



- Sturdy construction composed of a steel frame and mesh
- Profiled sheet steel roof
- Galvanised with additional powder coating in grey (RAL 7016) for optimum corrosion protection
- Lockable wing door for protection against unauthorised access
- Delivered flat-pack, with instructions for assembly

HSG71 (Technical rules for hazardous substances)
Also considered to be outside storage are those with at least 2 sides open.

The storage areas must not be accessible for general traffic.

The outside walls of storage rooms must be at least fire-retardant.



ORDER AT THE SAME TIME

Stackable rack for storing gas cylinders

Storage stores: up to 2 racks can be stacked on top of each other. This gives 3 levels on top of each other.

Rack dimensions:
 W x D x H (mm):
 1437 x 1038 x 750,
 load capacity: 500 kg



Order no. 115-876-JB



Two stackable racks one on top of another

Access ramp

For easy loading of the gas cylinder store, use the hook-on access ramp in aluminium, W x D (mm): 908 x 933, wheel load 150 kg, suitable for gas cylinder store with base unit



Order no. 216-658-JB

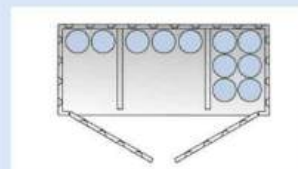
Gas cylinder store model MDC, for up to 66 gas cylinders

- Closed container for the legally compliant storage of pressurised gas cylinders
- For outdoor use
- Ventilation grids in the walls and grid shelf for ventilation from below
- 2-wing door with safety lock
- Individually adjustable retaining devices for gas cylinders
- Delivered ready to use

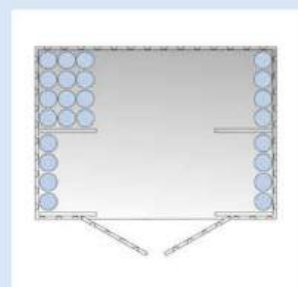
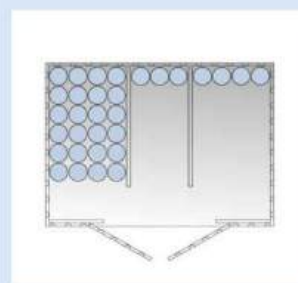


Gas cylinder store MDC 210

Loading example for MDC 210



Loading example for MDC 320



Gas cylinder store MDC 320

On request

Order no. 274-762-JB

Model	MDC 210	MDC 320
Storage capacity for 50 litre gas cylinders	21	66
External dimensions W x D x H [mm]	2162 x 986 x 2350	2986 x 2162 x 2350
Internal dimensions W x D x H [mm]	2000 x 790 x 2000	2830 x 2000 x 2000
Door design	2 wing doors	2 wing doors
Load capacity [kg/m ²]	1000	1000

ORDER AT THE SAME TIME



Steel ramp, hot dip galvanised, height adjustable from 150 to 270 mm, dimensions W x D (mm): 1035 x 900

Order no. 126-133-JB

Gas cylinder store for up to 128 gas cylinders

- For outdoor use
- For the legally compliant storage of pressurised gas cylinder
- Galvanised roofing plate, additionally coated with polyester
- Door opens outwards on the right, door width 1000 mm
- Door fitted with latch and padlock attachment, with padlock
- Modular components supplied separately, easy to assemble
- Galvanized storage table available as an accessory



Storage capacity for 50 litre gas cylinders	48	72	64	96	128
External dimensions W x D x H [mm]	2000 x 1790 x 2200	3000 x 1790 x 2200	2000 x 2290 x 2200	3000 x 2290 x 2200	4000 x 2290 x 2200
Internal dimensions W x D x H [mm]	1940 x 1440 x 2000	2940 x 1440 x 2000	1940 x 1940 x 2000	2940 x 1940 x 2000	3940 x 1940 x 2000
Door design	1-wing	1-wing	1-wing	1-wing	1-wing
Order number	157-502-JB	157-503-JB	157-504-JB	157-505-JB	157-506-JB

Accessories	Storage table			
Storage capacity for 11 kg gas cylinders	10	12	20	26
External dimensions W x D x H [mm]	1500 x 600 x 800	2000 x 600 x 800	3000 x 600 x 800	4000 x 600 x 800
Order number	157-507-JB	157-508-JB	157-510-JB	157-511-JB



Galvanised storage table

Transportable gas cylinders

- Pallet for the storage of empty and full gas cylinders
- Hot dip galvanised, sturdy steel construction
- Can be transported using a forklift or pallet truck
- Safe transport of gas cylinders of various sizes



Crane lifting gas cylinder pallet for up to 12 gas cylinders, Ø 230 mm, with swivel link

Order no. 115-872-JB

Gas cylinder trolley KM Ergo



- For the safe handling of gas cylinders
- Painted, ergonomic gas cylinder trolley
- Makes it easy to change gas cylinders without straining your back
- Simple to use, no heavy lifting
- For 1 gas cylinder x 50 litres (max. Ø 235 mm)
- With securing strap, cylinder holder and safety chain
- Pneumatic tyres (Ø 260 mm)



Order no. 255-319-JB

Liquid gas storage


Fire resistant gas cylinder cabinet, width 600 mm, available as G30 or G90 version.



Fire resistant gas cylinder cabinet, width 900 mm, available as G30 or G90 version.

- For fire-rated storage of gas cylinders in work rooms according to HSG71
- Type-tested according to EN 14470-2
- Optimum fire protection and best possible safety for pressurised gas cylinders
- Maintenance of the maximum permitted temperature increase on the surface of the cylinder valve holder of 50K in accordance with EN 14470-2 Model range G90 are also GS tested
- Air extraction connection (NW 75) fitted in the roof of the cabinet
- Adjustable feet to even out uneven floor surfaces
- Break through points in the roof of the cabinet
- Complete with mounting rails for fittings, gas cylinder support and belt (fittings and gas cylinders not included)
- Easy to install the gas cylinders with the integral folding ramp in chequer plate steel
- Generous internal height to facilitate fitting inside the cabinet
- With earthing connection as standard

Fire resistance	90 minutes	90 minutes	90 minutes	30 minutes	90 minutes	30 minutes
Storage capacity	10 litre gas cylinders	50 litre gas cylinders	50 litre gas cylinders	50 litre gas cylinders	50 litre gas cylinders	50 litre gas cylinders
Number	2	1	2	2	3	3
External dimensions W x D x H [mm]	598 x 615 x 1450	598 x 615 x 2050	598 x 615 x 2050	598 x 616 x 2050	898 x 615 x 2050	898 x 615 x 2050
Internal dimensions W x D x H [mm]	445 x 425 x 1246	445 x 425 x 1858	477 x 425 x 1858	494 x 479 x 1874	745 x 425 x 1858	794 x 479 x 1874
Door design	1-wing	1-wing	1-wing	1-wing	2 wing doors	2 wing doors
Door hinge: both sides						
Order number Grey / yellow	–	–	–	–	165-313-JB	144-520-JB
Order number Grey	–	–	–	–	165-306-JB	117-003-JB
Door hinge: left						
Order number Grey / yellow	210-380-JB	165-310-JB	210-384-JB	144-518-JB	–	–
Order number Grey	210-382-JB	165-304-JB	210-386-JB	117-001-JB	–	–
Door hinge: right						
Order number Grey / yellow	210-381-JB	165-311-JB	210-385-JB	144-519-JB	–	–
Order number Grey	210-383-JB	165-305-JB	210-387-JB	117-002-JB	–	–

All sizes and versions can be supplied within 4-5 weeks.



Fire resistant gas cylinder cabinet, width 1200 mm, available as G30 or G90 version.



Fire resistant gas cylinder cabinet, width 1400 mm, available as G30 or G90 version.

Fire resistance	90 minutes	30 minutes	90 minutes	30 minutes
Storage capacity	50 litre gas cylinders	50 litre gas cylinders	50 litre gas cylinders	50 litre gas cylinders
Number	4	4	4	4
External dimensions W x D x H [mm]	1198 x 615 x 2050	1198 x 615 x 2050	1398 x 615 x 2050	1398 x 615 x 2050
Internal dimensions W x D x H [mm]	1045 x 400 x 1858	1094 x 479 x 1874	1245 x 400 x 1858	1294 x 479 x 1874
Door design	2 wing doors	2 wing doors	2 wing doors	2 wing doors
Door hinge: both sides				
Order number Grey / yellow	165-314-JB	144-521-JB	165-315-JB	144-522-JB
Order number Grey	165-307-JB	117-004-JB	165-308-JB	117-005-JB

ORDER AT THE SAME TIME


- Mounting kit for pipe breakthrough points, incl. 2 Ermeto screw joints, R 3 / 8", for G30 and G90 cabinets

Order no. 117-007-JB

- Height-adjustable holder for mounting on the side wall, for two 10 litre cylinders - for G30 and G90 cabinets, except G90 cabinets for 2x10 l and 2x50 l gas cylinders

Order no. 117-006-JB

Quick to install extraction units for technical ventilation

- Add on without air surveillance

Order no. 129-345-JB

- Add on with air surveillance

Order no. 136-799-JB



TIP: For a 120 times air exchange, which is needed for example when storing toxic gases in the cabinet, use the radial fans on

See page
146

Fire-rated gas cylinder store GF and GFT, for up to 48 gas cylinders

For the legally compliant storage of gas cylinders in accordance with HSG71.

- Stable steel frame construction in blue (RAL 5010).
- Can be sited directly next to a building wall without a safety distance
- Natural ventilation.
- Roof canopy offers weather protection.
- With safety chain for storage of a single cylinder.
- Delivered ready assembled.
- Incl. crane eyes.



Fire-rated gas cylinder store GF 17.9 for up to 12 cylinders

On request

Order no. 274-765-JB



Lockable doors, either as mesh or fire-rated versions ensure that unauthorised persons have no access



With safety chain as standard for practical storage of individual cylinders

ORDER AT THE SAME TIME



Base in galvanised stud plate with integral ramp
Protects your gas cylinders from damp and weather even at ground level

Order no. 149-035-JB

Loading example

Model	GF 17.9	GF 17.15	GF 33.9	GF 33.15	GFT 17.9	GFT 17.15	GFT 33.9	GFT 33.15
Features	With mesh door				With fire-rated door			
Storage capacity for 50 litre gas cylinders	12	24	24	48	12	24	24	48
External dimensions W x D x H [mm]	1731 x 845 x 2360	1731 x 1525 x 2360	3353 x 845 x 2360	3353 x 1525 x 2360	1731 x 845 x 2360	1731 x 1525 x 2360	3353 x 845 x 2360	3353 x 1525 x 2360
Door design	1-wing		2 x 1-wing		1-wing		2 x 1-wing	

*Transport dimensions differ from the dimensions of the body



EVERYTHING FROM ONE SOURCE!



Service & maintenance from the manufacturer 01952 811 991

>> www.denios.co.uk/services <<

1

HAZARDOUS MATERIAL STORAGE



Fire-rated gas cylinder store GF 33.15, base and gas cylinder pallet available as an option.

ORDER AT THE SAME TIME

Stackable rack for storing gas cylinders

- Stable steel frame construction with hot dip galvanised grid as loading surface
- Stackable twice, giving 3 levels on top of each other
- Delivered flat-pack for self-assembly
- Load capacity: 500 kg



Order no. 115-876-JB



Two stackable racks one on top of another



Fire-rated gas cylinder store GFT 33.9 for up to 24 gas cylinders. The fire-rated doors can be locked and offer protection from unauthorised access.

On request

Order no. 274-770-JB



VERSATILITY

FOR PERFECT PROTECTION

DENIOS manufactures safe and environmentally friendly storage technology in steel, as well as heat chambers and fume cupboards for process technology. Products are designed to suit the storage or process medium and the associated activities. Based on standardised systems, customers can choose individual elements from our wide range of equipment. Custom solutions can be created in all product areas. You'll benefit from excellent customer support - on site where needed.

- » GUIDES
- » ARTICLES
- » FAQ
- » INTERVIEWS
- » CHECKLISTS
- » VIDEOS
- » WHITEPAPERS
- » AND MUCH MORE!



»»» www.denios.co.uk/magazine «««

GUIDES

HAZARDOUS MATERIALS STORES VS FIRE-RATED STORES

If there is an **increased fire risk** and safety distances can be used to separate spaces, our **hazardous materials stores** are ideal. They are DIBt-approved and available with additional insulation as an option. A high **fire risk** usually requires fire-resistant partitioning of the store. Stay safe with our **fire-rated stores**. They are also DIBt-approved and have certified fire protection.



www.denios.co.uk/hazmat

GUIDES

STORE TEMPERATURE-SENSITIVE HAZARDOUS SUBSTANCES SAFELY

Insulated hazardous material stores from DENIOS make the ideal choice for the frost-free storage of temperature-sensitive hazardous substances. The proven steel frame design is covered with special panels. Reliable air conditioning technology protects heat or frost-sensitive stored goods. The systems can be fitted with better heating, cooling equipment or air conditioning systems if required.



www.denios.co.uk/frost-free-storage

EQUIPMENT

EQUIPMENT FROM DENIOS – FOR COMPREHENSIVE PROTECTION

At DENIOS you'll find the right equipment for every task. For example, for system-related and organisational fire protection: alarms, extinguishing systems, leak detection, digital access control or video surveillance. For better sustainability: green roofs or solar panels. For better control: digital condition monitoring.



www.denios.co.uk/equipment

EXPERTISE

SERVICE FROM DENIOS

Regular maintenance protects the value of your investment and ensures the safety and protection of your employees and the environment. For this purpose we have experienced, qualified service technicians who are familiar with all the relevant laws and certifications. They'll remind you of maintenance dates and support you in fulfilling your obligations as an operator, so that your hazardous material stores are always legally compliant and safe. Discover our range of services and find out what we mean when we talk about DENIOS Service. We're your partner at your side, offering comprehensive and worry-free support.



www.denios.co.uk/service-warranty



HAZARDOUS MATERIALS STORES FROM DENIOS

YOUR FIRST CHOICE

Your storage capacity requirements (small containers / drums / IBCs) determine the basic shape of the hazardous materials store (walk-in / shelving / compact). The medium to be stored and the installation conditions lead to the choice of either a hazardous materials store with optional thermal insulation or a hazardous materials store with fire protection. Thanks to numerous configuration options, our standardised hazardous materials stores can be tailored to your individual needs. A customised solution with project planning is an option at any time. Just get in touch.

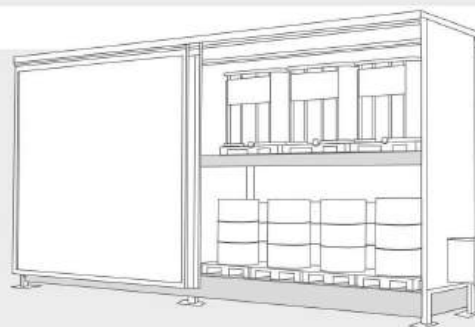
Walk-in.

If you want to store small containers, a walk-in hazardous materials store is the optimal solution. DENIOS models ensure a high level of user comfort: the entry height is only 150 mm. The built-in shelves allow the contents to be conveniently and clearly arranged. If additional drums or larger containers need to be stored, the floor can also be used as a storage area.



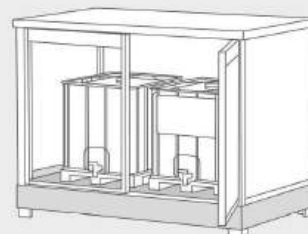
Shelving

If larger quantities of hazardous substances need to be stored on Euro/chemical pallets, in drums or IBCs, a storage container with shelving is the best choice. The compartment dimensions and load capacities of the various versions are optimally designed for the size of the stored goods. Storage containers with shelving can be loaded with a hand-operated electric forklift. Extra-deep designs offer maximum storage capacity for loading from both long sides.



Compact.

Due to the small space requirement, the compact hazardous materials store is often used close to production or the workplace. It allows direct access to IBCs, drums or small containers and can also be used as a dispensing or filling station.



Hazardous materials stores with thermal insulation.

Hazardous materials stores with thermal insulation are used for frost-free storage and heat protection of temperature-sensitive hazardous materials. The proven steel frame design is covered on all sides with insulating panels. Reliable air conditioning technology protects the sensitive stored goods. Systems can be fitted with better heating, cooling equipment or air conditioning systems if required.



Hazardous materials stores with fire protection.

You can safely store flammable liquids in DENIOS fire-rated stores, even if there is no building clearance. The double frame construction, which serves as an enclosure for high-quality fire protection insulation (construction material class A), ensures fire resistance from the inside and outside for up to 120 minutes in the event of a fire.





1

Hazardous materials store SC-K

Precisely fitting storage of drums and IBCs: With the K models, IBCs, e.g. with water-polluting aromas and additives, are stored safely and space-saving in an insulated environment. The storage temperature is approx. 5 to 20 °C.

HAZARDOUS MATERIAL STORAGE



SC 2K 715



Hazardous materials store without fire protection

1

DIBt EN 1090

HAZARDOUS MATERIAL STORAGE



Double level storages CS

Order no. 274-650-JB



SC-M

Order no. 274-858-JB



SC-K

Order no. 265-969-JB

On request

The product illustrations show optional equipment. We would be happy to create a custom product configuration for you.

Hazardous materials store SC-K

Storage capacity for up to 12 IBCs or 40 drums

Hazardous materials storage container with shelving CS is the most flexible room system from DENIOS. Different designs allow the selection of the optimum storage size and compartment dimensions. Each version has an insulated variant. Your hazardous materials store can be adapted to your individual needs. The design of the CS is legally compliant and optimally aligned with your protection concept: with an integral type-approved spill pallet for containing leaked liquids and structural protection against the effects of the weather if located outside.



DIBt

With General Technical Approval valid throughout Germany from the German Institute for Civil Engineering (DIBt) for the storage of liquids in all water hazard classes.

EN 1090

Compliance with EN 1090 for manufacturers of load-bearing structures in steel.

Product description

- Storage of larger quantities of hazardous substances in IBCs.
- Version for temperature-sensitive materials with thermal insulation made of 60 mm A material (B material also possible for SC 2K 415 + SC 2K 715).
- Various designs according to substance properties (e.g. frost-free for temperature-sensitive substances) and extra deep version available.
- Water-legally tested, fully galvanised 3 mm sump(s) in the lower storage level.
- Storage levels fitted with removable, hot-dip galvanised grids (max. load 1,250 kg/m²).
- 110 mm ground clearance to ensure underclearance with hand-operated electric forklift.
- Long-lasting corrosion protection thanks to fully galvanised base material and high-quality 2-component paint (RAL 9002, grey white, or RAL 5010, gentian blue).
- Sliding gates in modern sectional design.
- Safety lock to protect against unauthorised access.
- Targeted roof drainage.
- European product concept: higher availability and a uniform product and service offering for internationally operating customers; country-specific legislation is taken into account.

STORAGE OF FLAMMABLE MEDIA

When storing flammable substances, the following must be observed: constructive equipotential bonding by earthing the steel frame construction and technical ventilation.

Take advantage of our expert advice: 01952 811 991

Technical data

Model	SC 2K 215	SC 1K 415	SC 2K 415	SC 1K 515	SC 2K 515	SC 1K 715	SC 2K 715
Storage capacity IBC / CP / EP / Drum	4 / 4 / 6 / 16	3 / 2 / 4 / 10	6 / 4 / 8 / 20	4 / 4 / 6 / 16	8 / 8 / 12 / 32	6 / 4 / 8 / 20	12 / 8 / 16 / 40
Containment volume [L]	1280	1330	1180	2 x 2640	2 x 2640	2 x 2720	2 x 1395
External dimensions W x D x H [mm]*	3083 x 1635 x 3697	3763 x 1635 x 3383	3763 x 1635 x 3697	5903 x 1733 x 3383	5903 x 1733 x 3697	7263 x 1733 x 3383	7263 x 1733 x 3697
Bay dimensions W x D x H [mm]	2700 x 1330 x 1350	3380 x 1330 x 2570	3380 x 1330 x 1350	2700 x 1330 x 2570	2700 x 1330 x 1350	3380 x 1330 x 2570	3380 x 1330 x 1350
Weight* [kg]	1200	1150	1400	1950	2400	2200	2750

*Actual container dimensions will vary depending on choice of door type and optional equipment.

Note:

Dimensions and weights are approximate and may vary due to optional equipment. Technical changes reserved.

Structural analysis

The structural calculations for the technical room system are based on Eurocode 3 (EN 1993). The loads on the structure are measured according to Eurocode 1 (EN 1991-1-3) for a characteristic wind load $q_k, w = 0.585 \text{ kN/m}^2$ and a ground snow load $s_k = 2.5 \text{ kN/m}^2$. The structure is also designed for earthquake zone 3 according to EN 4149, EN 1998-1:2004.

Roof drainage

The roof drainage counteracts loads from standing water on the roof. The rainwater is directed via the roof profile to the two short sides of the room and drained off via the rear.

EQUIPMENT OPTIONS

Equipment plays a decisive role in the individual product configuration. We will be happy to discuss with you whether you need a motion sensor or a signal lamp. Our experts will design a customised solution with you on site. You can find an overview of other equipment options on our website.



www.denios.co.uk/equipment



External lighting with motion sensor.



Alarm signaling by signal lamp (visible) and horn (audible).

Hazardous materials store SC-H

Storage capacity for up to 48 drums or 12 IBCs

The convenient compartment dimensions of the H series allow mixed storage of drums and IBCs on pallets with a maximum load of 1,250 kg/m². Insulated versions are also possible (material thickness 60 mm, A-material).



SC 2H 815

- Maximum flexibility for mixed storage of 205 litre drums and IBCs.
- Approval: whole system has received General Technical Approval No. Z-38.5-120 valid throughout Germany from the German Institute for Civil Engineering (DIBt) for the storage of liquids in all water-polluting classes.
- Different versions according to fabric properties (e.g. frost-free for temperature-sensitive fabrics) and extra-deep version available.
- When storing flammable substances, the following must be observed: Compliance with safety distances - Equipotential bonding / earthing - Technical ventilation during active storage.
- Storage levels: fitted with removable, hot-dip galvanised grids (shelf load: up to 5,500 kg).
- Base: tested, single-piece spill pallet with easily removable hot-dip galvanised grids. The store has 100 mm clearance for access underneath using a hand operated electric stacker.
- External cladding: galvanised components with two layers of paint give long lasting protection.

Model	SC 2H 414	SC 2H 814
Storage capacity IBC / CP / EP / Drum	6 / 6 / 8 / 24	12 / 12 / 16 / 48
Containment volume [L]	1160	2 x 2360
External dimensions W x D x H [mm]*	4138 x 1738 x 3699	8303 x 1735 x 3699
Bay dimensions W x D x H [mm]	3900 x 1330 x 1350	3900 x 1330 x 1350
Weight* [kg]	1600	3135

*Actual container dimensions will vary depending on choice of door type and optional equipment.

Note:

Dimensions and weights are approximate and may vary due to optional equipment. Technical changes reserved.

DENIOS GUIDE TO THE COMBINED STORAGE OF HAZARDOUS SUBSTANCES

Hazardous substances are classified into storage classes. This also determines which substances you may store together. The DENIOS guide "Combined storage of hazardous substances in accordance with HSG71" answers your most important questions.

Hazardous materials store SC-M

Storage capacity for up to 18 IBCs or 60 drums

Extra-high, extra-deep - the SC hazardous material storage system in the M version represents more capacity and individual adaptability. For example, insulated versions are available for frost-free storage (SC 1 M: 60 mm A-/B-material, SC 3 M 815: special version with 100 mm A-material). In accordance with the applicable safety distances and technical regulations, you can store flammable substances as well as water-polluting substances in the models of the M series.



- With General Technical Approval valid throughout Germany from the German Institute for Civil Engineering (DIBt) for the storage of liquids in all water hazard classes.
- Different versions according to fabric properties (e.g. frost-free for temperature-sensitive fabrics) and extra-deep version available.
- When storing flammable substances, the following must be observed: Compliance with safety distances - Equipotential bonding / earthing - Technical ventilation during active storage.
- Storage levels: fitted with removable, hot-dip galvanised grids (shelf load: up to 5,500 kg).
- Base: tested, single-piece spill pallet with easily removable hot-dip galvanised grids. The store has 100 mm clearance for access underneath using a hand operated electric stacker.
- External cladding: galvanised components with two layers of paint give long lasting protection.

Model	SC 3M 815	SC 1M 426	SC 1M 826
Storage capacity IBC / CP / EP / Drum	18 / 12 / 24 / 60	6 / 6 / 8 / 24	12 / 12 / 16 / 48
Containment volume [L]	2 x 3580	1160	2360
External dimensions W x D x H [mm]*	7999 x 1880 x 5776	4040 x 2880 x 3685	8040 x 2880 x 3685
Bay dimensions W x D x H [mm]	3600 x 1330 x 1600	3900 x 2540 x 3340	3900 x 2540 x 3340
Weight* [kg]	6720	2200	4200

*Actual container dimensions will vary depending on choice of door type and optional equipment.

Note:

Dimensions and weights are approximate and may vary due to optional equipment. Technical changes reserved.

HORIZONTAL DRUM STORAGE.

Advantage of horizontal storage: each drum is accessible to the user for dispensing at any time. Support rails in the storage areas ensure this convenience. The drums can be pulled out and turned with the help of roller supports. In the extra-deep version, you can even enter the storage room through a side door and conveniently dispense the stored substances from there.



1

Hazardous materials store SolidMaxx, compact

The compact SolidMaxx hazardous materials store is the ideal solution where space is limited. It is suitable for storing hazardous substances close to production, for example cleaning agents for dispensing. If there is no heating at the site, choose a version with thermal insulation and heating.

HAZARDOUS MATERIAL STORAGE



SolidMaxx CH 2.1



DIBt EN 1090



SolidMaxx C 1.1



SolidMaxx CH 1.1



SolidMaxx C 2.1



SolidMaxx CH 2.1

On request

Order no. 265-968-JB

The product illustrations show optional equipment. We would be happy to create a custom product configuration for you.

Hazardous materials store SolidMaxx, compact

Storage capacity for up to 8 drums or 2 IBCs

The compact SolidMaxx hazardous materials store is the ideal solution where space is limited. It is suitable for storing hazardous substances close to production, for example cleaning agents for dispensing. If there is no heating at the site, choose a version with thermal insulation and heating.



DIBt

With General Technical Approval valid throughout Germany from the German Institute for Civil Engineering (DIBt) for the storage of liquids in all water hazard classes.

EN 1090

Compliance with EN 1090 for manufacturers of load-bearing structures in steel.

Product description

- For the storage of drums and IBCs on a small footprint for access close to production.
- Approved for storage of water-polluting and flammable substances.
- Steel frames and spill pallet are powder coated (RAL 7043, black-grey). The wall elements are made of galvanised profile sheet metal or, in the thermally insulated version, of painted smooth sheet metal panels (RAL 9002, grey-white).
- On request with thermal insulation (50 mm) for walls and roof in mineral wool (ISO A - non-combustible) and heating for frost-free storage.
- Water law tested, one piece 5 mm spill pallet (to density 1.9 g/cm³) with easily removable hot dip galvanised grids (load capacity: 1250 kg/m²).
- When a PE inliner is fitted: galvanised fluid guides all around ensure any leaked substances are safely diverted to the spill pallet.
- Door equipment: 1-wing in narrow version or 2-wing in wide version.
- 100 mm clearance for access underneath using a hand operated electric stacker.
- Natural ventilation provided by weather-protected, all round openings.
- Security lock for protection against unauthorised access.
- Precise roof drainage via the sides (front and back).
- Crane eyes as standard for safe transport to the installation site.

GUIDELINES FOR STORING FLAMMABLE LIQUIDS

(flash point ≤ 60 ° C, classes H226, H225 and H224)

- Observe distance from fire loads (mostly min. 10 m)
- Create equipotential bonding (earthing) (connection point provided); if required provide lightning protection
- Country-specific requirements for air exchange rate
- Specifications in accordance with HSG71
- Specifications in accordance with ATEX Directive 2014/34/EU

Technical data

Model	SolidMaxx C 1.1	SolidMaxx C 2.1	SolidMaxx CH 1.1	SolidMaxx CH 2.1
Storage capacity IBC / CP / EP / Drum	1 / 1 / 1 / 4	2 / 2 / 3 / 8	1 / 1 / 1 / 4	2 / 2 / 3 / 8
Sump Volume [l]	1513	1365	1377	1323
External dimensions W x D x H [mm]*	1710 x 1570 x 2360	2900 x 1570 x 2060	1725 x 1865 x 2570	2990 x 1865 x 2360
Internal dimensions W x D x H [mm]	1350 x 1330 x 1390	2540 x 1330 x 1390	1400 x 1630 x 1765	2665 x 1630 x 1770
Weight* [kg]	570	810	610	910

*Actual container dimensions will vary depending on choice of door type and optional equipment.

Note:

Dimensions and weights are approximate and may vary due to optional equipment. Technical changes reserved.

Structural analysis

The structural calculations for the technical room system are based on Eurocode 3 (EN 1993). The loads on the structure are measured according to Eurocode 1 (EN 1991-1-3) for a characteristic wind load $q_{k,w} = 0.585 \text{ kN/m}^2$ and a ground snow load $s_k = 2.5 \text{ kN/m}^2$. The structure is also designed for earthquake zone 3 according to EN 4149, EN 1998-1:2004.

Door designs

- 1-wing for SolidMaxx C / CH 1.1.
- 2-wing for SolidMaxx C / CH 2.1.
- Internal door hook.
- Security lock for protection against unauthorised access.

EQUIPMENT OPTIONS

If you choose the SolidMaxx hazardous materials store, a drum pump or a convenient step provide even more safety and additional comfort. We will be happy to discuss your individual requirements in a personal consultation. Our experts will design a customised solution with you on site. You can find an overview of other equipment options on our website.



www.denios.co.uk/equipment



Drum pump for pumping flammable liquids.



The 1-tread step allows you to easily reach the upper part of a container, for example to use a drum pump.



1

Hazardous materials store MCV, walk-in

Use walk-in hazardous materials store MCV to store water-based paints in small containers and drums for example, as well as fill them or dispense from them. As these substances are temperature-sensitive, the store is also equipped with thermal insulation and heating.

HAZARDOUS MATERIAL STORAGE



MCV 6330



Hazardous materials store without fire protection

1

DIBt EN 1090

HAZARDOUS MATERIAL STORAGE



MCV 2520



MCV 4320



MCV 4330



MCV 6330

On request

Order no. 265-971-JB

The product illustrations show optional equipment. We would be happy to create a custom product configuration for you.

Hazardous materials store MCV, walk-in

Storage area approx. 5-17 m²

The walk-in hazardous materials store MCV has improved comfort and flexibility. It is available in various dimensions as well as an insulated version. But it offers even more: thanks to galvanised components, long-lasting corrosion protection is ensured. The modern flat sheet design* is galvanised and painted in RAL 5010 (gentian blue). The doors can be positioned either in the long or short side of the room system. Various sizes of container can be stored, from small containers up to 205 litre drums. The inner room can be optimised with flexible shelving systems.

*In the non-insulated version the roof is in profile sheet.



DIBt

With General Technical Approval valid throughout Germany from the German Institute for Civil Engineering (DIBt) for the storage of liquids in all water hazard classes.

EN 1090

Compliance with EN 1090 for manufacturers of load-bearing structures in steel.

Product description

- Approved for storage of water-polluting and flammable substances.
- Enclosed construction with walls and roof in corrosion resistant galvanised and painted sheets (RAL 5010, gentian blue).
- On request with thermal insulation for walls (40 mm) and roof (50 mm) in mineral wool (ISO A - non-combustible) and heating for frost-free storage.
- Water law tested, one piece 5 mm spill pallet with easily removable hot dip galvanised grids (max. load capacity: 1,000 kg/m²).
- Low entry height of 150 mm.
- With 2-wing door (W x H: 2,000 x 2,000 mm), either on the short or long side of the room system in the steps provided. MCV 2520 only available with 2-wing door on the long side.
- With 2-wing door (W x H: 2,000 x 2,000 mm), either on the short or long side of the room system in the steps provided
- Delivered as ready assembled system.
- Natural ventilation available on request.
- Points to consider for the storage of flammable substances: safety distances - equipotential bonding / earthing - technical ventilation must be ensured.
- Low entry height of 150 mm

GUIDELINES FOR STORING FLAMMABLE LIQUIDS

(flash point ≤ 60 ° C, classes H226, H225 and H224)

- Observe distance from fire loads (mostly min. 10 m)
- Create equipotential bonding (earthing) (connection point provided); if required provide lightning protection
- Country-specific requirements for air exchange rate
- Specifications in accordance with HSG71
- Specifications in accordance with ATEX Directive 2014/34/EU

Technical data

Model	MCV 2520	MCV 4320	MCV 4330	MCV 6330
Storage area [m ²]	5	10	12	17
Sump Volume [l]	787	1467	1785	2612
External dimensions W x D x H [mm]*	2444 x 2375 x 2365	4500 x 2444 x 2365	4500 x 2944 x 2365	6500 x 2944 x 2365
Internal dimensions W x D x H [mm]	2240 x 2240 x 2100	4240 x 2240 x 2100	4240 x 2740 x 2100	6240 x 2740 x 2100
Weight* [kg]	850	1700	1740	2310

*Actual container dimensions will vary depending on choice of door type and optional equipment.

Note:

Dimensions and weights are approximate and may vary due to optional equipment. Technical changes reserved.

Structural analysis

The structural calculations for the technical room system are based on Eurocode 3 (EN 1993). The loads on the structure are measured according to Eurocode 1 (EN 1991-1-3) for a characteristic wind load $q_{k,w} = 0.585 \text{ kN/m}^2$ and a ground snow load $s_k = 2.5 \text{ kN/m}^2$. The structure is also designed for earthquake zone 3 according to EN 4149, EN 1998-1:2004.

Shelving

Optional shelves can be used to create order for small containers in your hazmat store.

The shelves can be stacked. They have three boards (shelves) and are available in two sizes:

- 1,000 x 500 mm (W x D, shelf load: 75 kg*, bay load: 225 kg)
- 2,000 x 500 mm (W x D, shelf load: 120 kg*, bay load: 360 kg).

*Shelf loads are with an evenly distributed load.

EQUIPMENT OPTIONS

Whether you need a heating system or you store so many different substances that a clearly laid out information board makes sense, we will clarify this together with you in a personal consultation. Our experts will design a customised solution with you on site. You can find an overview of other equipment options on our website.



www.denios.co.uk/equipment



The 5 kW heating system in nEx design, in combination with the thermal insulation, ensures an internal temperature of + 5 °C at an external temperature of -15 °C.



Infoboard for the clear presentation of information and work safety instructions.



1

Walk-in hazardous materials store WHG

The WHG walk-in hazardous materials store can be conveniently loaded due to its low entry height in combination with an access ramp. For example, it could be used as a workshop oil store for small containers and drums.

HAZARDOUS MATERIAL STORAGE





Hazardous materials store without fire protection

1

DIBt EN 1090

HAZARDOUS MATERIAL STORAGE



WHG 210



WHG 320



WHG 250



WHG 360

On request

Order no. 265-970-JB

The product illustrations show optional equipment. We would be happy to create a custom product configuration for you.

Walk-in hazardous materials store WHG

Storage area approx. 2-15 m²

Hazardous materials store WHG is one of the most often purchased and proven DENIOS room systems for various sizes of container, from small containers to 205 litre drums. We have also placed great emphasis on user comfort in the entry-level model: the entry height is only 150 mm. The WHG standard version is perfect for passive storage of water-polluting / flammable substances, if safety distances are observed. Flexible equipment options can be added at any time. We have fitted special accessories and ventilation systems for many projects.



DIBt

With General Technical Approval valid throughout Germany from the German Institute for Civil Engineering (DIBt) for the storage of liquids in all water hazard classes.

EN 1090

Compliance with EN 1090 for manufacturers of load-bearing structures in steel.

Product description

- Approved for storage of water-polluting and flammable substances.
- Enclosed construction with walls and roof in corrosion resistant galvanised and painted profile sheets (RAL 5010, gentian blue).
- Water law tested, one piece 5 mm spill pallet with easily removable hot dip galvanised grids (max. load capacity: 1,000 kg/m²).
- Low entry height of 150 mm.
- 2-wing door (with safety lock) on the long side of the room.
- Delivered ready assembled.
- Crane eyes as standard for safe transport to the installation site
- Natural ventilation available on request.

GUIDELINES FOR STORING FLAMMABLE LIQUIDS

(flash point $\leq 60^\circ\text{C}$, classes H226, H225 and H224)

- Observe distance from fire loads (mostly min. 10 m)
- Create equipotential bonding (earthing) (connection point provided); if required provide lightning protection
- Country-specific requirements for air exchange rate
- Specifications in accordance with HSG71
- Specifications in accordance with ATEX Directive 2014/34/EU

Technical data

Model	WHG 210	WHG 320-L	WHG 250	WHG 360
Storage area [m ²]	2	6	10	15
Sump Volume [l]	360	830	1426	2224
External dimensions W x D x H [mm]*	2165 x 1028 x 2320	2990 x 2215 x 2235	5028 x 2215 x 2235	6028 x 2800 x 2235
Internal dimensions W x D x H [mm]	2000 x 830 x 2000	2830 x 2000 x 2000	4830 x 2000 x 2000	5830 x 2590 x 2000
Weight* [kg]	460	870	1330	1860

*Actual container dimensions will vary depending on choice of door type and optional equipment.

Note:

Dimensions and weights are approximate and may vary due to optional equipment. Technical changes reserved.

Structural analysis

The structural calculations for the technical room system are based on Eurocode 3 (EN 1993). The loads on the structure are measured according to Eurocode 1 (EN 1991-1-3) for a characteristic wind load $q_{k,w} = 0.585 \text{ kN/m}^2$ and a ground snow load $s_k = 2.5 \text{ kN/m}^2$. The structure is also designed for earthquake zone 3 according to EN 4149, EN 1998-1:2004.

Shelving

Optional shelves can be used to create order for small containers in your hazmat store.

The shelves can be stacked. They have three boards (shelves) and are available in two sizes:

- 1,000 x 500 mm (W x D), shelf load: 75 kg*, bay load: 225 kg)
- 2,000 x 500 mm (W x D), shelf load: 120 kg*, bay load: 360 kg).

*Shelf loads are with an evenly distributed load.

EQUIPMENT OPTIONS

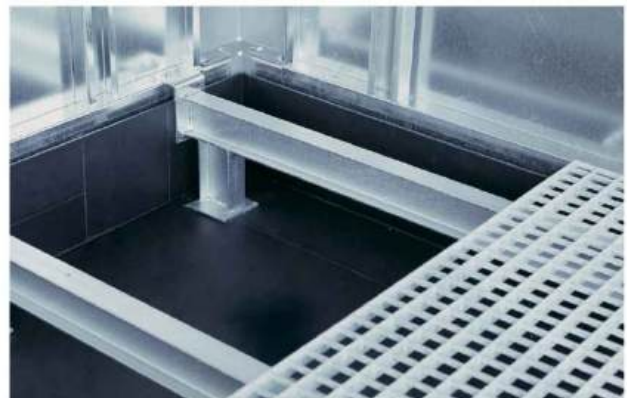
Our tip: SpillGuard[®] connect detects dangerous leaks and sends an alarm to your smartphone in real time if there is an emergency. This allows you to react immediately, gain valuable time and avoid any subsequent costs. We will be happy to discuss your individual requirements in a personal consultation. Our experts will design a customised solution with you on site. You can find an overview of other equipment options on our website.



www.denios.co.uk/equipment



SpillGuard[®] connect leak detection system.



PE inliner for alkalis or acids (storage class 8), dissipative version available.



1

Walk-in fire-rated storage container WFP

The WFP fire-rated store can be used, for example, for storing paints and solvents (H226-H224) in small containers and drums. A monitored air-conditioning system ensures consistent quality of the temperature-sensitive substances.

HAZARDOUS MATERIAL STORAGE





EFFECTIS ETA DIBt



WFP-X 6 (lower height: WFP-M 6)



WFP-X 10



WFP-M 14 (also available as WFP-X 14)



WFP-X 22

On request

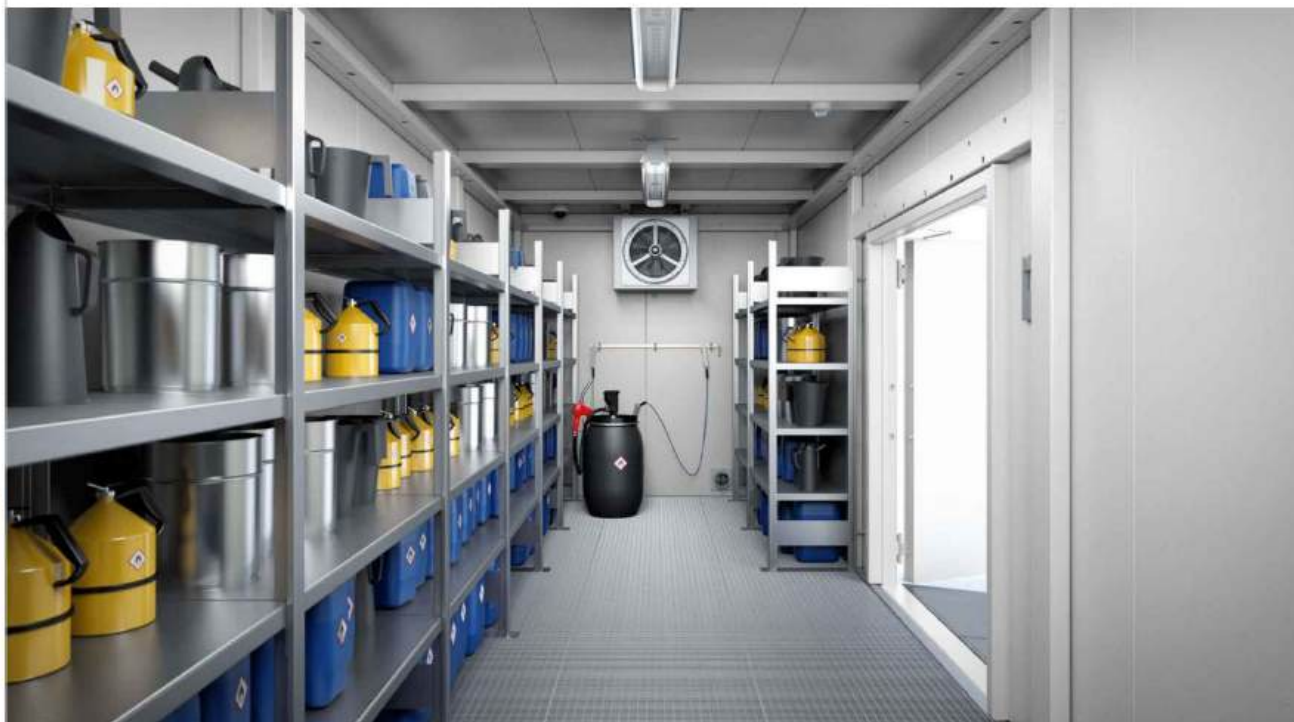
Order no. 265-966-JB

The product illustrations show optional equipment. We would be happy to create a custom product configuration for you.

Walk-in fire-rated storage container WFP

Storage area approx. 6-22 m²

In the walk-in fire-rated store WFP, which is also available as an international version, flammable liquids can be stored in a variety of ways. Thanks to its fire protection approval, the hazardous materials store can be integrated directly into your infrastructure without the need for safety distances, either indoors or outdoors. Six product models allow optimal adaptation to the individual installation requirements.


ETA

ETA approval / CE marking according to European Regulation (EU) No. 305/2011.

EFFECTIS

International versions according to country-specific legislation (REI 120, REI 60).

DIBt

With General Technical Approval valid throughout Germany from the German Institute for Civil Engineering (DIBt) for the storage of liquids in all water hazard classes.

Product description

- Walk-in hazardous materials store for small containers and 205 litre drums.
- For the safe storage, dispensing or removal of flammable and water-polluting substances.
- Install directly next to the external wall of neighbouring buildings or as a fire-rated separate area, e.g. in a production hall. Exception: peroxide stores.
- Water law tested, one piece, hot dip galvanised 5 mm spill pallet with removable grids (max. load capacity: 1,000 kg/m²).
- Long-lasting corrosion protection with fully-galvanised base material and high-quality 2K paint (RAL 9002, grey-white).
- Fire protection panels with high insulation properties (thickness 100 mm, A class material, non-combustible).
- Lockable, self-closing EIz 90-C fire-rated doors to EN 13501-2, tested in accordance with EN 1634-1, or country-specific design (EIz 120 or EIz 60) with a door opening angle of 90 ° / 115 °.
- 1-wing door (W x H: 1,250 x 2,000 mm) or 2-wing door (W x H: 2,000 x 2,000 mm), either on the short or long side of the store in the steps provided.
- For 2-wing doors, the door sequence controller ensures reliable closure of the doors.
- Removable crane eyes for safe use with a crane and transport safety device.
- Available in two heights: clear internal height: WFP-X = 2,500 mm, WFP-M = 2,280 mm.

GUIDELINES FOR STORING FLAMMABLE LIQUIDS

(Flashpoint ≤ 60 °C, classified as H226, H225 or H224)

- Create equipotential bonding (earthing) (connection point provided); if required provide lightning protection
- Country-specific requirements for air exchange rate
- Specifications in accordance with HSG71
- Specifications in accordance with ATEX Directive 2014/34/EU

Technical data

Model	WFP-M 6	WFP-M 14	WFP-X 6	WFP-X 10	WFP-X 14	WFP-X 22
Storage area [m ²]	6	14	6	10	14	22
Sump Volume [l]	930	1980	930	1450	1980	3000
External dimensions W x D x H [mm]*	3018 x 2784 x 2655	5938 x 2878 x 2789	3018 x 2784 x 2875	4478 x 2784 x 2921	5938 x 2878 x 3009	8858 x 2878 x 3009
Internal dimensions W x D x H [mm]	2580 x 2560 x 2280	5500 x 2560 x 2280	2580 x 2560 x 2500	4040 x 2560 x 2500	5500 x 2560 x 2500	8420 x 2560 x 2500
Weight* [kg]	2490	4000	2550	3260	4100	5450

*Actual container dimensions will vary depending on choice of door type and optional equipment.

Note:

Dimensions and weights are approximate and may vary due to optional equipment. Technical changes reserved.

Structural analysis

The structural calculations for the technical room system are based on Eurocode 3 (EN 1993). The loads on the structure are measured according to Eurocode 1 (EN 1991-1-3) for a characteristic wind load $q_{k,w} = 0.585 \text{ kN/m}^2$ and a ground snow load $s_k = 2.5 \text{ kN/m}^2$. The structure is also designed for earthquake zone 3 according to EN 4149, EN 1998-1:2004. With additional equipment up to wind load zone 4 with terrain category I ($q_{k,w} = 1.064 \text{ kN/m}^2$) or up to ground snow load $s_k = 5.86 \text{ kN/m}^2$.

Roof drainage

The roof drainage counteracts loads from standing water on the roof. The rainwater is directed via the roof profile to the two short sides of the room and is channeled to an outlet either through the right or left corner profile or through both. From there, it can be directed to a drainage system on site, e.g. via a drainage pipe.

EQUIPMENT OPTIONS

For maximum comfort and improved safety, we have developed the Communication Bar. You'll have all the important information here at a glance. We will be happy to discuss with you in person which other equipment might be suitable. Our experts will design a customised solution with you on site. You can find an overview of other equipment options on our website.



www.denios.co.uk/equipment



Video surveillance and recording of the hazard area indoors or outdoors.



Central monitoring and control of all electrical components with the DENIOS Communication Bar.



1

Compact fire-rated storage container RFP 115

The RFP 115 fire-rated storage container, in combination with a pressure relief system and cooling system, is ideally suited for storing organic peroxides outdoors.

HAZARDOUS MATERIAL STORAGE



RFP 115-2



Hazmat storage container with fire protection

1

ETA EFECTIS IBS

HAZARDOUS MATERIAL STORAGE



RFP 115-10



RFP 115-2

The product illustrations show optional equipment. We would be happy to create a custom product configuration for you.

Compact fire-rated storage container RFP 115

Storage capacity for up to 4 drums or 1 IBC

Not every company needs a large store for safely housing hazardous substances. Fire-rated storage container RFP 115 offers a sturdy, fire-rated design with minimal footprint. On request, up to three additional shelves can be supplied so that you can make optimum use of the interior space.



ETA

ETA approval / CE marking according to European Regulation (EU) No. 305/2011.

EFFECTIS

International versions according to country-specific legislation (REI 120, REI 60).

IBS

Tested and approved as a complete system with 90 minute fire protection (F 90 / REI 90) from inside and outside.

Product description

- The space saving solution for storage of hazardous substances near to production, or decentralised, if required for safety or logistical reasons.
- For the safe storage, dispensing or removal of flammable and water-polluting substances.
- Install directly next to the external wall of neighbouring buildings or as a fire-rated separate area, e.g. in a production hall. Exception: peroxide stores.
- Steel spill pallet with removable hot dip galvanised grids (max. load capacity: 1,250 kg/m²).
- Long-lasting corrosion protection with fully-galvanised base material and high-quality 2K paint (RAL 9002, grey-white).
- Fire protection panels (A class material, non-combustible) with high insulation properties.
- Lockable, self closing 1-wing fire-rated EI_z 90-C door to EN 13501-2, tested in accordance with EN 1634-1, or country-specific design (EI_h 60 or EI_z 120) with a door opening angle of 90 ° / 115 °.
- If required with up to three additional shelves.

GUIDELINES FOR STORING FLAMMABLE LIQUIDS

(Flashpoint ≤ 60 °C, classified as H226, H225 or H224)

- Create equipotential bonding (earthing) (connection point provided); if required provide lightning protection
- Country-specific requirements for air exchange rate
- Specifications in accordance with HSG71
- Specifications in accordance with ATEX Directive 2014/34/EU



Technical data

Model	RFP 115-2	RFP 115-10
Storage capacity IBC / CP / EP / Drum	0 / 1 / 1 / 4	1 / 1 / 1 / 4
Sump Volume [l]	349	1100
External dimensions W x D x H [mm]*	1976 x 1784 x 2629	1976 x 1784 x 2629
Bay dimensions W x D x H [mm]	1538 x 1560 x 2333	1538 x 1560 x 1775
Weight* [kg]	1075	1075

*Actual container dimensions will vary depending on choice of door type and optional equipment.

Note:

Dimensions and weights are approximate and may vary due to optional equipment. Technical changes reserved.

Structural analysis

The structural calculations for the technical room system are based on Eurocode 3 (EN 1993). The loads on the structure are measured according to Eurocode 1 (EN 1991-1-3) for a characteristic wind load $q_{k,w} = 0.585 \text{ kN/m}^2$ and a ground snow load $s_k = 2.5 \text{ kN/m}^2$. The structure is also designed for earthquake zone 3 according to EN 4149, EN 1998-1:2004. With additional equipment up to wind load zone 4 with terrain category I ($q_{k,w} = 1.064 \text{ kN/m}^2$) or up to ground snow load $s_k = 5.86 \text{ kN/m}^2$.

Roof drainage

The roof drainage counteracts loads from standing water on the roof. The rainwater is directed via the roof profile to the two short sides of the room and is channeled to an outlet either through the right or left corner profile or through both. From there, it can be directed to a drainage system on site, e.g. via a drainage pipe.

EQUIPMENT OPTIONS

DENIOS fire-rated stores WFP and RFP can also be equipped with pressure relief via roof panel. It ensures controlled pressure equalisation in the event of an explosion. Get in touch: we will be happy to discuss your individual requirements in a personal consultation. Our experts will design a customised solution with you on site, offering high levels of safety and maximum convenience. You can find an overview of other equipment options on our website.



www.denios.co.uk/equipment



In the event of an explosion, the pressure is relieved via the roof panel. The weather protection prevents snow loads affecting operation.



Enclosed user controls: controls and user controls are protected from unauthorised access in the front of the switch cabinet.



1

Fire-rated storage container with shelving RFP

RFP fire-rated storage containers are ideally suited for storing large quantities of hazardous substances. In the accessible version, they can also be loaded with a high-lift truck. Outdoor lighting with motion sensor ensures good visibility.

HAZARDOUS MATERIAL STORAGE



RFP 615.30



ETA EFECTIS DIBt



RFP 315.20



RFP 315.30



RFP 615.20



RFP 615.30

The product illustrations show optional equipment. We would be happy to create a custom product configuration for you.

Fire-rated storage container with shelving RFP

Storage capacity for up to 32 drums or 8 IBCs

Fire-rated storage container with shelving RFP is the best option when larger quantities of hazardous substances or larger containers need to be accommodated. Thanks to an integrated heavy-duty rack with adjustable storage levels, optimum use can be made of the interior space, storing hazardous materials individually, in boxes, on pallets or on special carrier frames. The 2-wing doors allow generous, convenient access and facilitate loading and unloading. The integrated roof drainage system drains rainwater via the short sides of the room system.


ETA

ETA approval / CE marking according to European Regulation (EU) No. 305/2011.

EFFECTIS

International versions according to country-specific legislation (REI 120, REI 60).

DIBt

With General Technical Approval valid throughout Germany from the German Institute for Civil Engineering (DIBt) for the storage of liquids in all water hazard classes.

Product description

- Best option when larger quantities of hazardous materials need to be stored in a separate fire compartment and no safety clearances to avoid exposure to fire on both sides can be maintained.
- For the storage, dispensing or removal of flammable and water-polluting substances.
- Install directly next to the external wall of neighbouring buildings or as a fire-rated separate area, e.g. in a production hall. Exception: peroxide stores.
- On request available with variable shelf heights.
- Water law tested, one-piece, hot-dip galvanised 5 mm spill pallet in the lower storage level.
- Storage levels fitted with removable, hot-dip galvanised grids (max. load capacity 1,250 kg/m²).
- Long-lasting corrosion protection with fully-galvanised base material and high-quality 2K paint (RAL 9002, grey-white).
- Fire protection panels with high insulation properties (thickness 100 mm, A class material, non-combustible).
- Lockable, self-closing Elz 90-C wing doors on the long side meeting EN 13501-2, tested to EN 1634-1 or country-specific design with a door opening angle of 90 ° / 102 ° / 115 ° / 128 °.
- Accessible-underneath versions are installed on a separately-supplied concrete pad. This means they can easily be loaded with a high-lift truck, for example. For the wide version (RFP 615.20 and .30), the store has two concrete pads of the same size.
- Door variants: long side with Elz 90-C door to EN 13501-2, tested to EN 1634-1 or country-specific version. A door sequence controller ensures the doors close reliably. Door opening angle: 90 °, 102 °, 115 °, 128 °. Security lock for protection against unauthorised access.
- Points to consider when storing flammable materials: structural equipotential bonding by earthing the steel frame construction and technical ventilation.

GUIDELINES FOR STORING FLAMMABLE LIQUIDS

(Flashpoint ≤ 60 °C, classified as H226, H225 or H224)

- Create equipotential bonding (earthing) (connection point provided); if required provide lightning protection
- Country-specific requirements for air exchange rate
- Specifications in accordance with HSG71
- Specifications in accordance with ATEX Directive 2014/34/EU

Technical data

Model	RFP 315.20	RFP 315.30	RFP 615.20	RFP 615.30
Storage capacity IBC / CP / EP / Drum	2 / 2 / 3 / 8	4 / 4 / 6 / 16	4 / 4 / 6 / 16	8 / 8 / 12 / 32
Containment volume [L]	1400	1400	2800	2800
External dimensions W x D x H [mm]*	3660 x 1784 x 2630	3660 x 1784 x 3575	6882 x 1784 x 2649	6882 x 1784 x 3594
Bay dimensions W x D x H [mm]	2917 x 1440 x 1954	2700 x 1440 x 1331	2917 x 1440 x 1954	2700 x 1440 x 1331
Bay dimensions top W x D x H [mm]	–	2700 x 1235 x 1392	–	2700 x 1235 x 1392
Weight* [kg]	2420	2980	4360	5370

*Actual container dimensions will vary depending on choice of door type and optional equipment.

Note:

Dimensions and weights are approximate and may vary due to optional equipment. Technical changes reserved.

Structural analysis

The structural calculations for the technical room system are based on Eurocode 3 (EN 1993). The loads on the structure are measured according to Eurocode 1 (EN 1991-1-3) for a characteristic wind load $q_{k,w} = 0.585 \text{ kN/m}^2$ and a ground snow load $s_k = 2.5 \text{ kN/m}^2$. The structure is also designed for earthquake zone 3 according to EN 4149, EN 1998-1:2004. With additional equipment up to wind load zone 4 with terrain category I ($q_{k,w} = 1.064 \text{ kN/m}^2$) or up to ground snow load $s_k = 5.86 \text{ kN/m}^2$.

Roof drainage

The roof drainage counteracts loads from standing water on the roof. The rainwater is directed via the roof profile to the two short sides of the room and is channeled to an outlet either through the right or left corner profile or through both. From there, it can be directed to a drainage system on site, e.g. via a drainage pipe.

EQUIPMENT OPTIONS

Whether you need access underneath or fire bulkheads for cable systems and pipes - equipment plays a decisive role in the individual product configuration. Our experts will discuss your requirements with you on site and develop a custom-fit solution. You can find an overview of other equipment options on our website.



www.denios.co.uk/equipment



Accessible-underneath versions are installed on a separately-supplied concrete pad.



Passage of cables through the wall of the fire-rated store (fire bulkhead), while maintaining the fire resistance of the component.



1

Fire-rated storage container RFP SD

No fire-rated store offers more storage capacity for large containers than RFP SD with large, practical sliding doors. Flammable media can be stored, even indoors.

HAZARDOUS MATERIAL STORAGE



RFP 815.30 SD



Hazmat storage container with fire protection

1

DIBt ETA EFECTIS REI 120

HAZARDOUS MATERIAL STORAGE



The product illustrations show optional equipment. We would be happy to create a custom product configuration for you.

ALLIANCE SUPPLIES SDN. BHD.

www.alliance-supplies.com | www.alliancesuppliesonline.com.my | info@alliance-supplies.com | T:+606 3338889/8887/8898

Fire-rated storage container RFP SD

Storage capacity for up to 48 drums or 12 IBCs

Fire-rated storage container RFP SD with sliding doors offers fire protection for large quantities of hazardous substances, stored in drums or IBCs. The larger size of the sliding doors gives you up to 50 % more storage capacity than the wing door variant. In addition, the door opening radius is eliminated, which extends the working area in front of the room system. When installed outdoors, there is therefore no risk of the doors slamming shut unintentionally due to wind loads. In the version with electric sliding doors RFP SD-ED, the doors can be easily opened and closed by remote control from the forklift.


ETA

ETA approval / CE marking according to European Regulation (EU) No. 305/2011.

EFFECTIS

International versions according to country-specific legislation (REI 120, REI 60).

DIBt

With General Technical Approval valid throughout Germany from the German Institute for Civil Engineering (DIBt) for the storage of liquids in all water hazard classes.

Product description

- Best option when larger quantities of hazardous materials need to be stored in a separate fire compartment and no clearance is available.
- The larger sliding doors offer up to 50 % more storage capacity.
- An open sliding door gives easier access to the fire-rated storage container with shelving than a wing door and improves logistical efficiency; when installed outdoors, there is no risk of the doors slamming shut unintentionally due to wind loads.
- The manually or electrically operated fire-rated doors, tested according to EN 16034, close automatically when the fire detectors are triggered.
- Install directly next to the external wall of neighbouring buildings or as a fire-rated separate area, e.g. in a production hall. Exception: peroxide stores.
- Base: tested, single-piece spill pallet with easily removable hot-dip galvanised grids.
- Water law tested, two piece, hot dip galvanised 5 mm spill pallet in the lower storage level, with removable grids (max. load capacity: 1,250 kg/m²).
- Long-lasting corrosion protection with fully-galvanised base material and high-quality 2K paint (RAL 9002, grey-white).
- Fire protection panels with high insulation properties (thickness 100 mm, A class material, non-combustible).
- Storage surfaces fitted with removable, hot-dip galvanised grids.
- Shelf guards on the rear wall.
- Galvanised components with two layers of paint give long lasting corrosion protection, support frame made of hot dip galvanised base material.

GUIDELINES FOR STORING FLAMMABLE LIQUIDS

(Flashpoint ≤ 60 °C, classified as H226, H225 or H224)

- Create equipotential bonding (earthing) (connection point provided); if required provide lightning protection
- Country-specific requirements for air exchange rate
- Specifications in accordance with HSG71
- Specifications in accordance with ATEX Directive 2014/34/EU



Technical data

Model	RFP 815.30 SD
Storage capacity IBC / CP / EP / Drum	12 / 12 / 16 / 48
Sump Volume [l]	1720
External dimensions W x D x H [mm]*	9410 x 2238 x 3594
Bay dimensions W x D x H [mm]	3900 x 1440 x 1300
Weight* [kg]	7780

*Actual container dimensions will vary depending on choice of door type and optional equipment.

Note:

Dimensions and weights are approximate and may vary due to optional equipment. Technical changes reserved.

Structural analysis

The structural calculations for the technical room system are based on Eurocode 3 (EN 1993). The loads on the structure are measured according to Eurocode 1 (EN 1991-1-3) for a characteristic wind load $q_{k,w} = 0.585 \text{ kN/m}^2$ and a ground snow load $s_k = 2.5 \text{ kN/m}^2$. The structure is also designed for earthquake zone 3 according to DIN 4149, EN 1998-1:2004. With additional equipment up to wind load zone 4 with terrain category I ($q_{k,w} = 1.064 \text{ kN/m}^2$) or up to ground snow load $s_k = 5.86 \text{ kN/m}^2$.

Roof drainage

The roof drainage counteracts loads from standing water on the roof. The rainwater is directed via the roof profile to the two short sides of the room and is channeled to an outlet either through the right or left corner profile or through both. From there, it can be directed to a drainage system on site, e.g. via a drainage pipe.

EQUIPMENT OPTIONS

With fire-rated stores, safety is of prime importance. Add electric sliding doors with remote control, optional video surveillance or an aerosol extinguishing system to increase safety. Our experts will discuss your requirements with you on site and develop a custom-fit solution. You can find an overview of other equipment options on our website.



www.denios.co.uk/equipment



The electric sliding doors of the RFP SD-ED can be easily opened and closed from the forklift, saving time, with a practical remote control unit.



The aerosol extinguishing system is triggered by temperature and effectively interrupts the chemical combustion process within 4.5 - 15 seconds (depending on model).

1 Fire-rated storage containers for lithium-ion energy storage devices

HAZARDOUS MATERIAL STORAGE

Storage of lithium ion energy storage devices

The hazard potential when incorrectly handling lithium energy storage devices is very high. Deep discharge, fire, chemical reactions, explosion of batteries in the worst-case scenario – each individual situation means a risk for workers, companies and the environment. And this may result in considerable financial losses and production downtime. Organisational and structural protective measures help to limit the potential hazards at an early stage. Technical room systems from DENIOS offer the right equipment you need for the safe storage of lithium energy storage devices and will withstand the enormous fire load should the worst happen.



ETA EFECTIS DIBt IBS

EXPERTISE

"STORING AND TESTING LITHIUM-ION ENERGY STORAGE DEVICES SAFELY" BROCHURE

Comprehensive expertise as well as additional information on our products, numerous equipment options and our service offering can be found in our "Storing and testing lithium energy storage devices safely" brochure.



Order now: 01952 811 991

GUIDES

"TIPS FOR HANDLING LITHIUM ENERGY STORAGE DEVICES" GUIDE

Have you seen it? Our online guide has more basic information and practical tips for handling lithium energy storage devices.



www.denios.co.uk/lithium-expertise

DENIOS hazardous materials cabinets for storing and charging lithium batteries offer the necessary 90 minutes fire protection from both sides. Regardless of whether you are charging lithium batteries or storing faulty or new batteries, DENIOS offers the highest levels of safety with products which are easy to use.

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The walk-in storage solution WFP Li-Ion

You need a store for smaller sized modules, which don't need a forklift for loading and unloading. You might want to safely store a larger piece of equipment or an electric vehicle (e.g. prototype and test equipment). The storage room needs to fulfil an additional function - for example as an analysis laboratory, a convenient place to charge batteries or as a temporary store for dispatch or for storing faulty batteries. The walk-in fire-rated hazmat store WFP Li-Ion is the convenient solution for all these scenarios.



WFP walk-in fire-rated storage container

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m²

Storage area:
approx. 6 to 22 m²

Order no. 263-172-JB

The spacious shelving solution RFP Li-Ion

Fire-rated storage container with shelving RFP Li-Ion is the best option when larger quantities or larger-scale lithium energy storage devices need to be accommodated. An integrated heavy duty rack with adjustable shelves allows the best possible use to be made of the inner room. The loading surfaces are removable hot dip galvanised grids. They suit the most varied storage options, e.g. individual storage or storage in boxes, on pallets or special carrier frames. The room system offers the best possible access via 2-wing doors and optimal use of the room height for easy loading and unloading. The fire-rated storage container is also available in an extra-deep version for larger quantities of stored goods.



Fire-rated storage container with shelving RFP

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Storage capacity:
up to 24 EP

Order no. 263-173-JB

The compact storage solution RFP 115 Li-Ion

The space-saving solution for storing lithium energy storage devices: technical room system RFP 115 Li-Ion offers high DENIOS standards with minimal footprint. RFP 115 Li-Ion is available with a variable number of fixed or pull-out shelves – for optimum use of the inner space according to your needs.



Compact fire-rated storage container RFP 115

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Storage capacity:
approx. 1 to 3 EP

Order no. 263-174-JB

Maximum storage capacity in RFP SD Li-Ion

The fire-rated storage container with shelving RFP Li-Ion with sliding doors offers fire protection for a large number of lithium energy storage devices. Here, sliding doors offer two unbeatable advantages compared to wing doors: 1. There is no door opening radius, so the working area in front of the room system is not affected. When installed outdoors, there is therefore no risk of the doors slamming shut unintentionally due to wind loads. 2. The larger size of sliding doors offers up to 50% more storage capacity.



Fire-rated storage container with shelving RFP SD with sliding doors

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Storage capacity:
up to 32 EP

Order no. 273-657-JB



THERMOTECHNOLOGY FROM DENIOS

VARIED – EFFICIENT – SAFE

To bring substances to a specific temperature level, energy must first be supplied to the process, e.g. in the form of electric current. The supplied energy is then converted into thermal energy for heating, cooling or air-conditioning, which is transferred from a material flow (e.g. air) to the products via heat exchanger. High energy efficiency saves money. DENIOS thermotechnology ensures the crucial, precise energy transfer and optimum thermal insulation required.

- » GUIDES
- » ARTICLES
- » FAQ
- » INTERVIEWS
- » CHECKLISTS
- » VIDEOS
- » WHITEPAPERS
- » AND MUCH MORE!



www.denios.co.uk/thermotechnology

PRODUCT

HEAT CHAMBERS

The corrosion resistance of the materials used to make the spill pallet and their compatibility with the substances stored must be demonstrated. Steel spill pallets (1.0038) can be used for many chemical substances. Plastic (polyethylene) spill pallets are frequently required if corrosive substances (acids / alkalis) are being stored. Stainless steel offers the best protection, especially against many aggressive liquids. If no specific information is provided in the resistance lists, the spill pallet can be made of the same material as the transport container.



www.denios.co.uk/heating-chambers

GUIDES

8 STEPS TO PLANNING A HEAT CHAMBER.

The planning of a heat chamber often throws up many questions. In our new guide, we use eight questions to provide you with the planning factors you need when investing in preparation equipment for heating materials for further processing in production.



www.denios.co.uk/heating-chamber-selection

PRODUCT

COOLING AND AIR CONDITIONING SYSTEMS

We place particular emphasis on energy efficiency in our cooling and air conditioning systems. Uniform insulation properties over the entire outer shell and the use of building components with low temperature transitions achieve a reduction in energy consumption of up to 50 %. Temperature ranges from 0 °C to 35 °C are covered, with cooling or air conditioning equipment depending on requirements. Shelving systems or walk-in room systems are available with a storage capacity of up to 16 IBCs or 24 x 205 litre drums.



www.denios.co.uk/equipment

PRODUCT

THE RIGHT TECHNOLOGY FOR YOUR TEMPERATURE REQUIREMENTS

With the free DENIOS "Thermotechnology selection guide", you can find the right solution in just a few steps:

- For target temperatures from >5°C to 150°C
- Both storage solutions and heat chambers (e.g. for substance preparation)
- Concrete solutions even for special requirements



www.denios.co.uk/thermotechnology-selection-guide

CASE STUDY

IT'S THE INTERNAL TEMPERATURE VALUES THAT COUNT

Our customer BP produces Castrol and Aral brand engine and transmission oils used in cars and trucks at its lubricants plant in Hamburg-Neuhof. Castrol's on-site development centre works closely with major car manufacturers to develop more efficient lubricant solutions for new generations of engines.



The challenge

Let's first take a metaphor to illustrate the task: the Sunday joint is put in the oven to roast. We set the temperature. Now we need to wait. Once the pre-set circulating air temperature is reached, it's maintained at a constant level. But what about the temperature in the centre of the joint? BP Europe SE in Hamburg was also faced with a similar question - even though this time they were not worried about a Sunday roast, but the sophisticated lubricant Castrol®. During production, the product is heated and the quality must remain constantly high. The circulating air temperature and also the core temperature of each individual container are recorded and documented in a verifiable manner, so that it's just what an engine needs.

The solution

DENIOS developed a solution for BP Europe SE which met all the challenges. Two DENIOS heat chambers, each with two independently controlled heating rooms, provide four different temperature levels for various substances. The circulating air temperature is permanently recorded and reliably transmitted with the aid of an evaluation section. Resistance thermometers with radio measurement transmission are inserted into every container. The DENIOS Premium controller ensures an exact temperature, by determining the ACTUAL temperatures of the product at regular and freely programmable intervals and sending them to the evaluation unit or the control room.

Telegram coding ensures interference-free transmission. The temperature data is transferred loss-free from the receiver unit to a data logger and displayed in parameterisable diagrams on a TFT colour display. The paperless recorder with audit trail function ensures a manipulation-free data history. This enables reliable and well-founded quality assessment - whether for internal or external auditing.

Benefits for our customers

By partitioning the heating rooms, different temperature levels can be used and monitored for production in a compact space. This provides the customer with high levels of flexibility and saves both time and space. The modern monitoring sensors and control technology ensure permanent quality control and documentation. This ensures our customer can keep the manufacturing process both lean and safe.

Drying ovens and heating cabinets

With natural convection or recirculated air

Industrial and scientific laboratories appreciate the outstanding energy efficiency of our drying ovens, which is achieved thanks to low heat radiation and the accuracy of the heating system temperature. They precisely meet the requirements for drying or warm storage of samples in the temperature range up to 300°C.



Interior designed for comfortable work: slide-in grids with tip prevention, no fixed built-in equipment, inner compartment in stainless steel



Exact temperature and optimal heat transfer through patented, flexible-position expansion racks



Front view of the drying oven with ergonomic handle design and intuitive controller with LCD-display

Available series and sizes

Drying ovens with natural convection (ED series) or recirculating air (FD, FED and FDL series) are available with different interior volumes: 57 / 114 / 260 (FED only) litres. Natural convection is suitable, among other things, for light samples and longer sample intervals that do not require frequent opening of the cabinet.

The FED recirculation cabinet series differs from the FD series in particular as it has an adjustable fan speed. The FDL recirculating air drying oven provides the perfect environment for drying solvent-based paints and coating materials with limited quantities of solvent in accordance with standards. It has a silicone and dust-free interior and symmetrical airflow.

Product range and equipment

Break-through points, data loggers, viewing windows - the equipment adds application-specific features to the drying oven and gives it an individual touch.

GUIDE

WE'LL HELP YOU FIND THE RIGHT DRYING OVEN.

The right drying oven is always dependent on the substances that need to be dried. Vacuum drying is required for heat-sensitive substances, flammable solvents (according to ATEX), oxidation-sensitive substances, hygroscopic products/substances, while safety drying ovens are sufficient for resins and lacquers. For all other substances, standard drying ovens with natural convection or circulating air are available.

That's why we ask the following questions when selecting a product:

- Are there flammable solvents in the samples?
- Are the substances sensitive to heat and/or oxidation?
- Are the substances very light (powder, granules)?



Vacuum drying ovens

Gentle drying of substances containing solvents, which are heat- and oxidation-sensitive

The VD / VDL vacuum drying ovens enable effective and gentle drying without risk to the materials to be dried. A unique safety concept is available for this purpose. Large heat-conducting plates ensure direct heat transfer in the temperature range up to 220 / 110°C.



Tested safety, thanks to spring-mounted safety glass with shatter protection, inert gas supply for internal flushing, and electronic components separate from the inner room.



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HAZARDOUS MATERIAL STORAGE

Available series and sizes

Depending on the individual application, solvent-containing samples, specimens etc. can be dried in vacuum drying ovens in the VD series (for non-flammable solvents) and in the VDL series (for flammable solvents). The gentle drying process in the VD series is particularly suitable for heat- and oxidation-sensitive substances. The series comprises three sizes each: 24 / 55 / 119 litres interior volume.

The interior of the VDL series is explosion-proof. The ATEX-compliant unit concept has a pressure monitor which ensures that heating is only enabled at vacuum < 100 mbar. The unit complies with ATEX category EX II 2/3/- G IIB T3 Gb/Gc/- X.

Product range and equipment

Optional equipment offers useful product extensions and enables individual customisation. Vacuum drying ovens are available as a complete modular system with vacuum pump and pump cabinet.

Find the entire "Drying ovens and heating cabinets" product range on our website.



www.denios.co.uk/kat/657443





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Maximising storage capacity

Our hazmat shelving has been specially designed to meet the requirements of contemporary storage environments.

With an extensive selection and flexible configuration options, make the best use of the storage space available and maximise storage capacity even with the strictest safety standards.

HAZARDOUS MATERIAL STORAGE



Hazardous materials small container shelving with 4 painted steel spill trays

Order no. 199-564-JB

All products for Hazardous materials storage
can be found here:



www.denios.co.uk/kat/12749



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