



Safe solutions for active and passive storage

LITHIUM BATTERIES

NOT AS HARMLESS AS THEY SEEM

Dangerous:

Unattended storing and charging of batteries

All-round protection:

ION-LINE safety storage cabinets for your safety



Frequent, sometimes weekly accidents and countless damages prove: **the unattended charging and storing of batteries, for example overnight, poses great risks and dangers.**

People admitted to hospitals with **smoke inhalation** and **burns**. High property damages of up to **500,000 €**, leading to the financial ruin of companies and other organisations. **These are the sad and distressing consequences of improper storage and charging of batteries.**

Lithium-ion batteries pose major **fire and eruption hazards**. Damaged batteries can, under certain circumstances **spontaneously ignite** or **become unstable** and **explode** when heated.

According to the ADR **lithium-ion batteries are clearly classified as hazardous materials** and therefore must be handled appropriately.

Requirements for the storage of the hazardous materials by legislative bodies do not yet exist.

The fact that numerous **insurance companies** and **associations**, including the VdS (General Association of the German Insurance Industry), have included **clear guidelines** in their contracts, shows the **acute need for action**.

According to German insurers and associations, batteries of medium capacity must spatially or structurally (in a fire-resistant manner) be separated from other areas.

Spatial separation by storing the defective batteries outdoors is only possible if there is a safety distance of 10 m surrounding the area.

In addition, you must take the manufacturer's instructions for storage into account.

In order to maintain the insurance cover, managing directors or their equivalent, must provide a suitable storage and charging solution for lithium-ion batteries. They are responsible for

1. their employees and are obliged to comply with the Occupational Health and Safety Act.
2. They are also personally liable if inadequate fire protection measures are taken. This includes damage to property, possible damage to neighbouring facilities and, if necessary, the costs for large-scale evacuation measures.

With **Type 90 safety storage cabinets** of the asecos **ION-LINE** you **fulfil the requirements of insurers and associations**. The different models provide you with a secure storage and charging solution for your batteries that can be easily integrated into your premises - **no cost-intensive** conversions are necessary!



Take action now and do not take unnecessary risks. Our experts will be happy to help you and carry out a risk assessment for your premises. Together we will find the right solution and achieve concrete results:

- ✓ Maintaining your insurance cover in the event of a fire
- ✓ Minimising the risk of damage to property and person

Your asecos experts can be reached via +49 6051 9220-0 or by sending an e-mail to info@asecos.com



LITHIUM-ION BATTERIES – NOT AS HARMLESS AS THEY SEEM

With the increasing use of lithium-ion batteries, the dangers related to storing and in particular charging these batteries increase in both commercial and private environments.

Property insurers, therefore, are highly interested in ensuring available protective equipment (such as type 90 safety storage cabinets) are used to minimise risks and avoid damage claims.

The recommendations of the property insurers, for example in Germany, for the use of safety cabinets are clear:

*„In order to effectively protect against damages from lithium batteries, there are certainly conventional **protective concepts** using classical measures that have **proven useful in manufacturing, handling and storing flammable materials.**“*

Lithium batteries – fire hazards and safety risks
Dr. Michael Buser, Dr. Jochen Mähliß

*“We tell customers to store batteries in **hazardous goods storage cabinets.**“*

Underwriter for a German property insurer

*„Areas with medium power batteries should be spatially (at least 5 m) or structurally separated from other areas with **fire-resistant structures.**“*

Publication VdS 3103 : 2019-06 (03)
General Association of the German Insurance Industry
published by VdS Schadenverhütung GmbH

*“Lithium batteries should generally be treated as a **hazardous material.**“*

Publication VdS 3103 : 2019-06 (03)
General Association of the German Insurance Industry
published by VdS Schadenverhütung GmbH

“The VdS data sheet offers very good instructions for implementation here. No insurer will block itself off or add more requirements than the VdS recommends“.

German Insurance

*“(…) it is generally recommended to only allow storage and handling of lithium batteries **in fire-resistant separate areas** or if an appropriate safety distance is ensured. Based on past damages, an international standard of **90 minutes fire resistance (…)** or a safety distance of at least 20 meters has proven effective here“.*

Lithium batteries – fire hazards and safety risks
Dr. Michael Buser, Dr. Jochen Mähliß

CURRENT NEWS



500,000 € in damages after an E-bike battery explodes

The sales floor of the northern German bicycle shop was quickly engulfed in flames.

The 4 floors of the parking structure over the store had to be evacuated quickly due to the extreme, hazardous smoke produced by the fire. Over 30 fire department vehicles and 70 fire fighters responded to the blaze.

Source: hetse.de

Lithium batteries – a hazardous material?

A lithium-ion battery – which was connected to a charger overnight – ignited a fire in the basement of a residential building in Lower Franconia.

The owner used the basement rooms for his online shop, where he sold a variety of batteries and offered repair services. The fire quickly created clouds of smoke and unpleasant, harmful odours. The defective batteries emitted harsh, aggressive acids, forcing the fire department, police, and residence to take extensive safety precautions.

Source: main-echo.de



Electric car battery causes major fire in 2,000 m² commercial space

A lithium-ion battery exploded on a test track for E-bikes in the Netherlands.

The fire spread quickly and caused a huge plume of smoke in a very short time. Residents were cautioned to keep doors and windows closed. The fire department's response was severely curtailed due to the unpredictability of the battery. Their primary goal: To prevent the fire from spreading to neighbouring buildings. After allowing the commercial space to burn in a controlled manner, they delivered the devastating news: The building was unrecoverable and could not be saved.

Source: omroepgelderland.nl



DAILY NEWS

DAILY NEWS

Man dies of smoke inhalation after smartphone battery ignites

The Malaysian man was surprised by an exploding smartphone battery as he slept. The mobile device was beside his bed, and the explosion turned it into a fatal projectile. The man suffered a head wound which left him incapacitated. Unable to react, he suffered poisoning due to smoke inhalation and severe burns.

Source: n-tv.de

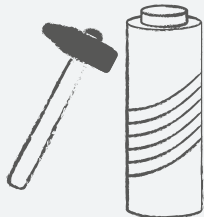

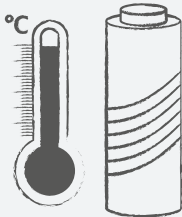
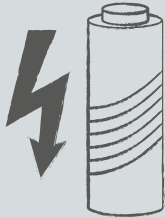


For more incidents related to lithium-ion batteries, please visit:



THE HAZARDS - THE THERMAL RUNAWAY

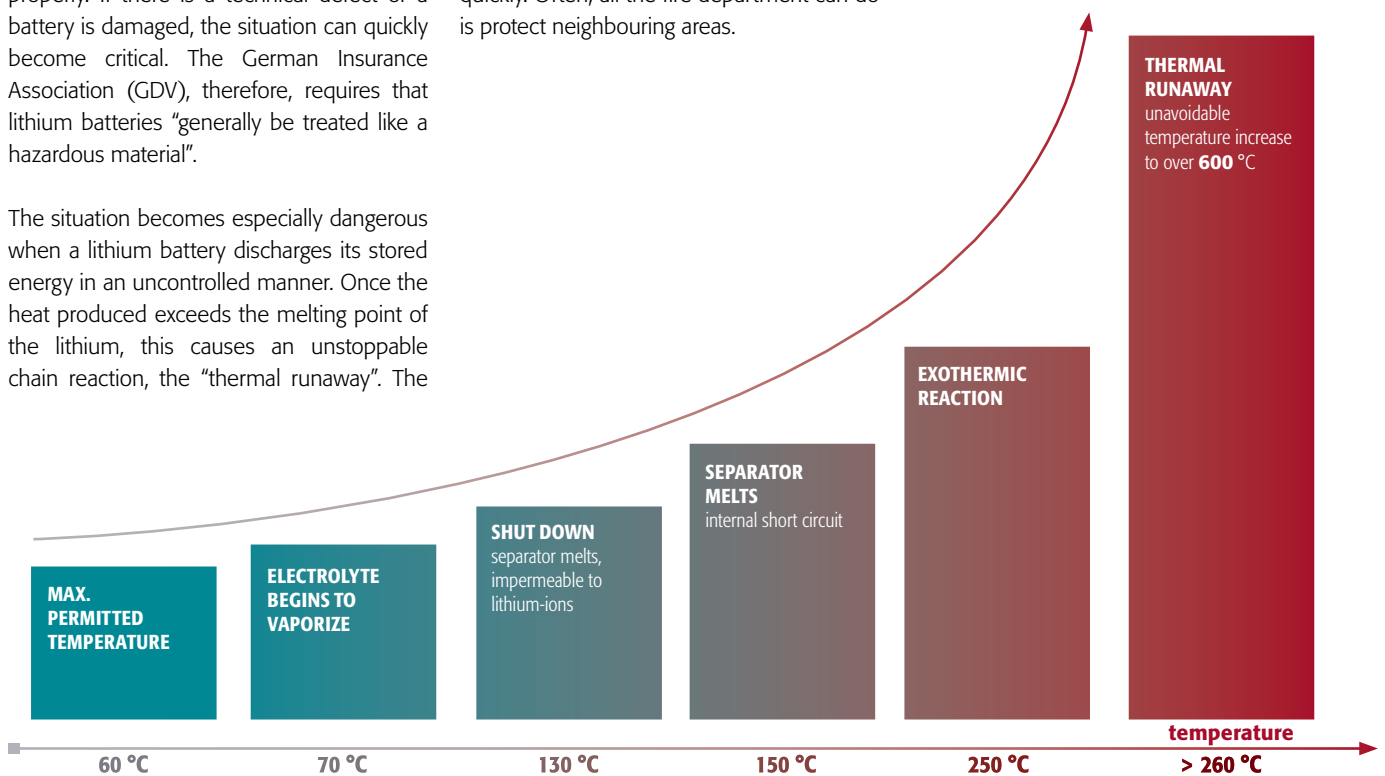
Lithium-ion batteries can cause a fire. Causes include:

MECHANICAL DAMAGE	DEEP DISCHARGE	THERMAL OVERLOAD	ELECTRICAL OVERLOAD
In combination with the high energy density of the battery	Unstable cell	Caused by external heat or energy sources	During charging and discharging
			

In normal operation, using lithium batteries is considered safe. However, according to the VDE this is true only if they are handled properly. If there is a technical defect or a battery is damaged, the situation can quickly become critical. The German Insurance Association (GDV), therefore, requires that lithium batteries “generally be treated like a hazardous material”.

The situation becomes especially dangerous when a lithium battery discharges its stored energy in an uncontrolled manner. Once the heat produced exceeds the melting point of the lithium, this causes an unstoppable chain reaction, the “thermal runaway”. The

battery then burns up in an explosive manner. Such fires with lithium-ion batteries are difficult to manage, and the fire spreads quickly. Often, all the fire department can do is protect neighbouring areas.



SAFETY REGULATIONS FOR MEDIUM POWER CLASS BATTERIES

according to VdS 3103:2019-06 (03)
(Publication of German insurers for loss prevention)



SAFETY REGULATIONS

- ▶ Compliance with manufacturer specifications (technical product data sheets)
- ▶ Protection against battery pole short circuits
- ▶ Protection against mechanical damages
- ▶ Do not expose to high temperatures or heat sources directly or for a long period of time (this includes direct sunlight)
- ▶ Compliance with structural or spatial separation (at least 2.5 m) from other flammable materials if no automatic extinguishing system is available
- ▶ Immediately remove damaged or defective batteries from storage and production areas (interim storage until disposal at a safe distance or in a separate fire-protected area)
- ▶ Exclusive storage of batteries with test certificate in accordance with UN 38.3 (prototypes only in exceptional cases and with risk assessment)
- ▶ Storage in separate fire-resistant areas or in compliance with a safety distance (spatial separation of 5 m)
- ▶ Avoidance of mixed storage with other products which are fire accelerants
- ▶ Monitoring the storage area with a suitable fire alarm system wired to a constantly occupied office
- ▶ If fire extinguishing systems are present: Compliance with information on suitable extinguishing agents in the technical product data sheets



CONCLUSION

**Store and charge lithium-ion batteries
in a safety storage cabinet!**

THE CABINETS AND THEIR FEATURES

When storing lithium-ion batteries, we can differentiate between passive and active storage:

ACTIVE STORAGE

In active storage, lithium-ion batteries or battery packs are charged in a cabinet with a charger or partially discharged (60 - 70%). Heat is generated when a lithium-ion battery charges. If this heat output is too high, a fire may occur, for instance if the lithium battery, the charger or the connection cable is defective. Another major danger is the risk of thermal runaway of lithium-ion batteries, for instance caused by internal short circuits.

CONCLUSION: *The risk increases when lithium-ion batteries are left unattended to charge outside of work hours. We recommend active storage in the asecos BATTERY CHARGE safety storage cabinets.*

ION-CHARGE-90



BASIC

PREMIUM

	BATTERY CHARGE PRO	BATTERY CHARGE	BATTERY CHARGE LOCKER
Fire protection from outside (type 90)	✓	✓	✓
Fire protection from inside	✓	✓	✓
Store	✓	✓	✓
Charge	✓	✓	✓
Socket for connecting chargers	✓	✓	✓
Warning/fire suppression system	✓	✓	✓
Locker system			✓
Integrated technical ventilation	✓		
Fitted for the integration into work benches			

Model from page 12

Model from page 12

Models from page 16

PASSIVE STORAGE

In passive storage, new or used lithium-ion batteries are stored over a certain time period.

TIP: We recommend that new and used lithium-ion batteries are stored separately (different storage levels) in the **BATTERY STORE** or **BATTERY STORE PRO** safety storage cabinets.

ION-STORE-90



BATTERY CHARGE UB

BATTERY STORE PRO

BATTERY STORE



✓ incl. warning and fire suppression system
 ✓ incl. warning system

Models from page 20

Model from page 24

Models from page 24

THE ION-LINE PRO SAFETY CONCEPT

	INCIDENTS	SYSTEM REACTIONS	SUBSEQUENT MEASURES
WARNING MESSAGE	<p>If the interior temperature increases above 50 °C, the warning/fire suppression system triggers a warning message to the central control office.</p> <p>Possible causes:</p> <ul style="list-style-type: none"> • Temperature build-up due to battery charging processes • Ventilation system failure 	<p>Visual and acoustic signal output</p> <ul style="list-style-type: none"> • The warning light (red LED) is activated and permanently illuminated, the function indicator (green LED) goes out • Alarm triggers with slow tone interval <p>The potential-free alarm switch</p> <ul style="list-style-type: none"> • is activated, the alarm is transmitted to the building services management system 	<p>Internal qualified personnel can immediately inspect the system to take any further necessary measures. If the interior temperature decreases below 50 °C once again, the system returns to normal operations, and the visual and acoustic signals are turned off.</p>
ALARM LEVEL 1	<p>Alarm level 1 is triggered when smoke begins to form in the cabinet, as soon as the smoke detector is activated.</p> <p>Possible causes:</p> <ul style="list-style-type: none"> • Smoke detected without simultaneous temperature increase 	<p>Visual and acoustic signal output</p> <ul style="list-style-type: none"> • The warning light (red LED) is activated and permanently illuminated, the function indicator (green LED) goes out • Alarm triggers with medium tone interval <p>The potential-free alarm switch</p> <ul style="list-style-type: none"> • is activated, the alarm is transmitted to the building services management system 	<p>Technicians (such as from the fire department) can immediately inspect the system to take any further necessary measures. If the smoke detector does not detect any further smoke production inside the cabinet, the system can be returned to normal operations by briefly unplugging it from mains voltage.</p>
ALARM LEVEL 2	<p>Alarm level 2 is triggered when the smoke detector is already activated (alarm level 1) and the temperature sensor registers an interior temperature greater than 70 °C</p> <p>Possible causes:</p> <ul style="list-style-type: none"> • Outbreak of fire 	<p>The visual and acoustic signals change to</p> <ul style="list-style-type: none"> • warning light (red LED) switches from continuous illumination to flashing light • the alarm switches to a fast tone interval <p>In the BATTERY CHARGE model, at the same time</p> <ul style="list-style-type: none"> • the technical ventilation is also switched off • power to the outlet strip is turned off <p>The aerosol fire suppression unit</p> <ul style="list-style-type: none"> • triggers 	<p>The overall system can then only be assessed by an authorised asecos service technician and reset to normal operation if possible. At least the fire suppression unit and smoke detector must be exchanged before doing so.</p>



EXPERT TIP: React quickly in case of a fire

With an integrated 3-stage warning/fire suppression system and smoke detector, the cabinets offer a high level of safety for storing and charging lithium-ion batteries.

Any fires which occur inside the cabinet are detected promptly, and employees can be evacuated immediately.

The warning/fire suppression system is also connected to a permanently staffed building services management, ensuring that trained rescue personnel...

- ▶ can be alarmed quickly and be on site in a short amount of time.
- ▶ can initiate further measures immediately after completing an initial assessment of the situation.
- ▶ can transport the cabinet out of the building, for instance. This prevents further major damage to the building, and protects against personal injury.

The cabinets are equipped with a transport base to ensure fast transportation. Cabinets are automatically unplugged from mains supply during transportation. Once the cabinet is outside of the building at a safe location, rescue personnel can identify any further measures necessary.

We recommend an installation at the ground level for the simplified and quick evacuation of the safety storage cabinets!

FORWARDING ALARMS IS EASY WITH OUR OPTIONAL MODULES

Whenever the cabinet is unattended, e.g. at night or on weekends, alarm forwarding is indispensable in an emergency. It is the only way to quickly detect the damage and initiate countermeasures.

MODULE FOR REMOTE SIGNALLING

The module offers an alarm forwarding via the mobile phone network (SMS/call) and is therefore especially suitable for companies and facilities without a central building management system. In an emergency, the immediate alerting of one or several defined persons is triggered.

The module is easily installed on-site by the customer via plug (also suitable for retrofitting) and offers the following functions:

1. five programmable telephone numbers
2. configurable message texts
3. collective alarm in case of an emergency or power failure

A SIM card is required for the initial operation of the module, which must be provided by the customer. Alternatively, the included SIM card (for European and UK use only) can be activated via an online portal.

The remote signalling module is suited for the PRO models, as well as for all BATTERY CHARGE cabinets.

**Order No. EU version 38765
UK version 39221**



RELAY MODULE

By choosing this option, you are opting for alarm differentiation instead of a collective alarm.

The module is easily installed on-site by the customer (also suitable for retrofitting) and differentiates between four different warning and alarm levels:

1. warning message at a temperature above 50° C inside the cabinet
2. alarm level 1 (see page 10)
3. alarm level 2 (see page 10)
4. power failure

Via potential-free alarm contacts, these signals are passed on to a central control centre. With the clear differentiation of the alarm conditions, you can initiate optimally coordinated measures.

The relay module is suited for the PRO models of the ION-LINE.

Order No. 38766



ION-LINE | ION-CHARGE-90

Safe and approved **passive** and **active** storage of lithium-ion batteries in working areas

1

Charging lithium-ion batteries safely in cabinets with 90 minutes fire resistance and outlet strips with earthed sockets ready to use.



2

Cabinet can easily and quickly be evacuated in case of an emergency due to an integrated transport base.



3

PRO model incl. LED display with visual and audible alarm for a quick indication of emergencies without opening the cabinet doors.



4

PRO model with integrated fire suppression system, which automatically triggers in the event of a fire.



5

Smoke detector and temperature sensor (PRO model) for an early fire detection and alarm transmission to the building services management system.



6

PRO model incl. extraction unit for technical ventilation and to avoid heat build-up during the charging process.



7

Optionally available with relay module and module for remote signalling.



8

Perforated shelves (load capacity 25 or 75 kg) to avoid heat build-up during the charging process.



9

Bottom collecting sump is used to catch any leakage which may occur from burning batteries.



ION-CHARGE-90

Fire resistance of 90 minutes from outside to inside (Type 90), type-tested in accordance with EN 14470-1



Fire resistance of 90 minutes from inside to outside in accordance with EN 1363-1



CE compliant





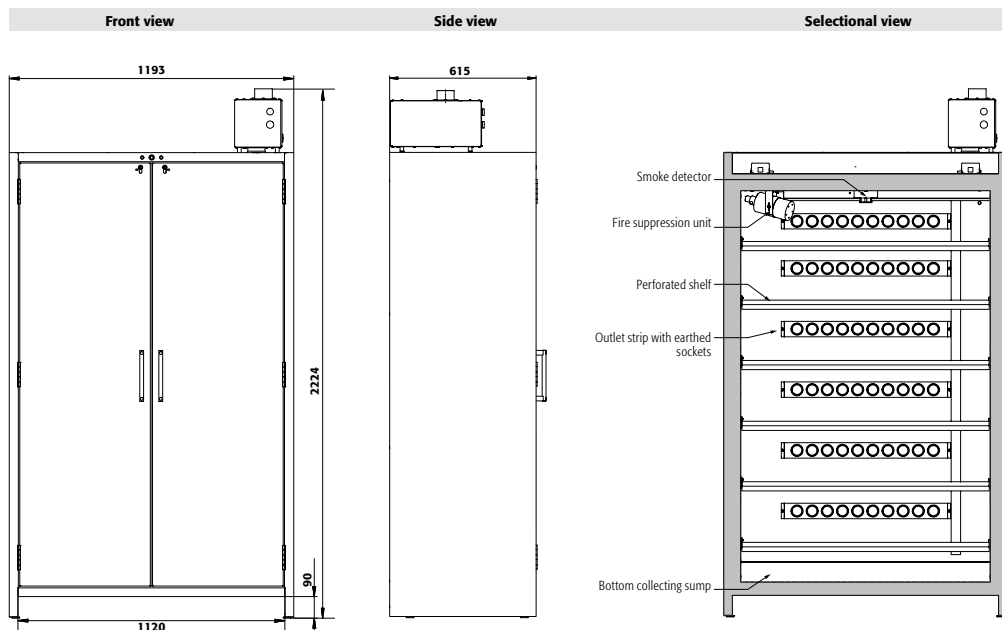
Extended manufacturer warranty of up to 10 years in combination with an asecos service tariff. *Please see page 30 for further information.*



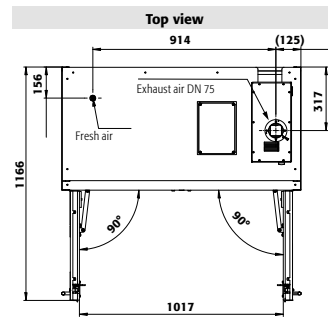
Choose and configure your safety storage cabinet:

Order example 37276-047-38254 + Service [e. g. SER90018]

Safety storage cabinet		Colour	Interior equipment		Order No. EU version	Order No. UK version
Model	Order No.	Order No.	Version	Material		
	IO90.195.120.K3.WDC 37276	047 	3x perforated shelf, 3x socket strip*, 1x bottom collecting sump (V = 33.0 l)	sheet steel powder coated RAL 7035	38080	38254
			4x perforated shelf, 4x socket strip*, 1x bottom collecting sump (V = 33.0 l)	sheet steel powder coated RAL 7035	38081	38255
			5x perforated shelf, 5x socket strip*, 1x bottom collecting sump (V = 33.0 l)	sheet steel powder coated RAL 7035	38082	38256
			6x perforated shelf, 6x socket strip*, 1x bottom collecting sump (V = 33.0 l)	sheet steel powder coated RAL 7035	38083	38257
			Accessories			
Power supply cable 400 V [can only be ordered in combination with the cabinet]				3-phase, fuse 3 x 16 A [each phase 16 A, CEE-plug 3L+N+PE, 6h]	38038	38038
Module for remote signalling				alarm transmission to 5 mobile numbers of your choice	38765	39221
Relay module				potential-free forwarding of up to 4 different alarm modes	38766	38766
Service (for UK only)						
SERVICE						SER90018



Technical data		IO90.195.120.K3.WDC	
External dimensions W x D x H	mm	1193 x 615 x 2224	
Internal dimensions W x D x H	mm	1050 x 522 x 1647	
Weight without interior equipment	kg	424	
Maximum load	kg	600	
Distributed load	kg/m ²	531	
Entry width transport base	mm	1120	
Entry height transport base	mm	90	
Total power rating of the power socket strips			
Fuse (1-phase)	A	16	13
Power max. (1-phase)	kW	3,68	2,99
Fuse (3-phase)	A	3 x 16	3 x 13
Power max. (3-phase)	kW	11,04	8,97




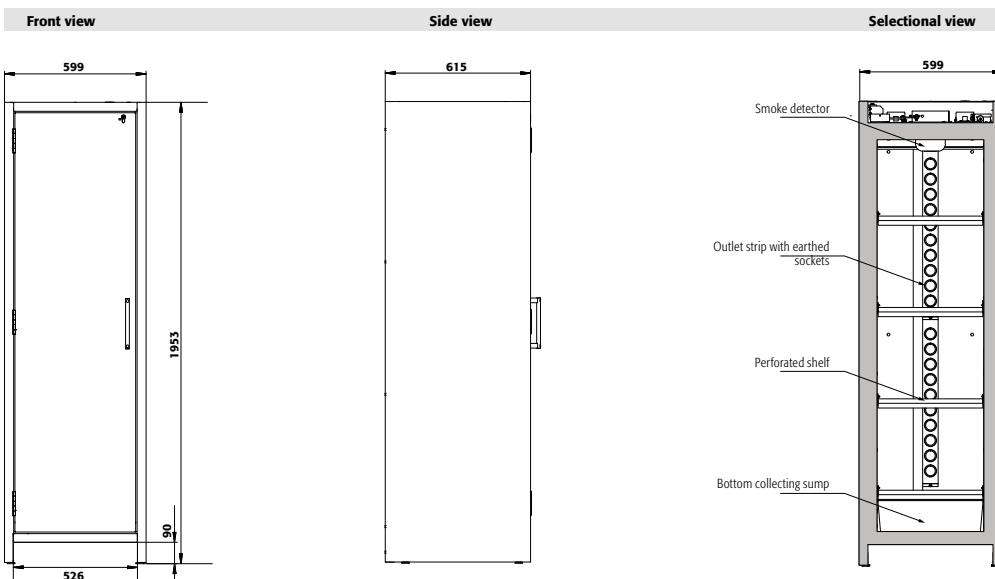
The total power is only valid for Germany. It may differ for other countries.
The fuse protection has to be carried out on site.

BATTERY-CHARGE

For further product information please visit:
www.asecos-configurator.com/ion_line_EN

Order example 38611-047-38630 + Service (e.g. SER90019)

Safety storage cabinet		Colour	Interior equipment		Order No. EU version	Order No. UK version
Model	Order No.	Order No.	Version	Material		
IO90.195.060.K9.WDC	38611	047	4x perforated shelf, 2x socket strip*, 1x bottom collecting sump (V = 11.5 l)	sheet steel powder coated RAL 7035	38628	38630
						
Accessories						
Power supply cable 400 V (can only be ordered in combination with the cabinet)			3-phase, fuse 3 x 16 A (each phase 16 A), CEE-plug 3L+N+PE, 6h		38038	38038
Module for remote signalling			alarm transmission to 5 mobile numbers of your choice		38765	39221
Service (for UK only)						
SERVICE						SER90019



Improper or irregular inspection of safety-related equipment, not only risks the **loss of insurance cover** but also threatens your **personal liability** – you can be held personally responsible for damage or injury.

Increase the **service life** and improve the operational safety of your ION-LINE cabinets with the **asecos original service**.

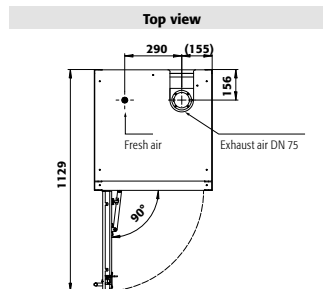
See page 30 for further information.

EXPERT TIP

Lithium-ion batteries with **obvious damage** should generally **not be stored inside buildings**.

Dispose of them **promptly in appropriate disposal containers** suitable for transportation, **outside of buildings**.

Technical data		IO90.195.060.K9.WDC	
External dimensions W x D x H	mm	599 x 615 x 1953	
Internal dimensions W x D x H	mm	450 x 522 x 1647	
Weight without interior equipment	kg	265	
Maximum load	kg	600	
Distributed load	kg/m ²	894	
Entry width transport base	mm	526	
Entry height transport base	mm	90	
Total power rating of the power socket strips		EU version	UK version
Fuse (1-phase)	A	16	13
Power max. (1-phase)	kW	3,68	2,99
Fuse (3-phase)	A	3 x 16	3 x 13
Power max. (3-phase)	kW	7,36	5,98



The total power is only valid for Germany. It may differ for other countries.
 The fuse protection has to be carried out on site.

* Earthed Sockets per Outlet Strip: EU = 10 / UK = 8

ION-LINE | ION-CHARGE-90

Safe and approved **passive** and **active** storage of lithium-ion batteries in working areas

1

Integrated locker system enables a separated storage - protected against unauthorised access - of batteries and devices.



2

Charging lithium-ion batteries safely in cabinets with 90 minutes fire resistance and outlet strips with earthed sockets ready to use.



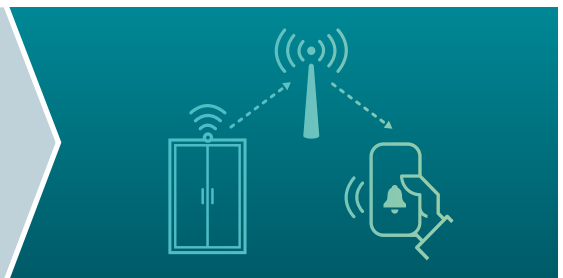
3

Cabinet can easily and quickly be evacuated in case of an emergency due to an integrated transport base.



4

Optionally available with module for remote signalling.



BATTERY CHARGE LOCKER PREMIUM

1

Fire resistant lockers prevent the fire from spreading throughout the cabinet and to further stored batteries. In the event of a fire, individual damaged lockers can be evacuated and replaced.



2

For quick notification of emergencies, each locker is equipped with a temperature sensor and LED display with visual and audible alarm.



BATTERY CHARGE LOCKER BASIC

1

Locker system made of powder-coated sheet steel for the separated storage of batteries, protected from unauthorised access.



2

Built-in smoke detector for an early fire detection and fast alarm transmission to the building management system.



ION-CHARGE-90

Fire resistance of 90 minutes from outside to inside (Type 90), type-tested in accordance with EN 14470-1



Fire resistance of 90 minutes from inside to outside in accordance with EN 1363-1



CE compliant




Extended manufacturer warranty of up to 10 years in combination with an asecos service tariff. *Please see page 30 for further information.*

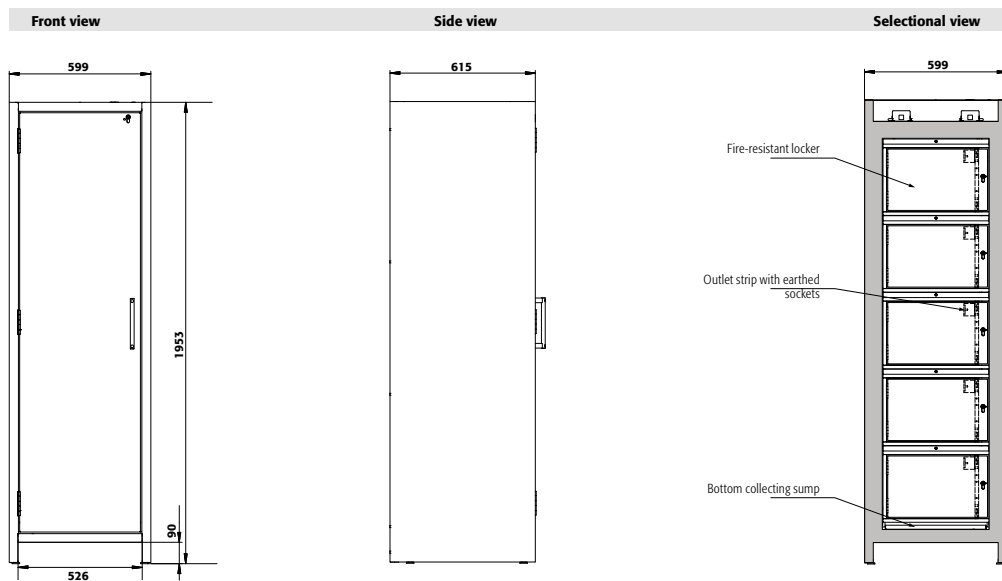


BATTERY CHARGE LOCKER PREMIUM

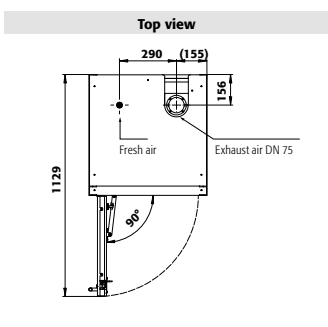
Choose and configure your safety storage cabinet:

Order example 39409-047-39413 + Service [e.g. SER90018]

Safety storage cabinet		Colour	Interior equipment				
Model	Order No.	Order No.	Version	Material	Order No. EU version	Order No. UK version	
IO90.195.060.L8.WDC	39409	047	5x fire-protected lockers incl. outlet strips*, 1x bottom collecting sump (V = 2.0 l)	panel melamine resin-coated	39413	39413	
							
Accessories							
		Module for remote signalling		alarm transmission to 5 mobile numbers of your choice	38765	39221	
Service (for UK only)							
		SERVICE				SER90018	



Technical data		IO90.195.060.L8.WDC	
External dimensions W x D x H	mm	599 x 615 x 1953	
Internal dimensions W x D x H	mm	370 x 440 x 265	
Weight without interior equipment	kg	375	
Maximum load	kg	600	
Distributed load	kg/m ²	894	
Entry width transport base	mm	526	
Entry height transport base	mm	90	
Total power rating of the power socket strips EU version			
Fuse (1-phase)	A	16	
Power max. (1-phase)	kW	3,68	




The total power is only valid for Germany. It may differ for other countries.
The fuse protection has to be carried out on site.

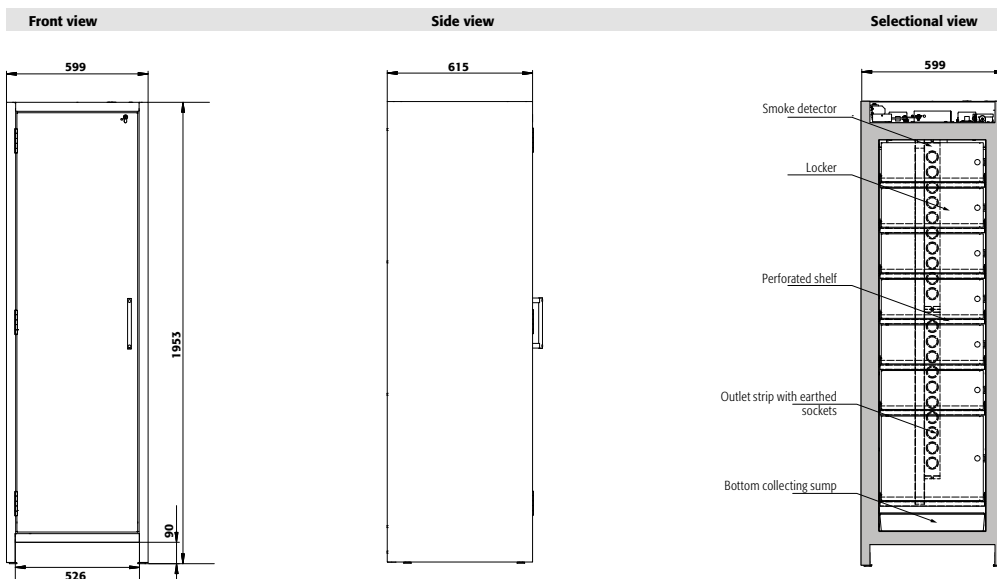
* Each outlet strip with 2 earthed sockets.

BATTERY CHARGE LOCKER BASIC

For further product information please visit:
www.asecos-configurator.com/ion_line_EN

Order example 38611-047-39079 + Service (e.g. SER90019)

Safety storage cabinet		Colour	Interior equipment		Order No. EU version	Order No. UK version
Model	Order No.	Order No.	Version	Material		
IO90.195.060.K9.WDC	38611	047	7x locker with perforated shelf incl. outlet strip* 1x bottom collecting sump (V = 11.5 l)	sheet steel powder coated RAL 7035	39077	39079
						
Accessories						
Power supply cable 400 V (can only be ordered in combination with the cabinet)			3-phase, fuse 3 x 16 A (each phase 16 A), CEE-plug 3L+N+PE, 6h		38038	38038
Module for remote signalling			alarm transmission to 5 mobile numbers of your choice		38765	39221
Service (for UK only)						
SERVICE					SER90019	



Improper or irregular inspection of safety-related equipment, not only risks the **loss of insurance cover** but also threatens your **personal liability** – you can be held personally responsible for damage or injury.

Increase the **service life** and improve the operational safety of your ION-LINE cabinets with the **asecos original service**.

See page 30 for further information.

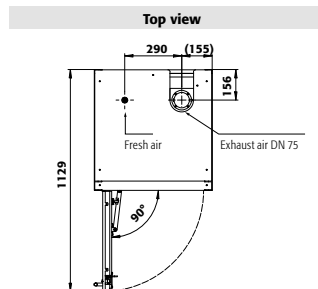
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Maximum load	kg	600	
Distributed load	kg/m ²	894	
Entry width transport base	mm	526	
Entry height transport base	mm	90	
Total power rating of the power socket strips			
		EU version	UK version
Fuse (1-phase)	A	16	13
Power max. (1-phase)	kW	3,68	2,99
Fuse (3-phase)	A	3 x 16	3 x 13
Power max. (3-phase)	kW	7,36	5,98

The total power is only valid for Germany. It may differ for other countries.
 The fuse protection has to be carried out on site.



Safe and approved **passive** and **active** storage of lithium-ion batteries in working areas

1

Charging lithium-ion batteries safely in cabinets with 90 minutes fire resistance and outlet strips with earthed sockets ready to use.



2

Cabinet can easily and quickly be evacuated in case of an emergency due to an integrated transport base and the optionally available castors.



3

The under bench cabinet can be flexibly integrated under worktops due to a height of 78 cm.



4

Smoke detector for an early fire detection and alarm transmission to the building services management system.



5

Optionally available with module for remote signalling.



6

Drawer lockable for protection against unauthorised use.



Fire resistance of 90 minutes from **outside to inside (Type 90)**, type-tested in accordance with EN 14470-1



Fire resistance of 90 minutes from **inside to outside** in accordance with EN 1363-1



CE compliant





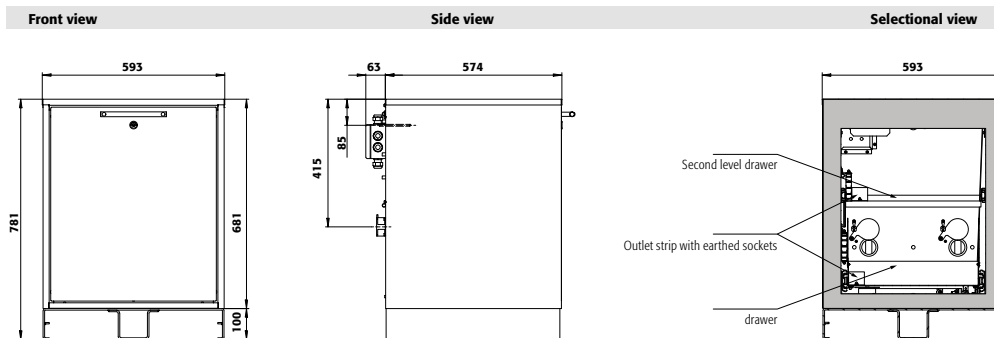
Extended manufacturer warranty of up to 10 years in combination with an asecos service tariff. *Please see page 30 for further information.*



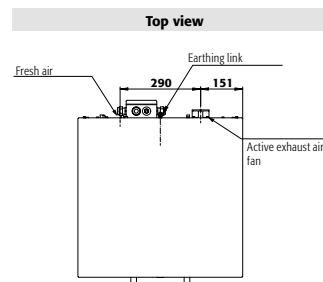
Choose and configure your safety storage cabinet:

Order example 39354-047-39489 + Service (e.g. SER90019)

Safety storage cabinet		Colour	Interior equipment		Order No. EU version	Order No. UK version
Model	Order No.	Order No.	Version	Material		
IO90.078.059.057.U9.S	39354	047	1x drawer (load capacity = 50 kg) incl. socket strip*, 1x second level drawer (load capacity = 25 kg) incl. socket strip*	sheet steel powder coated RAL 7035	39368	39489
						
Accessories						
Module for remote signalling				alarm transmission to 5 mobile numbers of your choice	38765	39221
Transport base with castors (can only be ordered in combination with the cabinet)				sheet steel powder coated RAL 7035	39374	39374
Service (for UK only)						
SERVICE					SER90019	



Technical data		IO90.078.059.057.U9.S	
External dimensions W x D x H	mm	592 x 570 x 780	
Internal dimensions W x D x H	mm	470 x 450 x 580	
Weight without interior equipment	kg	130	
Maximum load	kg	300	
Distributed load	kg/m ²	461	
Entry width transport base	mm	548	
Entry height transport base	mm	95	
Total power rating of the power socket strips			
Fuse (1-phase)	A	EU version	UK version
Power max. (1-phase)	kW	16	13
		3,68	2,99



The total power is only valid for Germany. It may differ for other countries.
The fuse protection has to be carried out on site.



ascos

BATTERY CHARGE

90 MIN

90 MIN

EMERGENCY NOTICES

Safe and approved **passive storage** of lithium-ion batteries in working areas

1

Storing lithium-ion batteries safely in cabinets with 90 minutes fire resistance.



2

Cabinet can easily and quickly be evacuated in case of an emergency due to an integrated transport base.



3

PRO model incl. LED display with visual and audible alarm for a quick indication of emergencies without opening the cabinet doors.



4

PRO model incl. smoke detector and temperature sensor for an early fire detection and alarm transmission to the building services management system.



5

PRO model with integrated fire suppression system, which automatically triggers in the event of a fire.



6

PRO model optionally available with relay module and module for remote signalling.



7

Perforated shelves with a load capacity of 25 or 75 kg.



8

Bottom collecting sump is used to catch any leakage which may occur from burning batteries.



ION-STORE-90

Fire resistance of 90 minutes from outside to inside (Type 90), type-tested in accordance with EN 14470-1



Fire resistance of 90 minutes from inside to outside in accordance with EN 1363-1



CE compliant





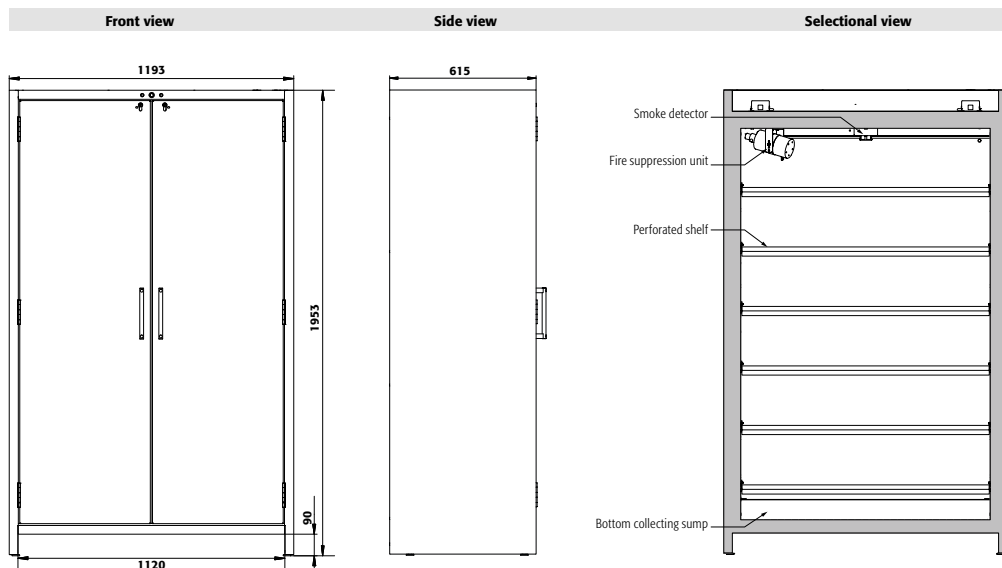
Extended manufacturer warranty of up to 10 years in combination with an asecos service tariff. *Please see page 30 for further information.*



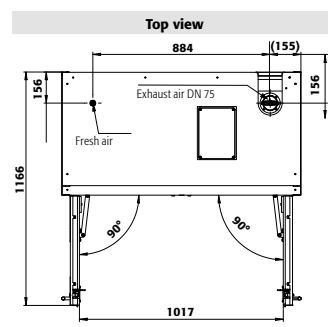
Choose and configure your safety storage cabinet:

Order example 38055-047-37258 + Service [e.g. SER90017]

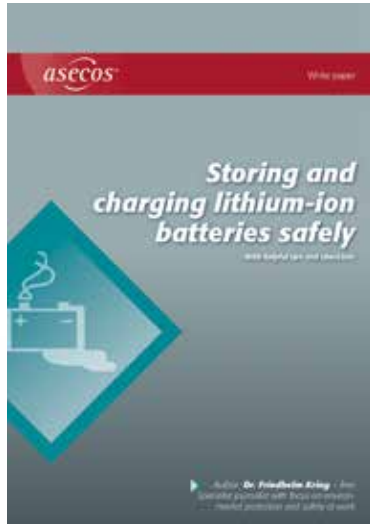
Safety storage cabinet		Colour	Interior equipment			
Model	Order No.	Order No.	Version	Material	Order No. EU version	Order No. UK version
	38055	047 	3x perforated shelf, 1x bottom collecting sump (V = 33.0 l)	sheet steel powder coated RAL 7035	37258	37258
			4x perforated shelf, 1x bottom collecting sump (V = 33.0 l)	sheet steel powder coated RAL 7035	37264	37264
			5x perforated shelf, 1x bottom collecting sump (V = 33.0 l)	sheet steel powder coated RAL 7035	37265	37265
			6x perforated shelf, 1x bottom collecting sump (V = 33.0 l)	sheet steel powder coated RAL 7035	37266	37266
			Accessories			
			Perforated shelf	sheet steel powder coated RAL 7035	38079	38079
			Module for remote signalling	alarm transmission to 5 mobile numbers of your choice	38765	39221
			Relay module	potential-free forwarding of up to 4 different alarm modes	38766	38766
Service (for UK only)						
SERVICE						SER90017



Technical data		IO90.195.120.K2.WDC
External dimensions W x D x H	mm	1193 x 615 x 1953
Internal dimensions W x D x H	mm	1050 x 522 x 1647
Weight without interior equipment	kg	424
Maximum load	kg	600
Distributed load	kg/m ²	531
Entry width transport base	mm	1120
Entry height transport base	mm	90



INCREASING POPULARITY, UNDERESTIMATED RISKS



EXPERT KNOWLEDGE

Our new white paper is your ideal tool for obtaining quick information about lithium-ion batteries.

On 20 pages, Dr. Friedhelm Kring - freelance trade journalist with a focus on environmental protection and occupational safety - explains the essential information on lithium batteries and their hazards in an approachable manner. Tips, practical examples and checklists for the handling of lithium-ion batteries complete the white paper.

Order now!








Visit www.asecos.global to order your free copy of the white paper!

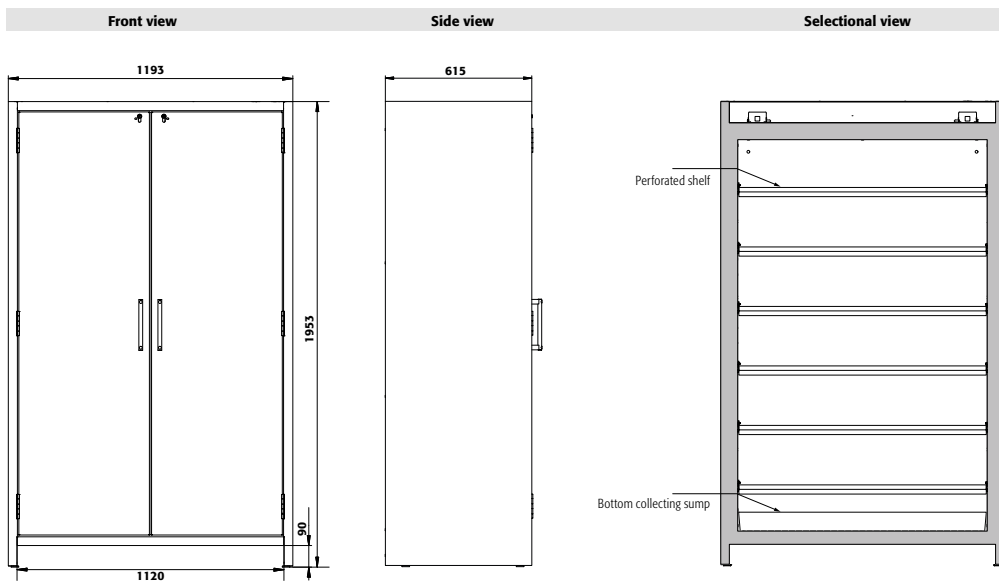


BATTERY STORE

Choose and configure your safety storage cabinet:

Order example 37254-047-37258 + Service (e.g. SER90016)

Safety storage cabinet		Colour	Interior equipment		
Model	Order No.	Order No.	Version	Material	Order No.
	IO90.195.120.K1.WDC 37254	 047	3x perforated shelf, 1x bottom collecting sump (V = 33.0 l)	sheet steel powder coated RAL 7035	37258 
			4x perforated shelf, 1x bottom collecting sump (V = 33.0 l)	sheet steel powder coated RAL 7035	37264 
			5x perforated shelf, 1x bottom collecting sump (V = 33.0 l)	sheet steel powder coated RAL 7035	37265 
			6x perforated shelf, 1x bottom collecting sump (V = 33.0 l)	sheet steel powder coated RAL 7035	37266 
			Accessories		
			Perforated shelf	sheet steel powder coated RAL 7035	38079 
Service (for UK only)					
			SERVICE		SER90016



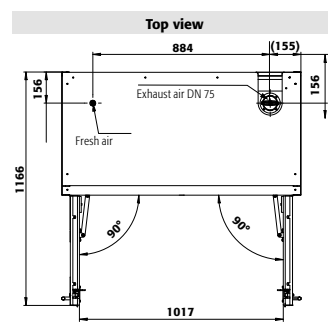
Improper or irregular inspection of safety-related equipment, not only risks the **loss of insurance cover** but also threatens your **personal liability** - you can be held personally responsible for damage or injury.

Increase the **service life** and improve the operational safety of your TOP-LINE cabinets with the **asecos original service**.

See page 30 for further information.









Technical data		IO90.195.120.K1.WDC
External dimensions W x D x H	mm	1193 x 615 x 1953
Internal dimensions W x D x H	mm	1050 x 522 x 1647
Weight without interior equipment	kg	424
Maximum load	kg	600
Distributed load	kg/m ²	531
Entry width transport base	mm	1120
Entry height transport base	mm	90



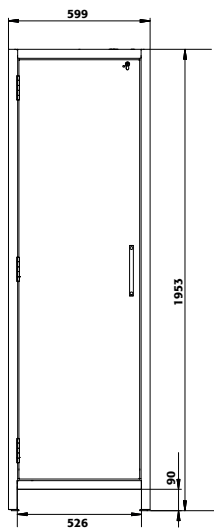
BATTERY STORE

For further product information please visit:
www.asecos-configurator.com/ion_line_EN

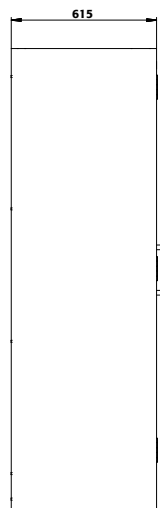
Order example 38067-047-38086 + Service (e.g. SER90016)

Safety storage cabinet		Colour	Interior equipment		
Model	Order No.	Order No.	Version	Material	Order No.
	IO90.195.060.K1.WDC 38067	047 	3x perforated shelf, 1x bottom collecting sump (V = 11.5 l)	sheet steel powder coated RAL 7035	38086 
			4x perforated shelf, 1x bottom collecting sump (V = 11.5 l)	sheet steel powder coated RAL 7035	38087 
			5x perforated shelf, 1x bottom collecting sump (V = 11.5 l)	sheet steel powder coated RAL 7035	38088 
			6x perforated shelf, 1x bottom collecting sump (V = 11.5 l)	sheet steel powder coated RAL 7035	38089 
			Accessories		
Service (for UK only)			SERVICE		SER90016

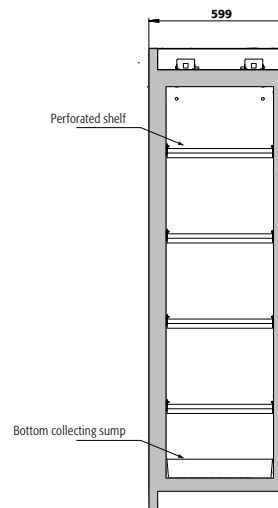
Front view



Side view



Selectional view



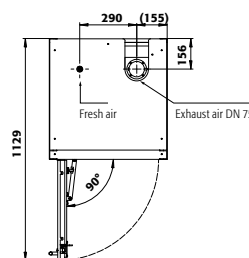
EXPERT TIP

Lithium-ion batteries with **obvious damage** should generally **not be stored inside buildings**.
 Dispose of them **promptly in appropriate disposal containers** suitable for transportation, **outside of buildings**.

Technical data

		IO90.195.060.K1.WDC
External dimensions W x D x H	mm	599 x 615 x 1953
Internal dimensions W x D x H	mm	450 x 522 x 1647
Weight without interior equipment	kg	265
Maximum load	kg	600
Distributed load	kg/m ²	894
Entry width transport base	mm	526
Entry height transport base	mm	90

Top view




OUT AND ABOUT **FOR YOUR SAFETY!**

When it comes to safety, we do not compromise. Improper or irregular inspection of safety-related equipment, not only risks the loss of insurance cover but also threatens your personal liability - you can be held personally responsible for damage or injury.


Therefore anyone who operates technical installations or systems of any kind must ensure that they are always in working order, i.e. they are maintained. This is of course particularly important where human life can be endangered by technical failure - and this is the case with safety-related installations. The objectives of maintenance are:

- ▶ **To increase the service life**
- ▶ **Improvement of operational safety**
- ▶ **Increase of plant availability**
- ▶ **Reduction of disturbances**
- ▶ **Optimisation of operational processes**
- ▶ **Improved cost planning**

Our proposal (for UK only) - tailored to your individual needs:



BASICPlus



The regular inspection according to EC-directives 89/391/EEC

Inspection

- Visual inspection including ventilation test
- Error analysis

Legal Certainty Inspectorate

- Control of stored goods, legal marking, checking the documentation, installation conditions

Immediate maintenance

- Measures to delay wear and tear
- Functional test
- Feedback of maintenance work

Immediate repair

- Replacement of parts to a value of £5 are included in the service.
- Immediate repair in 98% of cases for manufactured products

Signed entry in the asecos service booklet / inspection sticker / inspection record





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Safe storage of hazardous materials

Safe storage of hazardous materials

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