

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

Lithium-ion batteries

EXPERTISE

LITHIUM-ION BATTERIES

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 Schadenverhütung GmbH (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.

* ADR = „Accord européen relatif au transport international des marchandises dangereuses par route“, in english: „European Agreement concerning the International Carriage of Dangerous Goods by Road“

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

With **the models of the asecos ION-LINE and a potential-free alarm contact** 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 +44 1332 415933 or by sending an e-mail to info@asecos.co.uk



Lithium-ion batteries

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 it-self 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: heise.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

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



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.

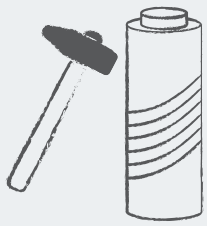

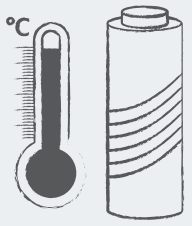
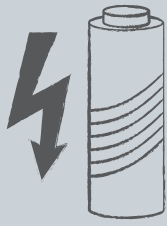
Source: n-tv.de



Lithium-ion batteries

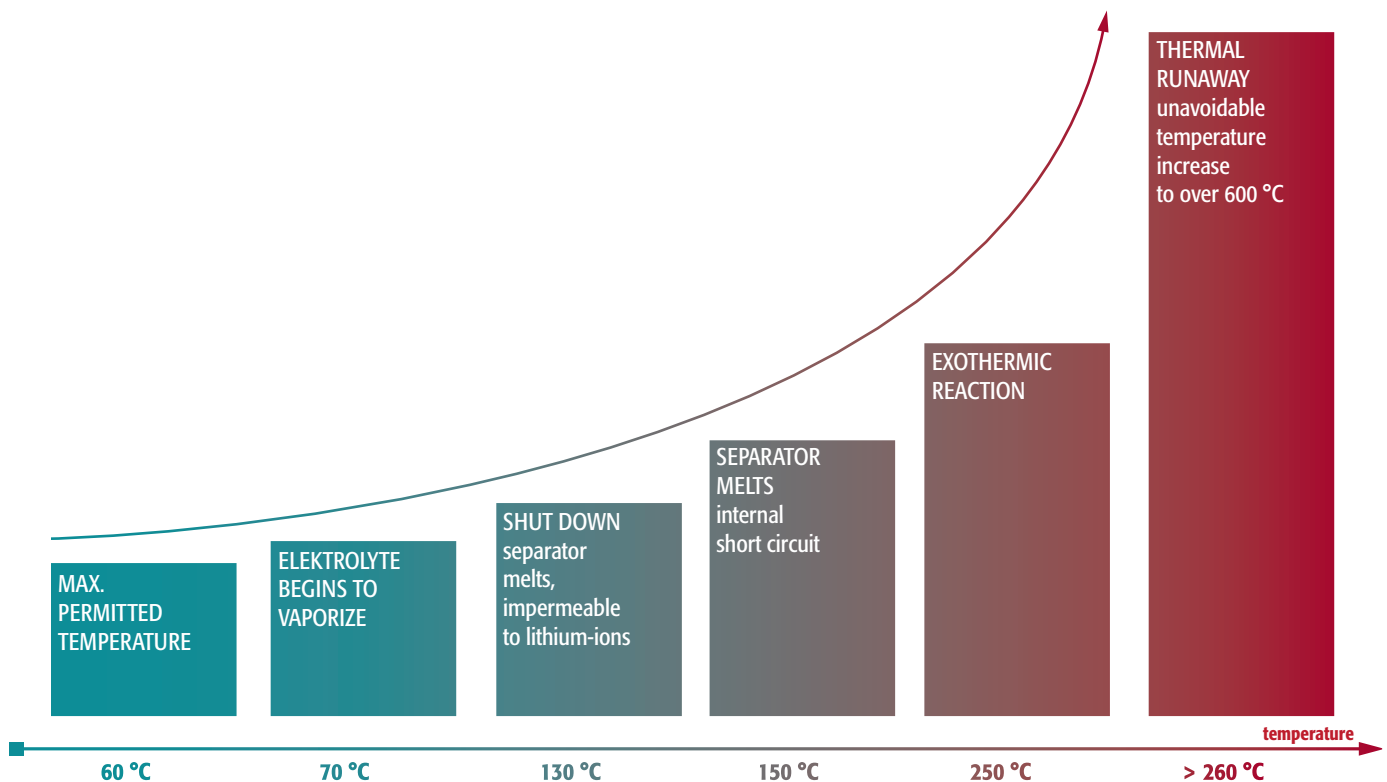
THE HAZARDS — THE THERMAL RUNAWAY

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
			

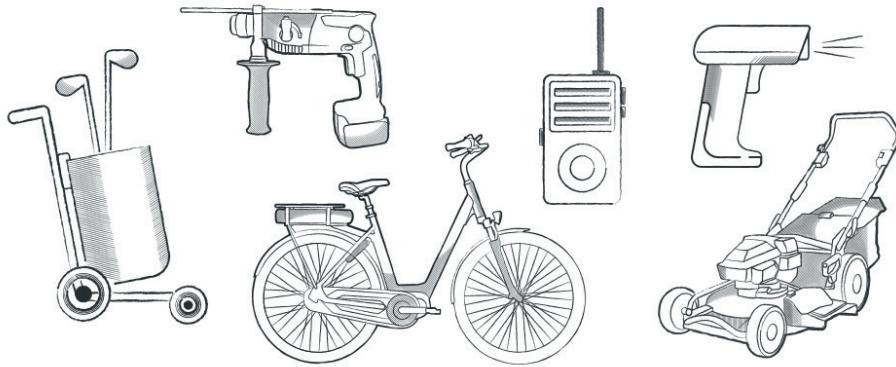
In normal operation, using lithium batteries is considered safe. However, according to the VDE this is true only if they are handled properly. If there is a technical defect or a battery is damaged, the situation can quickly become critical. The German Insurance Association (GDV), therefore, requires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

For the safe active and passive storage of lithium batteries, the ascos ION-LINE offers three different safety levels:

CORE: Comprehensive fire protection with the proven ascos evacuation and alarm forwarding concept.

PRO: Enhanced protection for professional handling of lithium-ion batteries including 3-stage alarm and active fire suppression system.

ULTRA: Enhanced fire protection, active smoke management and extended monitoring providing safety to the highest level in sensitive areas.



ION-ULTRA-90:
Available for pre-order from
February 2024



	ULTRA	PRO CHARGE	PRO STORE
<i>Fire resistance from the outside</i>	✓	✓	✓
<i>Fire resistance from the inside</i>	✓	✓	✓
<i>GS certified fire resistance</i>	✓		
<i>Store</i>	✓	✓	✓
<i>Charge</i>	✓	✓	
<i>Evacuatable from site</i>	✓	✓	✓
<i>Smoke detector</i>	✓	✓	✓
<i>Potential-free alarm contact</i>	✓	✓	✓
<i>Temperature sensor</i>	✓	✓	✓
<i>Fire suppression system</i>	✓*	✓	✓
<i>Smoke-tight</i>	✓		
<i>Alarm differentiation</i>	✓	✓*	✓*
<i>Pressure relief opening in the head section</i>	✓	✓	✓
<i>Locker system</i>			

*optional

from page 14

from page 18

from page 18

No matter which security level you choose, the basic security features such as fire protection from inside to outside and outside to inside, smoke detection and alarm forwarding are offered by all cabinets in the CORE, PRO and ULTRA model lines.

With the CORE and PRO models, you also always have a choice: If you only want to **store** batteries in the cabinet, choose the **STORE variant**. If batteries are to be charged directly in the cabinet, choose the **CHARGE variant**.

			
CORE CHARGE	CORE STORE	CHARGE LOCKER	CHARGE UB
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓		✓	✓
✓	✓	✓	✓
✓	✓		✓
✓	✓	✓	✓
		✓	
✓	✓		
✓*		✓	
from page 22	from page 22	from page 28	from page 28

THE ION-LINE SAFETY CONCEPT

INCIDENTS	Warning MESSAGE 1	ALARM LEVEL 1	ALARM LEVEL 2
	<ul style="list-style-type: none"> Interior temperature >50 °C <p>Possible causes:</p> <ul style="list-style-type: none"> Temperature build-up due to battery charging processes Ventilation system failure 	<ul style="list-style-type: none"> Smoke detector detects incipient smoke development <p>Possible reasons:</p> <ul style="list-style-type: none"> Smoke detection without simultaneous temperature rise 	<ul style="list-style-type: none"> Alarm level 1 has been triggered Interior temperature >70 °C <p>Possible reasons:</p> <ul style="list-style-type: none"> Fire development
SYSTEM REACTIONS	CORE	<ul style="list-style-type: none"> Acoustic signalling with medium tone interval The potential-free switching contact forwards an alarm 	
	PRO	<ul style="list-style-type: none"> The warning light (red LED) is activated and lights up permanently, the function indicator (green LED) goes out. Alarm triggers with slow sound interval The socket strips switch off The potential-free alarm contact forwards an alarm <p>In the PRO CHARGE model</p> <ul style="list-style-type: none"> Switching off the technical ventilation and power strips 	<ul style="list-style-type: none"> The warning light (red LED) switches from steady light to flashing light The alarm switches to a fast sound interval The fire suppression system trips <p>In the PRO CHARGE model</p> <ul style="list-style-type: none"> Switching off the technical ventilation and power strips
	ULTRA	<ul style="list-style-type: none"> The function indicator flashes red Alarm triggers with rapid sound interval The ventilation flaps close The fan and the socket strips switch off. The potential-free alarm contact forwards an alarm 	<ul style="list-style-type: none"> The function indicator flashes red Alarm triggers with rapid sound interval The ventilation flaps close The fan and the socket strips switch off The potential-free alarm contact forwards an alarm The optional fire suppression system trips
SUBSEQUENT MEASURES	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.	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.	The overall system can then only be assessed by an authorised ascos service technician and reset to normal operation if possible. At least the fire suppression unit and smoke detector must be exchanged before doing so.

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 management service, ensuring that trained rescue personnel...

- can be alerted and be on site in a short space of time.
- can initiate further measures immediately after completing an initial assessment of the situation.
- can remove the cabinet from the building, if desired. 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!

ALARM FORWARDING

AS KEY COMPONENT

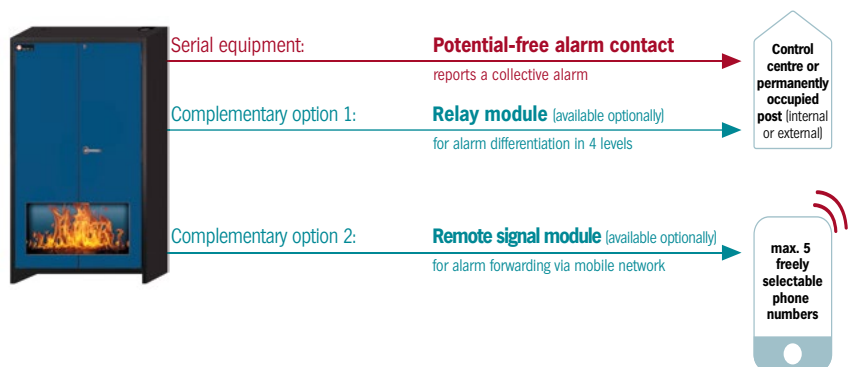
Whenever the cabinet is unattended, especially at night or on weekends, alarm forwarding is indispensable in an emergency. It is the only way to quickly detect the damage and initiate countermeasures.

Manufacturer's recommendation & serial equipment:

POTENTIAL-FREE ALARM CONTACT

All ION-LINE cabinets are equipped ex works with a potential-free alarm contact for on-site alarm forwarding. The connection of this contact to a permanently occupied control centre (internal or external) has to be preferred as the most reliable way of alarm forwarding. Optional modules can be purchased as an alternative or extension.

Alarm forwarding – These are your options:



Complementary option 1:

RELAY MODULE

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

The factory-installed module 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

Complementary option 2:

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.

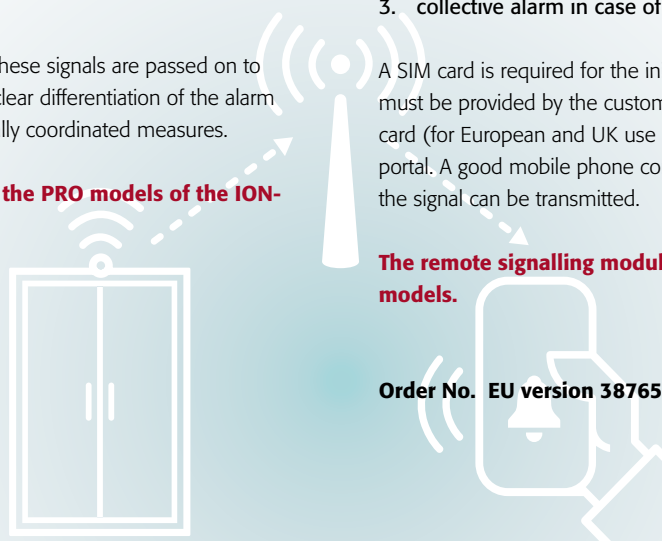
The module is easily installed on-site by the customer via plug (also suitable for retrofitting) and offers the following functions:

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. A good mobile phone connection is necessary to ensure that the signal can be transmitted.

The remote signalling module is suited for all ION-LINE models.

Order No. EU version 38765



ION-LINE ULTRA

Security with letter & seal

The ION-LINE ULTRA has been tested and certified in accordance with the **GS principle EK5/AK4 22-01** for the testing and certification of safety cabinets for the active and passive storage of lithium-ion batteries.

In order to obtain the GS mark, the ION-LINE ULTRA safety cabinet had to undergo extensive inspections and tests. All tests comply with the European requirements for product safety.

ION-LINE ULTRA: Tested in Germany - safe throughout Europe.



You can find out more about GS testing for lithium cabinets in the free brochure **“Safety with Letter & Seal”**, which you can request at www.asecos.co.uk.



ION-LINE | ION-ULTRA-90

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

1

GS-certified fire resistance in accordance with GS test principle EK5/AK4 22-01. Smoke-tight cabinet construction with pressure relief opening in the head section and self-closing, automatically locking doors.



2

In the event of an emergency, the cabinet can be removed from site utilising the integrated transport base.



3

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



4

Optionally equipped with fire suppression system, which automatically triggers in the event of a fire.



5

Smoke detector and two temperature sensors for fire detection and forwarding the alarm to the building management system.



6

Ventilation integrated in the head section to prevent heat build-up during battery charging.



7

Integrated potential-free alarm contact for urgently recommended alarm forwarding. The cabinet can differentiate and pass on different alarm states. Optionally available with remote signalling module.



8

Equipped with height-adjustable shelves (max. load 75 kg) as storage levels. Perforated design to avoid heat accumulation during loading.



9

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





ION-ULTRA-90:
Available for pre-order from
February 2024



- **Fire resistance of 90 minutes** (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



- **GS-tested** (document EK5/AK4 09-10, ProdSG)



- **CE compliant**





Model IO90.195.120.065.WDAC
Order No. 40559-047-41105

Image shows optional accessories



Model IO90.195.120.065.WDAC
Order No. 40559-047-41112

Image shows optional accessories






Model IO90.195.120.065.WDAC
Order No. 40559-047-40888

Image shows optional accessories

Technical data		UK version	EU version
External dimensions W x D x H	mm	1193 x 650 x 1953	1193 x 650 x 1953
Internal dimensions W x D x H	mm	1050 x 565 x 1643	1050 x 565 x 1643
Weight without interior equipment	kg	550	550
Maximum load	kg	600	600
Entry width transport base	mm	1120	1120
Entry height transport base	mm	90	90
Total power rating of the power socket strips			
Fuse (1-phase)	A	13	16
Power max. (1-phase)	kW	2,99	3,68
Fuse (3-phase)	A	3 x 13	3 x 16
Power max. (3-phase)	kW	8,97	11,04

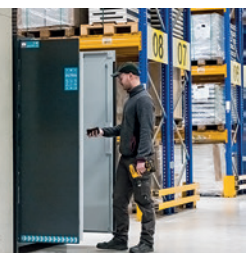
Main features

-  Safe storage and charging of batteries
-  Integrated warning system incl. LED display
-  Optional: fire suppression unit



EASY HANDLING WITH COMFORT

Doors stop for safe and convenient operation and close automatically after 10 seconds.



Model	Body colour	Door colour	Order No.
IO90.195.120.065.WDAC	anthracite grey RAL 7016	gentian blue RAL 5010	40559-047
		anthracite grey RAL 7016	40559-053

Interior equipment packages (can only be ordered in combination with the cabinet)	Material	Order No.
3x perforated shelf incl. outlet strips, 1x bottom collecting sump (V=2,85L)	powder-coated sheet steel	UK version 40888 EU version 40878
4x perforated shelf incl. outlet strips, 1x bottom collecting sump (V=2,85L)	powder-coated sheet steel	41105 41102
5x perforated shelf incl. outlet strips, 1x bottom collecting sump (V=2,85L)	powder-coated sheet steel	41109 41106
6x perforated shelf incl. outlet strips, 1x bottom collecting sump (V=2,85L)	powder-coated sheet steel	41112 40921

Accessories	Order No.
Power supply cable 400 V (can only be ordered in combination with the cabinet)	UK version 38038 EU version 38038
Fire suppression unit with hoop guard	40941 40941
Module for remote signalling	alarm transmission to a mobile of your choice 39221 38765



ION-ULTRA-90:
Available for pre-order from
February 2024



ION-LINE | ION-PRO-90

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

1

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



2

Fire suppression system, which automatically triggers in the event of a fire.



3

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



4

Integrated potential-free alarm contact for strongly recommended alarm forwarding. Optionally available with relay module and module for remote signalling.



5

Extraction unit for technical ventilation and to avoid heat build-up during the charging process.



6

Convenient cabinet entry - open both doors at the same time with just one hand.



7

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



8

Permanent locking of the doors by automatic 2-point locking.



9

In the event of an emergency, the cabinet can be removed from site utilising the integrated transport base.





- **Fire resistance of 90 minutes** (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**



- **Excellent products with special manufacturer warranty**
- **Extended manufacturer warranty of up to 10 years** in combination with an asecos service tariff





Model IO90.195.120.PC.WDC
Order No. 41269-047-41400



Model IO90.195.120.PC.WDC
Order No. 41269-047-41401

Technical data		EU version	UK version
External dimensions W x D x H	mm	1193 x 615 x 2224	1193 x 615 x 2224
Internal dimensions W x D x H	mm	1050 x 522 x 1647	1050 x 522 x 1647
Weight without interior equipment	kg	424	424
Maximum load	kg	600	600
Entry width transport base	mm	1120	1120
Entry height transport base	mm	90	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

Main features



Safe storage and charging of batteries



Warning and fire suppression system



Extraction unit and LED display included

PRO-Model incl. fire suppression unit and LED display for a quick indication of emergencies.



Model	Body colour	Door colour	Order No.
IO90.195.120.PC.WDC	anthracite grey RAL 7016	gentian blue RAL 5010	41269-047

Interior equipment packages (can only be ordered in combination with the cabinet)	Material	Order No.
3x perforated shelf incl. outlet strips, 1x bottom collecting sump (V=2.6L)	powder-coated sheet steel	EU version 41391 UK version 41399
4x perforated shelf incl. outlet strips, 1x bottom collecting sump (V=2.6L)	powder-coated sheet steel	41392 41400
5x perforated shelf incl. outlet strips, 1x bottom collecting sump (V=2.6L)	powder-coated sheet steel	41393 41401
6x perforated shelf incl. outlet strips, 1x bottom collecting sump (V=2.6L)	powder-coated sheet steel	41394 41402

Accessories	Order No.
Power supply cable 400 V (can only be ordered in combination with the cabinet)	EU version 38038 UK version 38038
Relay module	38766 38766
Module for remote signalling	38765 39221

Service	Order No.
Service (UK only)	SER90018



Model IO90.195.120.PS.WDC
Order No. 41429-047-41388



Model IO90.195.120.PS.WDC
Order No. 41429-047-41389

Technical data

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
Entry width transport base	mm	1120
Entry height transport base	mm	90

IO90.195.120.PS.WDC

Main features

- Store batteries safely
- Warning and fire suppression system
- LED display included

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**.



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 **asescos original service**.



ONE-HAND OPERATION

Are you looking for a comfortable storage solution for your Lithium-ion Batteries?

Operate **two doors** with **one hand!**



Model	Body colour	Door colour	Order No.
IO90.195.120.PS.WDC	anthracite grey RAL 7016	gentian blue RAL 5010	41429-047

Interior equipment packages (can only be ordered in combination with the cabinet)	Material	Order No.
3x perforated shelf, 1x bottom collecting sump (V=2.6L)	powder-coated sheet steel RAL 7035	41386
4x perforated shelf, 1x bottom collecting sump (V=2.6L)	powder-coated sheet steel RAL 7035	41387
5x perforated shelf, 1x bottom collecting sump (V=2.6L)	powder-coated sheet steel RAL 7035	41388
6x perforated shelf, 1x bottom collecting sump (V=2.6L)	powder-coated sheet steel RAL 7035	41389

Accessories	Order No.
Relay module	potential-free forwarding of 4 different alarm states 38766
Module for remote signalling	alarm transmission to a mobile of your choice, equipped with EU plug 38765

Service	Order No.
Service (UK only)	SER90017

ION-LINE | ION-CORE-90

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

1

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



2

Convenient cabinet entry - open both doors at the same time with just one hand.



3

Built-in smoke detector for fire detection and forwarding of the alarm to the building management system.



4

Integrated potential-free alarm contact for strongly recommended alarm forwarding. Optionally available with module for remote signalling.



5

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



6

In the event of an emergency, the cabinet can be removed from site utilising the integrated transport base.



7

Permanent locking of the doors by automatic 2-point locking.





- **Fire resistance of 90 minutes** (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**



- **Excellent products with special manufacturer warranty**
- Extended **manufacturer warranty of up to 10 years** in combination with an asecos service tariff





Model IO90.195.060.CC.WDC
Order No. 41302-047-41370



Model IO90.195.060.CC.WDC
Order No. 41302-047-41375

Technical data

IO90.195.060.CC.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
Entry width transport base	mm	526
Entry height transport base	mm	90

Total power rating of the power socket strips

Fuse (1-phase)	A	13
Power max. (1-phase)	kW	2,99
Fuse (3-phase)	A	2 x 13
Power max. (2-phase)	kW	5,98

Main features



Safe storage and charging of batteries



Integrated smoke detector for fire detection



Accessible transport base

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**.



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**.



LOCKER SYSTEM

enables batteries to be stored and charged separately and protected from unauthorised access.

Model	Body colour	Door colour	Order No.
IO90.195.060.CC.WDC	anthracite grey RAL 7016	gentian blue RAL 5010	41302-047

Interior equipment packages (can only be ordered in combination with the cabinet)	Material	Order No.
7x metal locker with perforated shelf incl. outlet strips, 1x bottom collecting sump (V=1.0L)	powder-coated sheet steel	EU version 41373 UK version 41375
4x perforated shelf incl. outlet strips, 1x bottom collecting sump (V=1.0L)	powder-coated sheet steel	41366 41370

Accessories	Order No.
Power supply cable 400 V (can only be ordered in combination with the cabinet)	3-phase, for further properties see technical data table 38038

Service	Order No.
Service (UK only)	SER90019

INDIVIDUAL AND MADE TO MEASURE

With the online tool, you can individually plan your safety storage cabinet including interior equipment, dimensions and design – the desired product is then visualised and a quotation can be requested directly.

Get an overview of the extensive asecos product range and easily find the right cabinet for your needs. Test the configurator now at:

www.asecos-configurator.com



Model IO90.195.120.CS.WDC
Order No. 41426-047-41387



Model IO90.195.120.CS.WDC
Order No. 41426-047-41389



Model IO90.195.060.CS.WDC
Order No. 41419-047-41363

Technical data

		IO90.195.120.CS.WDC	IO90.195.060.CS.WDC
External dimensions W x D x H	mm	1193 x 615 x 1953	599 x 615 x 1953
Internal dimensions W x D x H	mm	1050 x 522 x 1647	450 x 522 x 1647
Weight without interior equip.	kg	424	265
Maximum load	kg	600	600
Entry width transport base	mm	1120	526
Entry height transport base	mm	90	90

Main features

- Store batteries safely
- Integrated smoke detector for fire detection
- Accessible transport base

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**.



Model	Body colour	Door colour	Order No.
IO90.195.120.CS.WDC	anthracite grey RAL 7016	gentian blue RAL 5010	41426-047
IO90.195.060.CS.WDC	anthracite grey RAL 7016	gentian blue RAL 5010	41419-047

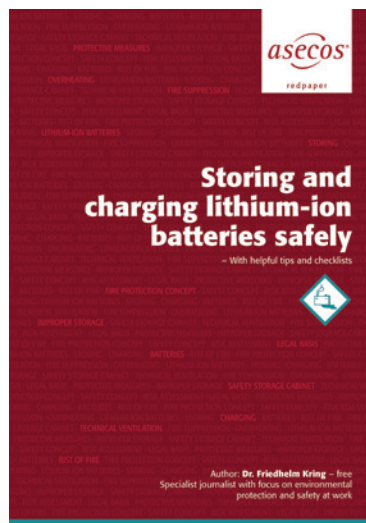
Interior equipment packages (can only be ordered in combination with the cabinet)	Material	Order No.
IO90.195.120.CS.WDC		
3x perforated shelf, 1x bottom collecting sump (V=2.6L)	powder-coated sheet steel RAL 7035	41386
4x perforated shelf, 1x bottom collecting sump (V=2.6L)	powder-coated sheet steel RAL 7035	41387
5x perforated shelf, 1x bottom collecting sump (V=2.6L)	powder-coated sheet steel RAL 7035	41388
6x perforated shelf, 1x bottom collecting sump (V=2.6L)	powder-coated sheet steel RAL 7035	41389
IO90.195.060.CS.WDC		
3x perforated shelf, 1x bottom collecting sump (V=1.0L)	powder-coated sheet steel RAL 7035	41362
4x perforated shelf, 1x bottom collecting sump (V=1.0L)	powder-coated sheet steel RAL 7035	41363
5x perforated shelf, 1x bottom collecting sump (V=1.0L)	powder-coated sheet steel RAL 7035	41364
6x perforated shelf, 1x bottom collecting sump (V=1.0L)	powder-coated sheet steel RAL 7035	41365

Accessories	For cabinet width	Order No.
	1200	41293
	600	41313
Module for remote signalling		39221

Service	Order No.
Service (UK only)	SER90016

Redpaper lithium-ion batteries

INCREASING POPULARITY, UNDERESTIMATED RISKS.



EXPERT KNOWLEDGE

Our new red 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 red paper.

Order now!

Visit www.asecos.co.uk to order your free copy of the red paper!



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

Built-in smoke detector for fire detection and forwarding of the alarm to the building management system.



3

Integrated potential-free alarm contact for strongly recommended alarm forwarding. Optionally available with module for remote signalling.



4

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



5

Fire resistant lockers prevent the spread of fire in the entire locker interior. In case of fire, only the affected locker can be evacuated and replaced.



6

Drawer lockable for protection against unauthorised use.



7

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



8

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



9

Convenient cabinet entry - open both doors at the same time with just one hand.





- **Fire resistance of 90 minutes** (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**



- **Excellent products with special manufacturer warranty**
- Extended **manufacturer warranty of up to 10 years** in combination with an asecos service tariff



ION-LINE | ION-CHARGE-90



Model IO90.078.059.057.U9.S
Order No. 39354-247-39489



Model IO90.078.059.057.U9.S
Order No. 39354-247-39489

Picture shows castors optional

Technical data		EU version	UK version
External dimensions W x D x H	mm	593 x 574 x 780	593 x 574 x 780
Internal dimensions W x D x H	mm	470 x 452 x 582	470 x 452 x 582
Weight without interior equip.	kg	130	130
Maximum load	kg	300	300
Entry width transport base	mm	548	548
Entry height transport base	mm	95	95
Total power rating of the power socket strips			
Fuse	A	16	13
Power max.	kW	3,68	2,99

Main features



Safe storage and charging of batteries



Perfect for installation under work surfaces



Optionally available with castor set for the transport base



MOBILE

Optionally available castors with plinth and integrated locking mechanism, easy moving of the cabinet




Model	Body colour	Door colour	Order No.
IO90.078.059.057.U9.S	anthracite grey RAL 7016	gentian blue RAL 5010	39354-247
Interior equipment packages (can only be ordered in combination with the cabinet)			Order No.
			EU version UK version
1x second level drawer, 1x socket strip, 1x drawer			39368 39489
			powder-coated sheet steel
Accessories			Order No.
			EU version UK version
Castor set for plinth			can only be ordered in combination with cabinet 39374 39374
Module for remote signalling			alarm transmission to a mobile of your choice 38765 39221
Service			Order No.
Service (UK only)			SER90019



Model IO90.195.060.L8.WDC
Order No. 39409-047

Technical data		EU version	UK version
External dimensions W x D x H	mm	599 x 615 x 1953	599 x 615 x 1953
Internal dimensions W x D x H	mm	450 x 522 x 1647	450 x 522 x 1647
Weight without interior equip.	kg	265	265
Maximum load	kg	600	600
Entry width transport base	mm	526	526
Entry height transport base	mm	90	90
Total power rating of the power socket strips			
Fuse	A	16	13
Power max.	kW	3,68	2,99

Main features

-  Safe storage and charging of batteries
-  Fire-protected lockers
-  Temperature sensor for fire detection

FIRE RESISTANT LOCKERS

prevent the spread of fire throughout the entire interior of the cabinet by removing them individually and protect stored batteries from flame spread.

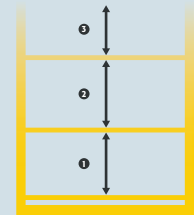


Model	Body colour	Door colour	Order No.
IO90.195.060.L8.WDC	anthracite grey RAL 7016	gentian blue RAL 5010	39409-047
Interior equipment packages (can only be ordered in combination with the cabinet) Material			Order No.
			EU version UK version
5x locker system, 1x socket strip, 1x bottom collecting sump (V=2.0L), 1x, 1x, 6x, 6x			powder-coated sheet steel
			39413 41119
Accessories			Order No.
			EU version UK version
Module for remote signalling			alarm transmission to a mobile of your choice
			38765 39221
Service			Order No.
Service (UK only)			SER90018

Storage heights

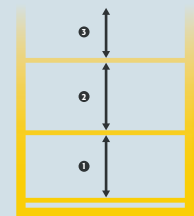
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Shelves/number		6	5	4	3
Distance	⑥ (mm)	250			
Distance	⑤ (mm)	245	300		
Distance	④ (mm)	245	295	380	
Distance	③ (mm)	245	295	375	515
Distance	② (mm)	245	295	375	510
Distance	① (mm)	245	295	375	510



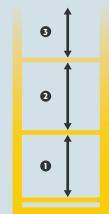
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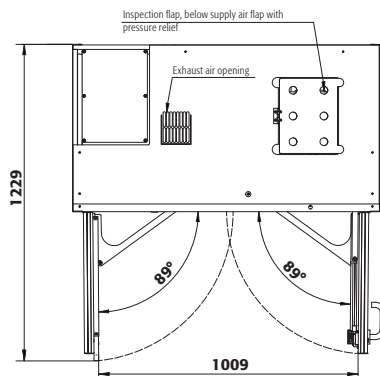
Shelves/number		6	5	4	3
Distance	⑥ (mm)	240			
Distance	⑤ (mm)	235	305		
Distance	④ (mm)	235	300	435	
Distance	③ (mm)	235	300	360	500
Distance	② (mm)	235	300	360	520
Distance	① (mm)	235	300	360	520



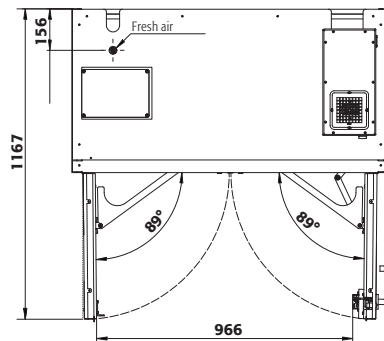
IO90.195.60.XX.WDC

Shelves/number		6	5	4	3
Distance	⑥ (mm)	240			
Distance	⑤ (mm)	235	305		
Distance	④ (mm)	235	300	435	
Distance	③ (mm)	235	300	360	500
Distance	② (mm)	235	300	360	520
Distance	① (mm)	235	300	360	520

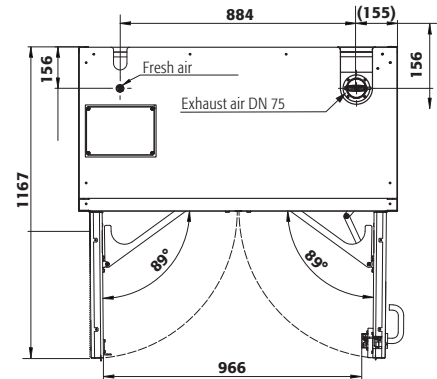




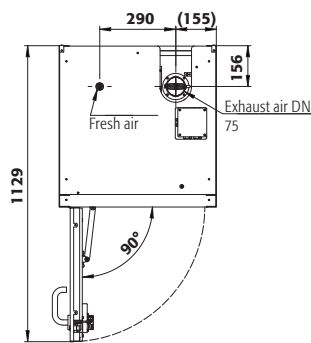
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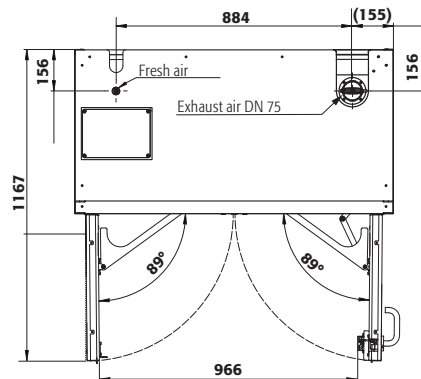
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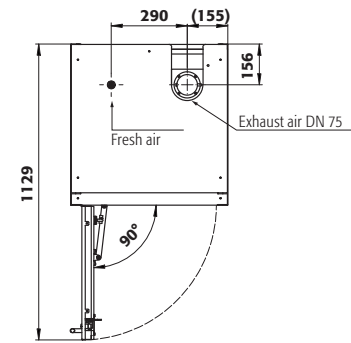
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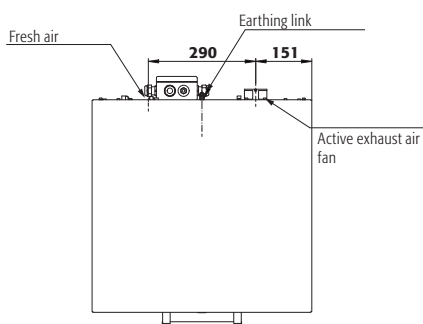
IO90.195.060.CC.WDC
IO90.195.060.CS.WDC



IO90.195.120.CS.WDC



IO90.195.060.L8.WDC



IO90.078.059.057.U9.S

Service and maintenance

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





www.asecos.co.uk

TERMS AND CONDITIONS

Dimensions, weights and illustrations

Technical data such as dimensions and weights shown in the catalogue are approximate values. Illustrations may contain special equipment. Products will be delivered without any decoration material.

Price and delivery information

To obtain binding price information and delivery times, please contact your respective dealer/retail partner.

Customs duty / documents dispatch

In case any country-specific extra costs occur for an order (like for example customs confirmation, express shipping of documents, chamber of commerce (IHK) confirmations, etc.), the charges will be passed on accordingly.

Other information

Furthermore we refer to the general terms and conditions of the asecos GmbH on www.asecos.global and the terms and conditions of your specialised dealer.

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