LITHIUM-ION-BATTERIES SPECIAL

LITHIUM-ACCU'S:

NOT AS INNOCENT AS THEY SEEM

asecos

Lithium-ion batteries are used everywhere nowadays. For example, lithium-polymer batteries (lipo-batteries), can be found in smartphones, laptops, tools and other electronics that we use during our daily work.

The batteries seem harmless, but they certainly involve risks. They have a very high energy density, can ignite spontaneously or become unstable with heat and explode. That is why it is important to store the batteries safely.

THE DANGERS

Lithium-ion batteries can cause fire. This can be the result of thermal or electrical overload or mechanical damage, combined with the high energy density of the battery. In those circumstances the temperature inside the battery continuously increases, ultimately causing harmful gases to escape.

The escaping gases are not only flammable and cause a health risk, they also react violently to water. That makes fighting in case of a fire difficult. An attempt to extinguish it with water is counter-productive and effects similar to explosions will occur. Only an aerosol extinguishing agent or sealing the fire with sand, for example, can interrupt the reaction and have an extinguishing effect.

Li-ion cells oxidize from the inside, whether they are used or not. The rate of oxidation is the strongest when the batteries are fully charged or fully discharged. Additionally, the oxidation rate increases with higher temperatures.

Spontaneous ignition of lithium-ion batteries can be caused by an external calamity, for example a fire in which the batteries become unstable due to overheating and can explode. A fire can also be caused by the lithium-ion battery itself, for example due to damage or an electrical interference resulting in a thermal runaway in the various cells.

TRANSPORT

- Transporting lithium cells and batteries, separately or inside electronic devices, is subject to the requirements of the ADR (UN3481).
- In the Dutch guidelines for hazardous substances (PGS 15), the basic principles concerning storage of packaged, hazardous materials according to the Wabo, the Working Conditions and Regulations Act, and additionally the building code, have been integrated. Lithium-ion batteries are classified in accordance with the European agreement, ADR, class 9

ION CABINETS FOR SAFE STORAGE OF LITHIUM BATTERIES

90 minutes fire resistance

When storing lithium-ion batteries, a distinction is made between passive and active storage.

PASSIVE STORAGE

With passive storage, new or used lithium-ion batteries are stored for a certain period. New and used lithium-ion batteries must be stored separately.

ACTIVE STORAGE

With active storage, lithium-ion batteries or battery packs are charged or partially discharged in the storage room (60-70%) using a suitable charger. When charging a lithium-ion battery thermal energy is generated. If this thermal energy becomes extreme, for example because of a defective lithium battery, charger or connecting cable, it may start a fire. In the worst case scenario your entire company may be destroyed by fire, a risk that is especially high if lithium-ion batteries are charged unattended outside working hours. An important additional risk is the thermal runaway of lithium-ion batteries caused by, for example, internal short-circuit

Q_LINE, type PEGASUS / CLASSIC

Robust and durable safety storage cabinet

- ✓ GS-tested Safety Storage cabinets with a maximum fire resistance for environments with high risk.
- ✓ All models are approved and certified according to EN 14470-1,EN 14727, GS & FM and meet the requirements of the NFPA Code 30, NFPA 1 Fire Code, OSHA.
- ✓ in accordance with EN 14470-1 and TRGS 510 with a fire resistance of 90 minutes (Type 90).
- ✓ Robust construction in a modern design
- ✓ Triple hinged door and scratch and impact resistant surface.
- ✓ Wing doors, self-closing in case of fire.
- ✓ Different interior equipment options available – makes it possible to choose for each individual application the suitable cabinet for the storage of hazardous materials.
- ✓ Protecting seals avoid the exposure of vapors and protect contents from ignition sources.
- ✓ Advanced self-closing ventilation system ensures complete, uniform ventilation of the cabinet interior.
- ✓ Secure cylinder lock with a locking state indicator prevents unauthorized use.
- ✓ Integrated transport base for an easy transport of the cabinet.
- ✓ Adjustable leveling feet for stability on uneven surfaces

Exterior dimensions (WxDxH): 1200 x 615 x 1954 mm
Empty Weight: 430 kg

Time is of the essence in case of a fire – extend your evacuation time to save lives and protect investments.

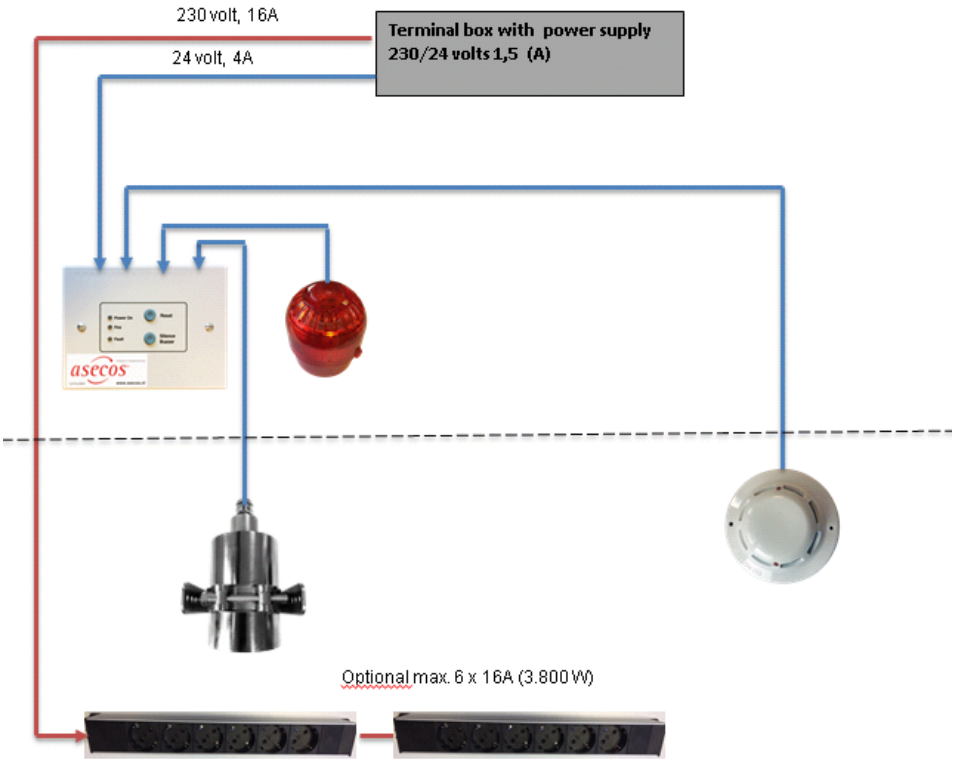
THREE STANDARD VERSIONS OF ION CABINETS

✓ **Safety class 1**
Will be delivered with:
- 1 bottom collection sump
- 3 galvanized storage grids

✓ **Safety class 2**
Will be delivered with:
- 1 bottom collection sump
- 3 galvanized storage grids
- 1 ION automatic Dry Aerosol fire extinguishing agent

- **Safety class 3**
Will be delivered with:
- 1 bottom collection sump
- 3 galvanized storage grids
- 1 ION automatic Dry Aerosol fire extinguishing agent
- 1 optical smoke detector
- 1 slow-whoop with signal lamp
- 1 ION-Fire Protection Controllerwith potential-free contact

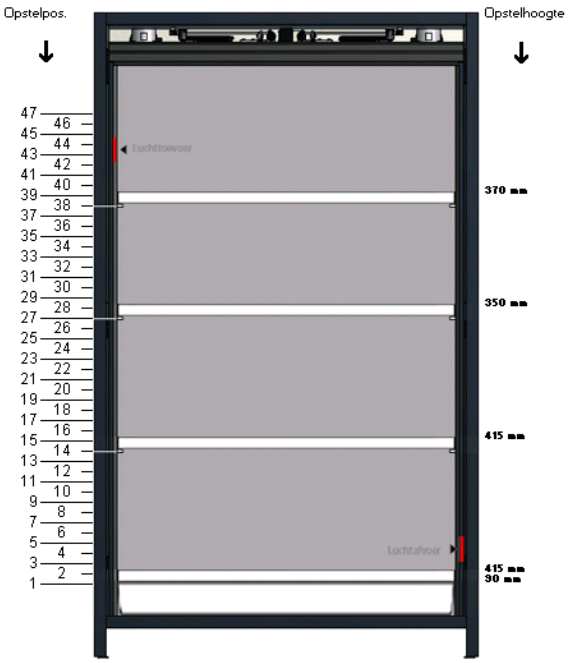
Principale Safety class 3

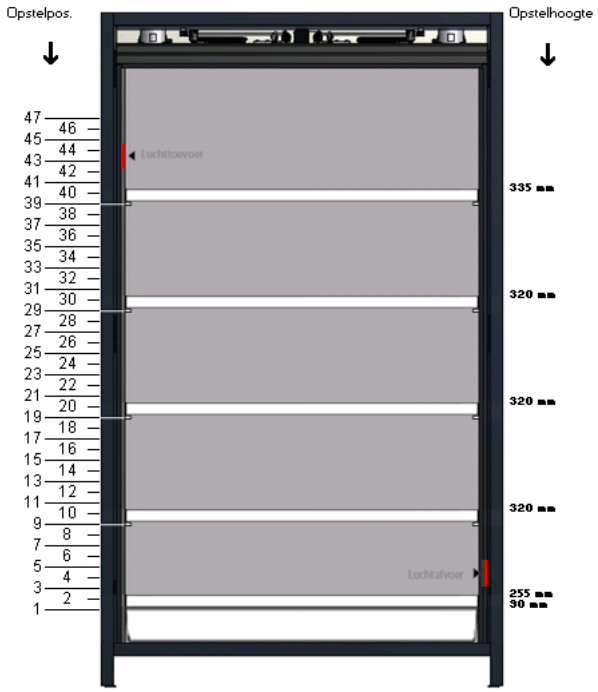


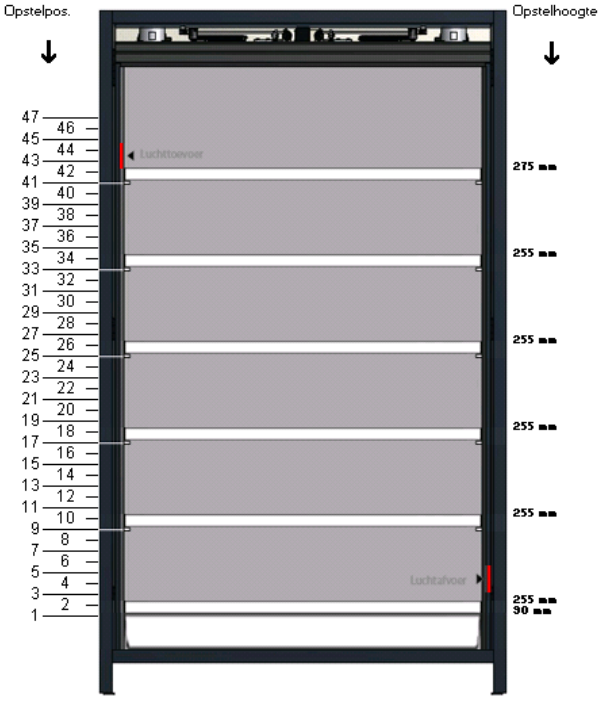
ADITIONAL INTERIORS

For Safety class 1, 2 and 3

- Galvanized storage grids
- Pull-out galvanized storage grids
- Power Distribution Units (6 x 230V or 8 x 230V or 10 x 230V)







ION FIRE EXTINGUISHING COMPONEMENTS

For Safety class 3

- Dry Aerosol Generator
- Slow-Whoop
- Smoke detector
- ION-Fire Protection Controller

Dry Aerosol Generator

Slow-Whoop

Smoke detector

ION-Fire Protection Controller

Specifications ION-Fire Protection Controller

Overall size	: 188 x 132 x 47mm
Construction	: 0.5 mm sheet steel
Finish	: Epoxy powder coat
Colour	: Light grey textured
Operating voltage	: 19 to 30 Volts DC
Standby current	: 18 milliamps
Maximum current	: 1.6 Amps
Fuse rating	: 1.6 Amps Quick Blow
Fault monitoring	: Detection and actuator circuits (open circuit monitored only)