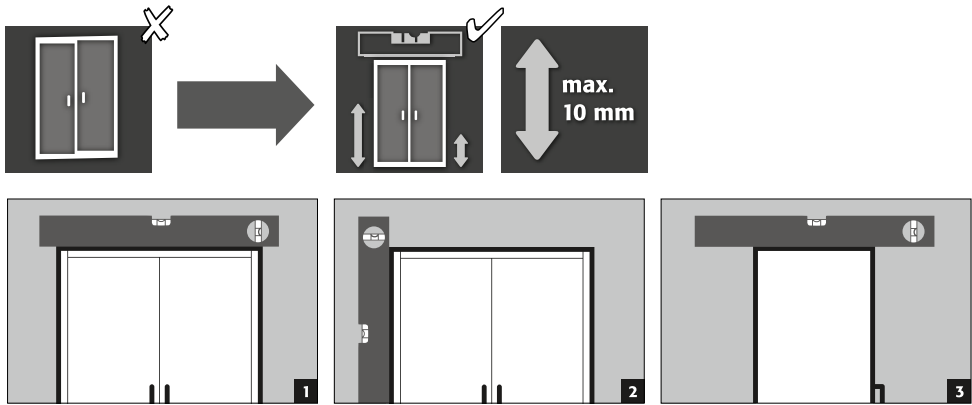
2.5. TITLING ONTO THE SIDE WALL

- is only possible with the optionally available tilting bracket (order no. HFV.27665)

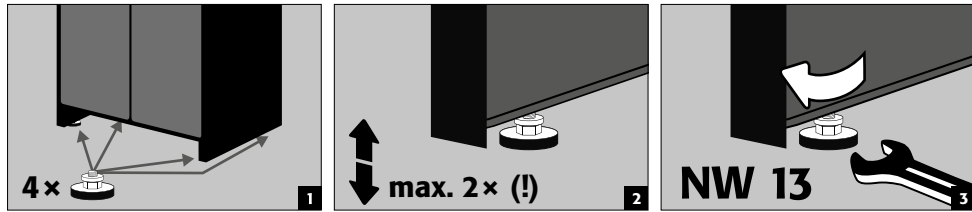


3. INSTALLATION

3.1. ALIGNMENT OF THE CABINETS



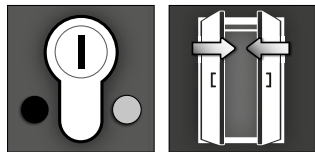
ATTENTION:
Door elements must not scrape against the fire prevention seals in the fold of the door when opening and closing! Doors with an automatic closing mechanism must close automatically from every position and the lock must be able to lock!



3.2. COMMISSIONING

- Before the first commissioning, 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 (hinges, locking system and, if applicable, door closer).
- Use the cabinet and accessories only if they are in an orderly condition.

4. CLOSING



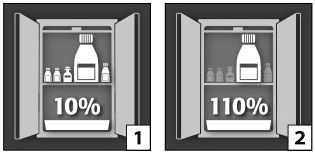
The doors are permanently self-closing.
The cabinets feature a cylinder lock with closing status indicator.
They can be integrated into a master key system.



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!

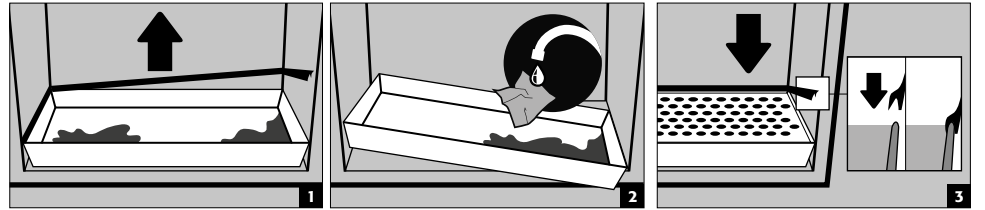
5. INTERIOR EQUIPMENT

5.1. BOTTOM COLLECTING SUMP







According to EN 14470-1: A bottom collecting sump must be installed below the lowest storage level. 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. GRIDS / SHELVES WITH POWER SOCKET STRIPS

Load capacities

IO90.195.060.K9.WDC		IO90.195.120.K3.WDC	
 max. 25 kg	 max. 75 kg	 max. 50 kg	 max. 180 kg
Standard interior equipment	Standard interior equipment	Only special interior equipment: Order No. 38520 Order No. 38521 Order No. 38522 Order No. 38523	Only interior equipment with grids: Order No. 38776 / 38772 Order No. 38777 / 38773 Order No. 38778 / 38774 Order No. 38779 / 38775



ATTENTION:
The positions of the shelves / grids and power socket strips are fixed and cannot be changed.

5.3. TOTAL POWER RATING OF THE POWER SOCKET STRIPS

Standard: single-phase, 230 V

Version	EU	CH	UK	FR
fusing	16 A	10 A	13 A	16 A
max. total power	3,68 kW	2,3 kW	2,99 kW	3,68 kW

Optional: 3-phase, 400 V, (accessory item HF.E.32822)

Note on model with a width of 600 mm IO90.195.060.K9.WDC: Only 2 of the 3 connected phases are required by the cabinet electronics. The third phase remains unused

Version	EU	CH	UK	FR
fusing	3 x 16 A	3 x 10 A	3 x 13 A	3 x 16 A
max. total power	11,04 kW	6,9 kW	8,97 kW	11,04 kW



ATTENTION:
The load on the system is to be distributed as evenly as possible over the power socket strips! The individual power strip must not be loaded with more than the specified power max. (see table)!
The necessary fuse protection is to be provided by the customer!

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 AND CHARGING

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
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:
It is not permitted to occupy the complete area of the storage levels.

IO90.195.120.K3.WDC:
The following substances may **not be stored** in the cabinets **with a fire suppression system: acids, alkalis, magnesium, other metals (in powder form).**

Heat is generated during the charging of a lithium-ion battery!
The technical ventilation (for the avoidance of heat accumulation in the interior) must run continuously



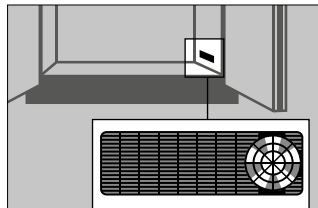
ATTENTION:
A distance of at least 150 mm must be kept to the area of the fire suppression unit.



7. VENTILATION

CAUTION
The fire protection valves near the supply and extraction air connections are safety and maintenance-relevant components.
In order to check the correct function or to replace a defective element, please note that when connecting to an exhaust air system, flexible connection hoses or sliding pieces are used to ensure easy removal and reassembly of the exhaust air connection.

Ventilation wheel for technical ventilation



The ventilation wheel serves as an indicator for correct ventilation.
If the wheel turns, the necessary 10-fold air recirculation rate is exceeded.

7.1. EXTRACTION UNIT

- 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!
The technical ventilation (for the avoidance of heat accumulation in the interior) must run continuously
Repairs to the extraction unit are only to be carried out by specialists specifically trained for this. Given damage the appliance is to be repaired or replaced by the manufacturer.

8. BATTERY FIRE - FIRE - DISPOSAL

NOTE
Following a battery fire and the triggering of the fire suppression system, the safety storage cabinet must be subjected to a thorough inspection so that both fire protection and CE conformity are retained. For this purpose the cabinet must be handed over to asecos GmbH's main factory in Gründau, where the specialist department – depending on the extent of the damage – will appraise the economic viability and technical possibilities of a repair. The customer then receives a quotation either for a repair or for an exchange, which can be forwarded to the responsible insurance company.

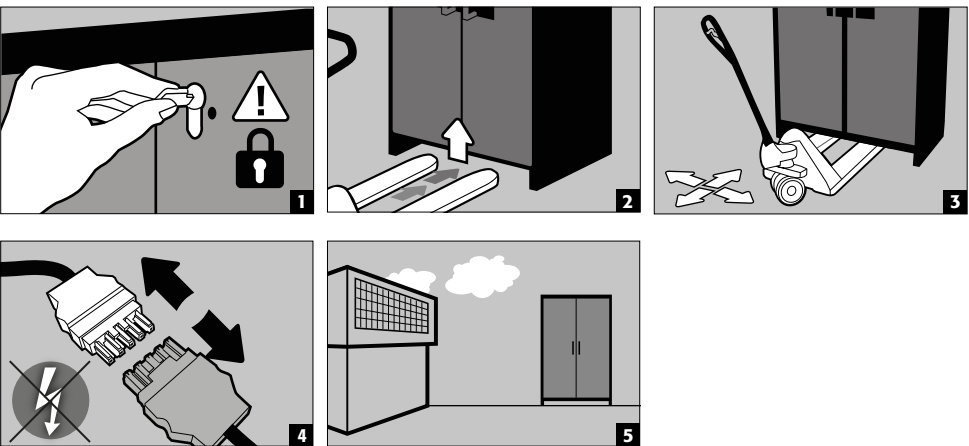
8.1. FIRE INSIDE THE CABINET (BATTERY FIRE)



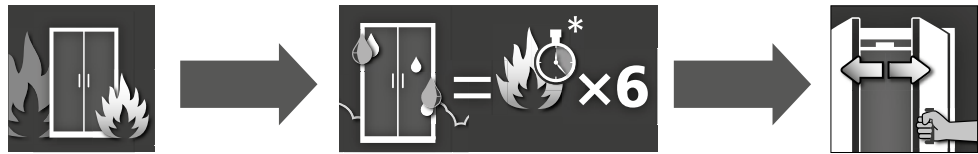
- For fast transport the cabinets are equipped with a transport base.
- The cabinets are automatically disconnected from the mains supply in the case of transport.



ATTENTION:
Prior to transport the doors must be locked and the extraction unit removed from the cabinet!
Transport may only be carried out by technical personnel!



8.2. OPENING THE CABINET AFTER THE FIRE



***ATTENTION:**
Only open the cabinet after it has cooled down. This is 6 times the fire duration!
Only authorised personnel (e.g. fire brigade) may open the cabinet!
Depending upon the duration of the fire an ignitable vapour/air mixture may have formed; therefore remove all sources of ignition within a 10 metre radius of the cabinet before opening it use only spark-free 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. They are free from materials that have to be disposed of as special waste.

9. SAFETY CHECKS

9.1. ALL MODELS

As safety equipment (according to §4 Paragraph 3 Workplace Ordinance, §10 German Ordinance on Industrial Health and Safety and German Statutory Accident Insurance [DGUV] rule no. 108-007) the cabinets have to be checked for safety at least once per year. The next checking date can be taken from the check 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).

9.2. IO90.195.120.K3.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 checking of all safety-related parts.

9.3. IO90.195.060.K9.WDC

A necessary service is indicated by service sticker on the door of the cabinet.
Within the context of the annual check, all safety-related parts, the smoke detector and the alarm signalling will be checked.



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.

9.4. CONTACT

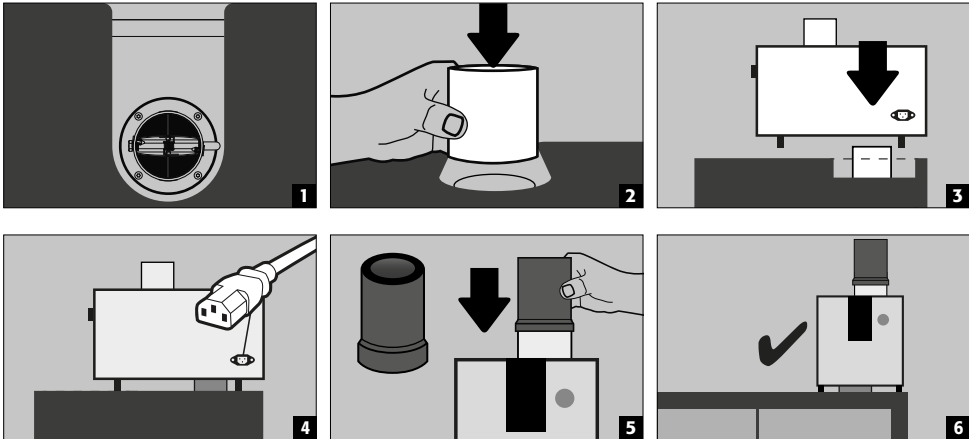
In case of damage please contact your dealer in order to have the cabinet repaired using original spare parts. The cabinets can be cleaned with a mild household cleaner and a soft cloth.



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

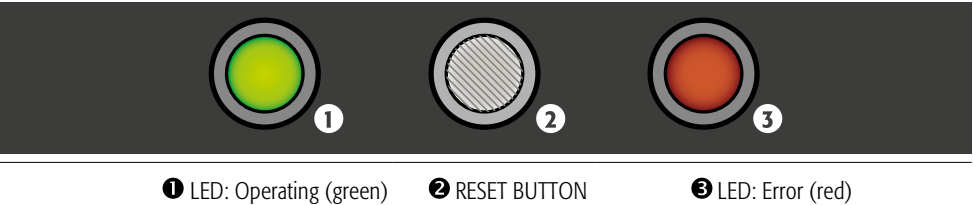
10. IO90.195.120.K3.WDC

10.1. INSTALLATION OF THE EXTRACTION UNIT

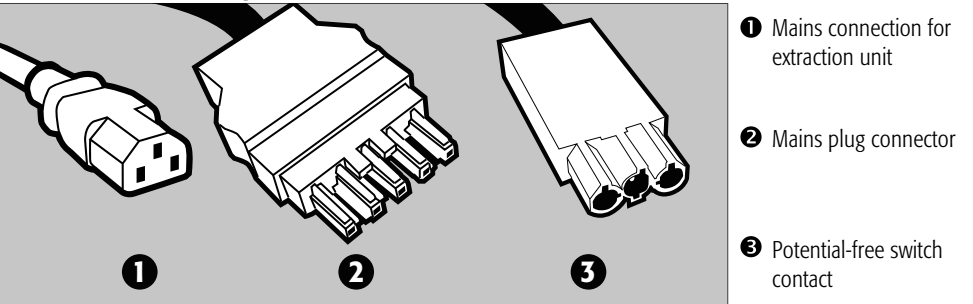


CAUTION:
The extraction unit is for the avoidance of a heat accumulation in the interior during the charging process inside the cabinet. The exhaust air from the cabinet is exhausted directly into the room. Connection to an exhaust duct is not absolutely necessary.

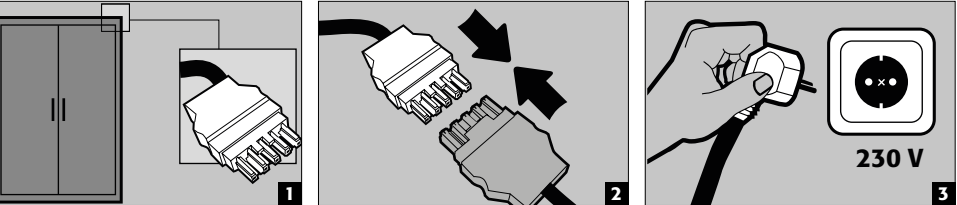
10.2. CONNECTION TO THE POWER SUPPLY



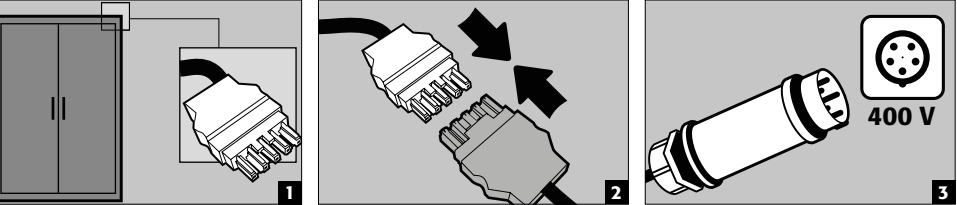
Connections on the headpiece:



Connection to the power supply

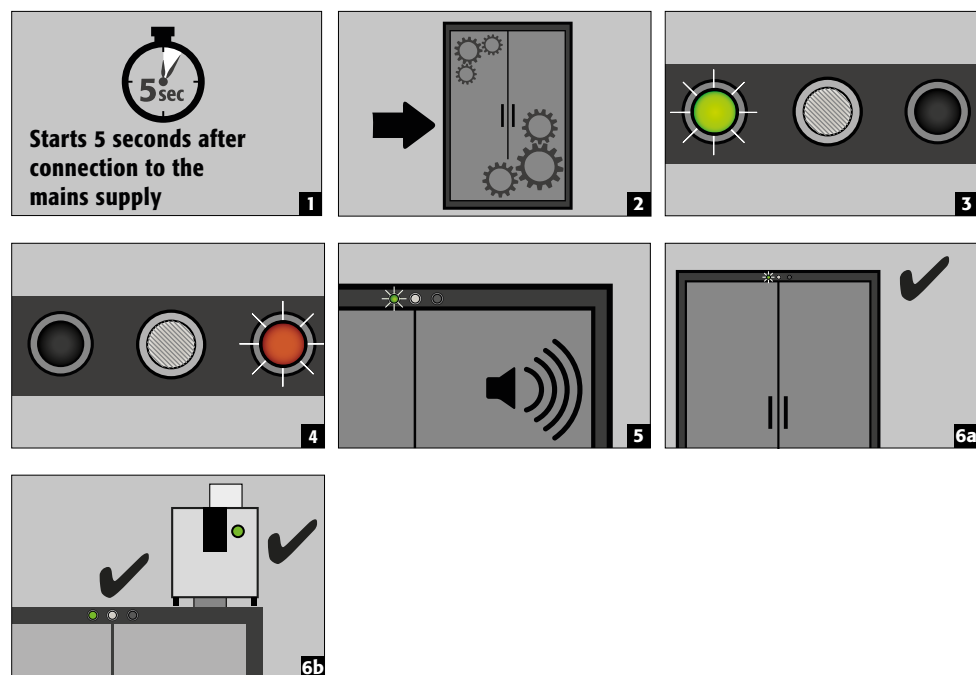
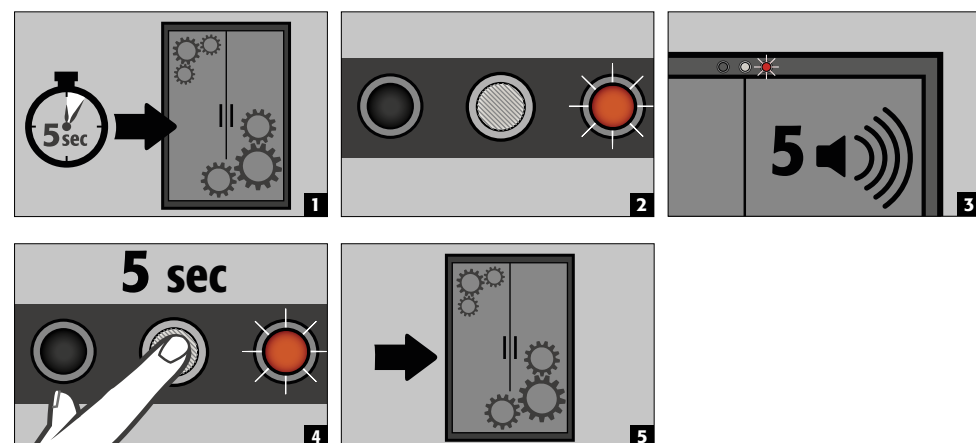


Connection to the power supply with 400 V (optional with item HFE.32822)



**CAUTION:**

Subsequent retrofitting is possible using the plug connection, so that no intervention in the electrical components is required.

10.3. SELF TEST**10.4. ERROR DURING SELF-TEST****ATTENTION:**

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

10.5. ERROR AND ALARM OVERVIEW

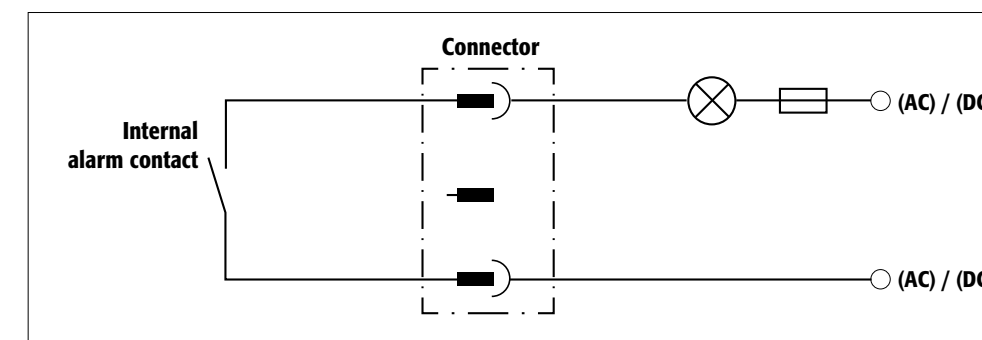
EVENT	LED GREEN	LED RED	ACOUSTIC ALARM	ACTIONS
Error during self-test	off	on	5 signal tones	1.) Restart with RESET button If error persists: 2.) Contact Service
Service interval reached	flashing	off	off	Contact Service
Power failure	Flashes every 20 seconds	off	3 short signal tones every 60 seconds	Check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

10.6. POTENTIAL-FREE ALARM CONTACT**NOTE:**

The potential-free alarm contact is for connecting a signal to a control room/control centre. A direct connection to a fire alarm system is not recommended or may only be done in consultation with those responsible for the system.

In general, however, the connection of the signal to a manned control room/control centre is always recommended!

The connection of the potential-free switch contact must always be done by the customer (not a service item).

**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“)

10.7. WARNING/FIRE SUPPRESSION SYSTEM

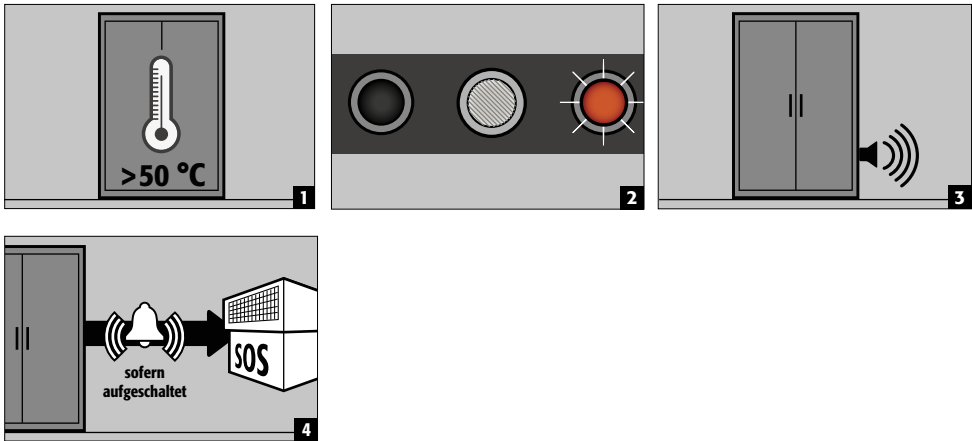
- The warning/fire suppression system offers the option of connection to a constantly manned building management system or fire alarm centre.
- Make use of this option so that trained rescue personnel can be quickly alerted and be on-site in a very short time and, following an initial assessment of the 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 calcium carbonates, 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)

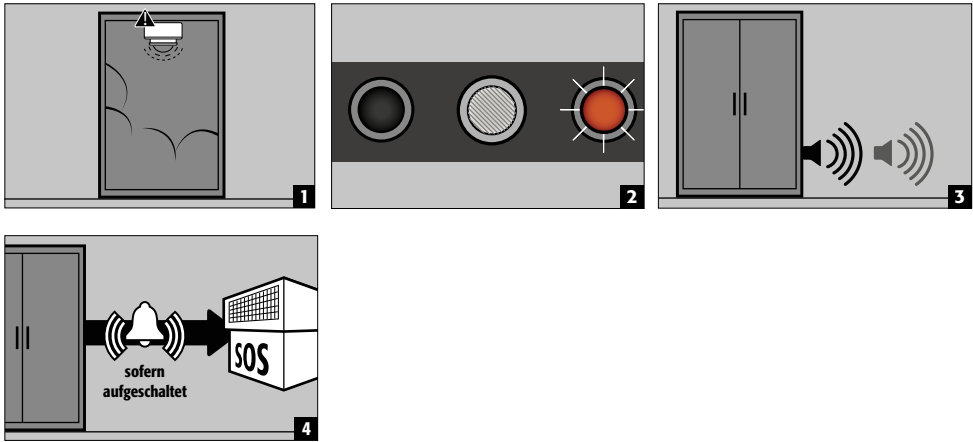
10.8. WARNING MESSAGE



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.

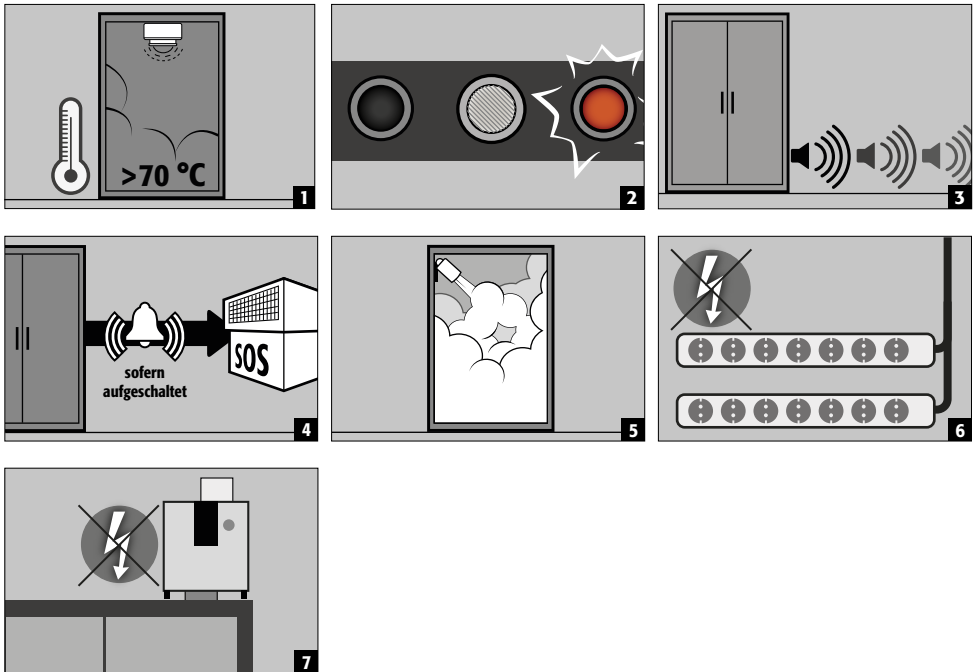
10.9. ALARM STAGE 1



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.

10.10. ALARM STAGE 2



Actions

- immediate visual inspection of the system **by technical personnel (e.g. fire brigade)**
- subsequently, initiation of necessary actions
- **See 8.1** for the transport of the cabinets out of the building



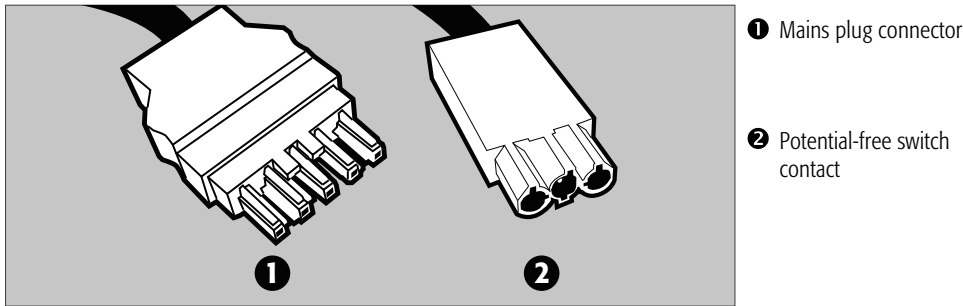
ATTENTION:

Afterwards the complete system can only be assessed and if possible reset to normal operation by authorised asecos service technicians. At least the fire suppression unit and the smoke detector need to be replaced for this.

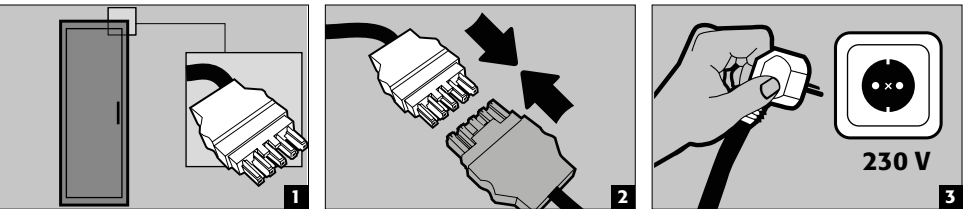
10.11. FALSE ALARM OF THE SMOKE DETECTOR

- By interrupting the power supply for a few seconds, the smoke detector is reset and the system returns to normal operation

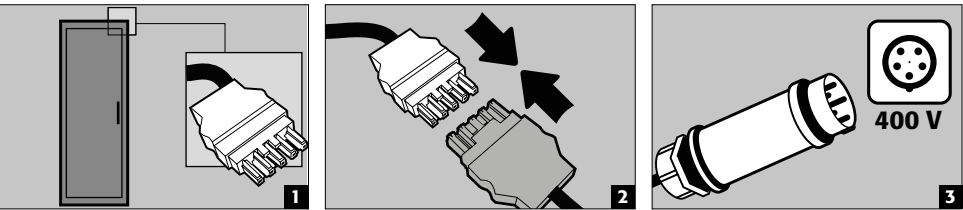
11.1. CONNECTION TO THE POWER SUPPLY



Connection to the power supply



Connection to the power supply with 400 V (optional with item HF.E.32822)



CAUTION:
Subsequent retrofitting is possible using the plug connection, so that no intervention in the electrical components is required.

11.2. ERROR AND ALARM OVERVIEW

EVENT	LED RED	ACOUSTIC ALARM	ACTIONS
Smoke detector detects smoke in the cabinet	flashes	pulsating alarm tone	see 8.1
Triggered by connected detectors	off	pulsating alarm tone	The triggering detector can be identified by parallel to the alarm tone flashing LED
Battery replacement due	flashes	short beep every 45 seconds	see 12.5
Operational readiness	flashes every 45 seconds	off	
Malfunction	flashes alternately with the beep	short beep every 45 seconds	change smoke detector

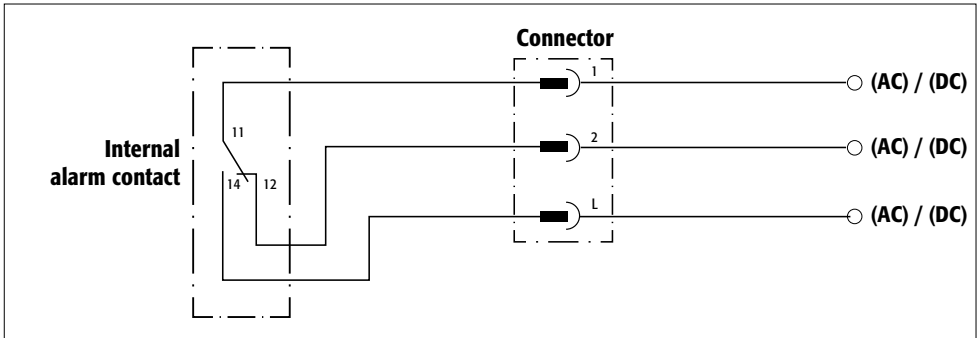
11.3. POTENTIAL-FREE ALARM CONTACT



NOTE:
The potential-free alarm contact is for connecting a signal to a control room/control centre. A direct connection to a fire alarm system is not recommended or may only be done in consultation with those responsible for the system.

In general, however, the connection of the signal to a manned control room/control centre is always recommended!

The connection of the potential-free switch contact must always be done by the customer (not a service item).



- Connection instructions**
- Use only the supplied mating part (colour-coded brown) to the plug for the connection
 - The connection must be done by a qualified electrician
 - The internal switch contact is designed for a max. DC voltage of 24 V or a max. AC voltage of 230 V
 - The maximum current load is 5 A at 230 V AC and 10 A at 24 V DC
 - The internal switch contact is a changeover contact; in case of alarm, therefore, the switching state may be queried as „opened“ or „closed“

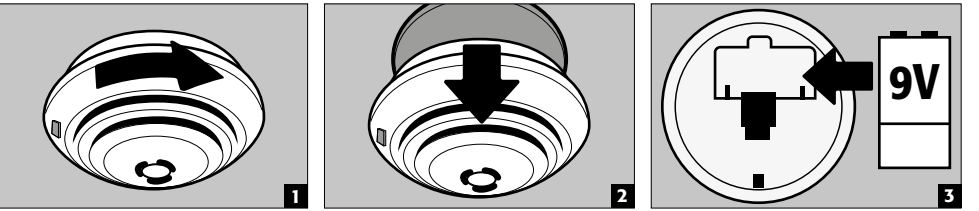
11.4. SMOKE DETECTOR – FALSE ALARM

- By interrupting the power supply for a few seconds, the smoke detector is reset and the system returns to normal operation

11.5. SMOKE DETECTOR – BATTERY CHANGE



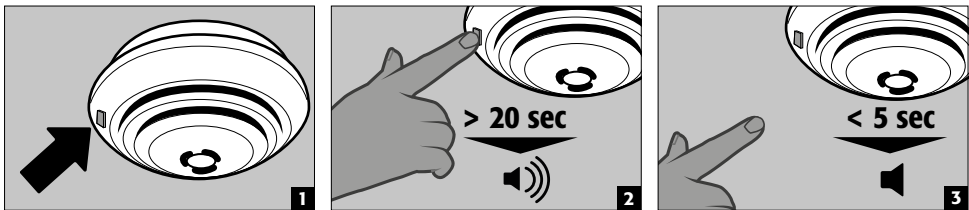
CAUTION:
The use of rechargeable batteries is not permitted!
The lifetime of the battery strongly depends among other things on the local conditions, such as temperature, temperature fluctuations, humidity and the number of test alarms/alarms. In the case of lithium this is up to 5 years. The smoke detector signals a necessary battery exchange about 30 days in advance (see 10.2)



11.6. SMOKE DETECTOR – MAINTENANCE



ATTENTION:
In accordance with DIN 14676 the proper function of the smoke detector must be checked at least once per year.



- The smoke detector is completely tested with the LED test button (fig. 1): battery function test, electronic smoke chamber test and a test of the evaluation electronics.
- The test alarm resets itself after releasing the button
- Following a successful test, the alarm is silenced and the LED flashes every 45 seconds – the smoke detector is ready to operate
- If the test failed, see 10.2 for error analysis

Self-test

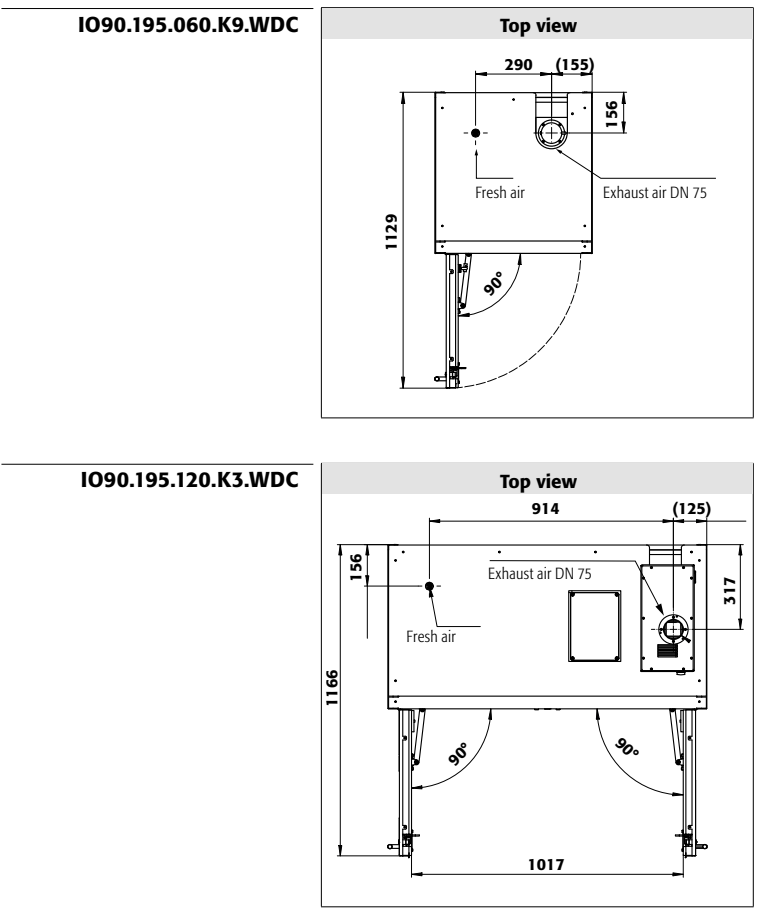
- The smoke detector carries out an automatic self-test, in which the evaluation electronics as well as the voltage and the internal resistance of the battery are checked about every 45 seconds.
- This check is signalled by a short flashing signal of the red LED.

12. TECHNICAL DATA

		IO90.195.060.K9.WDC				IO90.195.120.K3.WDC				
Type	minutes	90				90				
Dimensions B x T x H exterior	mm	599 x 615 x 1953				1193 x 615 x 1953				
Dimensions B x T x H interior	mm	450 x 522 x 1647				1050 x 522 x 1647				
Weight of empty cabinet	kg	265				424				
Distributed load	kg/m²	894				531				
Exhaust Air	DN	75				75				
Entry width of transport base	mm	526				1120				
Entry height of transport base	mm	90				90				
Max. load of shelves	kg	25				75 (50)* /(180)*				
Power consumption of the control electronics										
Power consumption in operation	W	—				47,5				
Nominal voltage	V	—				230				
Frequency	Hz	—				50/60				
Gesamtleistung der Steckdosenleisten			EU	CH	UK	FR/BE	EU	CH	UK	FR/BE
single-phase	Fusing	A	16	10	13	16	16	10	13	16
	max. power	kW	3,68	2,3	2,99	3,68	3,68	2,3	2,99	3,68
3 phase	Fusing	A	3 × 16 ⁽¹⁾	3 × 10 ⁽¹⁾	3 × 13 ⁽¹⁾	3 × 16 ⁽¹⁾	3 × 16	3 × 10	3 × 13	3 × 16
	max. power	kW	11,04 ⁽¹⁾	6,9 ⁽¹⁾	8,97 ⁽¹⁾	11,04 ⁽¹⁾	11,04	6,9	8,97	11,04

* Information applies to special interior equipment, see chapter 5.2
⁽¹⁾ With this model only 2 of the 3 phases are used

13. TECHNICAL DRAWING



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