

Cabi2Net

Centrally controlled safety



Networked procedures
for maximum efficiency

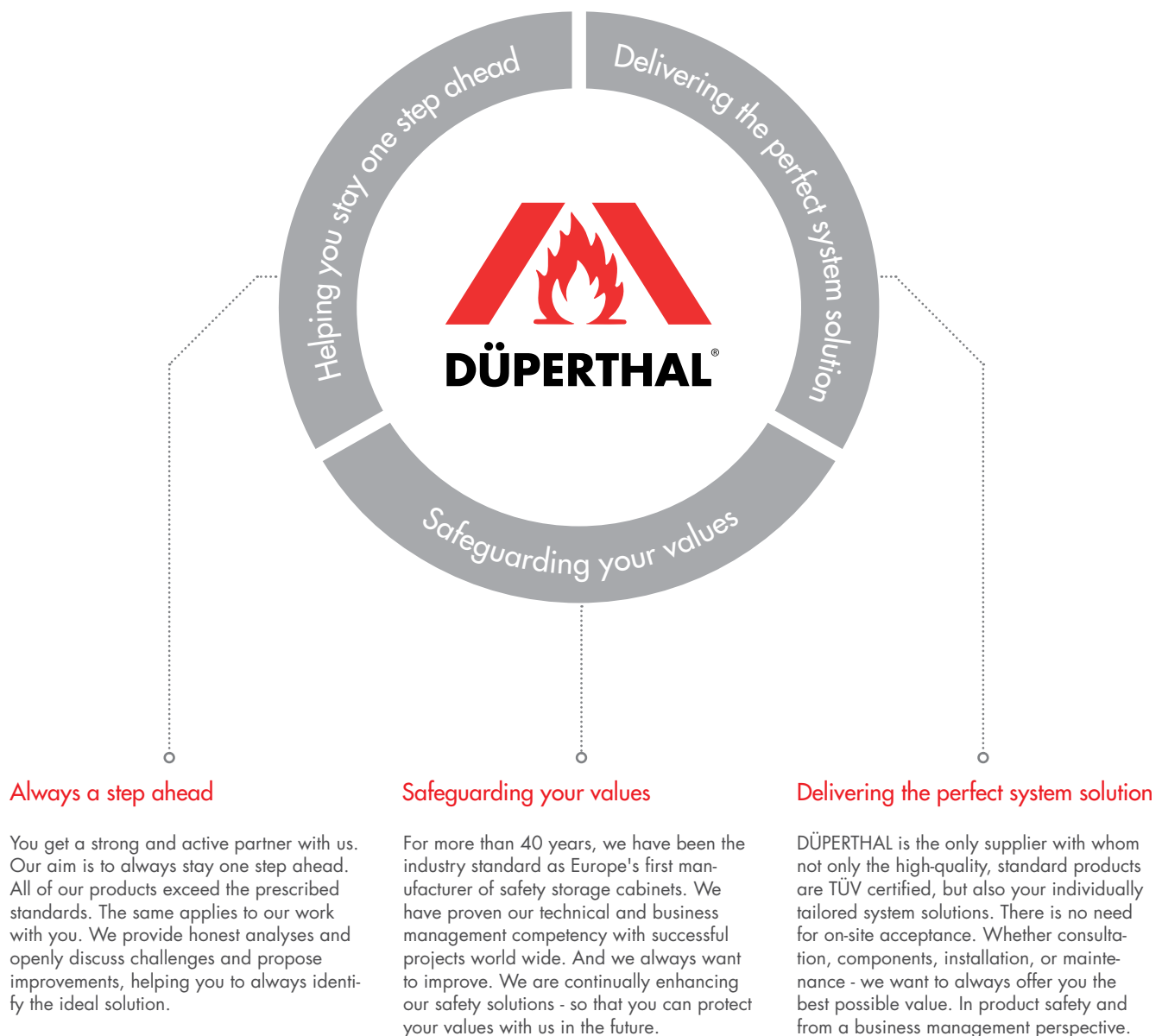
DÜPERTHAL – constant reassurance





Welcome to DÜPERTHAL

As a leading German quality and technology enterprise, we set the standards when it comes to designing system solutions for the process-optimised storage of chemicals and hazardous materials. All of our products and solutions are tailored specifically to meet your requirements. In addition to maximum safety, they offer the highest levels of effectiveness and efficiency – also in situations where there is no risk of fire. We are therefore providing you with constant reassurance. This is what we, as a family-run company, stand for. The original is what we stand for.





Constant development for your safety

We don't rest on our good reputation. Because we are aware that your work is constantly becoming more complex. That's why your demands on our safety solutions are increasing. In order to meet these requirements, we are continuously pushing ahead with further developing our products. We invest time, money, passion and above all one thing: commitment.

Did you know that ...

- » the name DÜPERTHAL stands for full service?
- » DÜPERTHAL markets more than just products?
- » the internet-enabled Cabi2Net brings smart technologies into the workplace?
- » the system solutions from DÜPERTHAL are more than just cabinets?
- » you profit economically and technologically from the wide range of solutions

You can find detailed answers to these questions and further useful information on the following pages - compact, practical, and forward-looking!



A ground-breaking innovation

Cabi2Net

Simple, safe, effective – the Cabi2Net from DÜPERTHAL is revolutionising the central control of work processes. With every internet-enabled end device, Cabi2Net offers you a virtual look into your safety storage cabinet and information, example about fill: fill levels, ventilation functionali , and provides warning notices.

Cabi2Net can be easily scaled, expandable as necessary through additional modules and can even be integrated into general building automation.



HARDWARE

- Internet capable system
- Processes sensor signals (fill level, pressure flow rate, and more)
- Controls signal lights, warnings, valves and more



SOFTWARE

- All cabinets can be activated separately
- Digital real-time protocol
- Operate with keyboard, mouse or touch screen



NEW FUNCTIONS

- One interface, everything under control
- Planning of resource-conserving container exchanges
- Remote access to important data and information



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IN PRODUCT SECTION 6.



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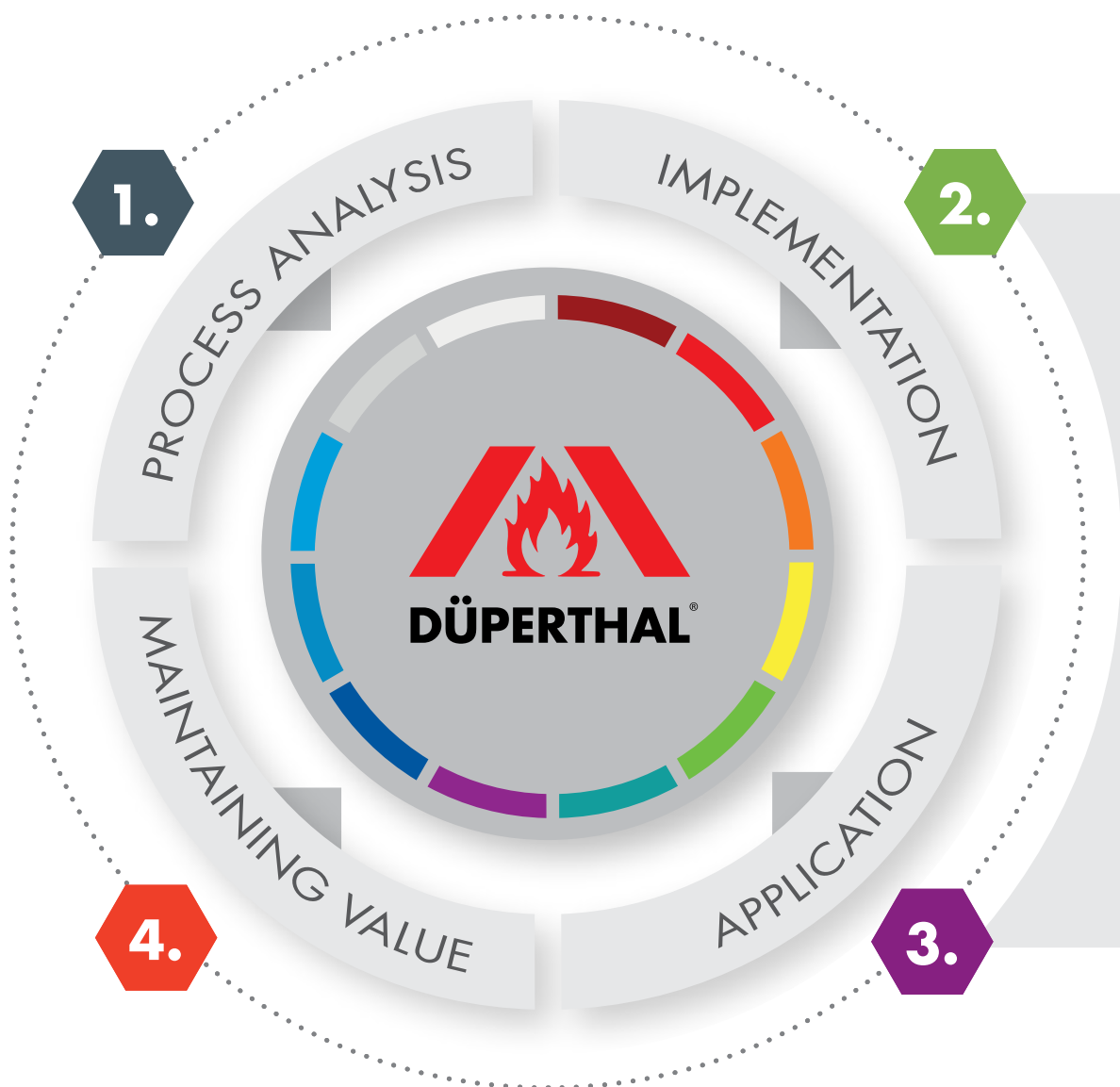
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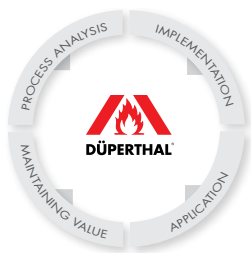
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From the process to realisation: We go with you

We offer products and service for every requirement

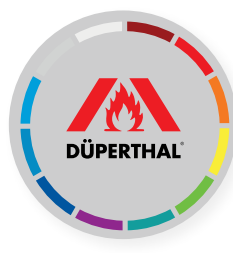
DÜPERTHAL offers system solutions for process-optimised storage of chemicals and hazardous substances. for scientific research, development and production. Our goal is to always fulfil your individual requirements with customised solutions. This is why you can expect not only outstanding certified products from us, but also outstanding full service.





Services throughout the process

One of our distinctive features is our profound knowledge of our customers' processes. For more than 40 years, we have stood by you as an active companion and consultant: from the analysis of your individual requirements, to the planning and implementation of the optimal solution, through to permanent maintenance.



Innovative products for every situation

Our product portfolio for the storage, use and disposal of chemicals and hazardous substances is as diverse as the requirements for their handling. In addition to high-quality, certified safety storage cabinets, we offer a variety of fitting options and accompanying products for every need, however specific



Technical added advantages

- » Safety storage cabinets and accompanying products for every application
- » More occupational safety and environmental protection through maximum fire protection
- » Maximum comfort during use and operation

Economic added advantages

- » Optimisation of processes and work processes.
- » Continuous value retention
- » Excellent service throughout the process

Tailored to your processes



1. Process analysis

Your problem is our challenge

Your processes should run optimally - in every respect. Our experts take a closer look at safety-relevant and profitability aspects. You are guaranteed the greatest possible flexibility in implementation. Because we have the right solution for every situation.



From process analysis to concept

Together with you on site, our experts will collect extensive data in an as-is analysis. Based on this information and your requirements, a target state is defined in a task folder.



Modular and tested system solutions

We use the full range of DÜPERTHAL's standard technologies and supplement them with modular and type-tested systems, adapted to your requirements.



2. Implementation

Safe and economical solutions

Not only do you get a technically perfect system from us, but we also make sure that you have to put in as little effort as possible. We deliver our products directly to the site and take over the implementation. Full service is our principle.



Shipment and delivery

Safety for us starts with the delivery of the product. The specialist carrier appointed by us works according to a detailed checklist and therefore ensures that our products are professionally transported to and installed in their final place of use - delivery just-in-time and just-in-place.



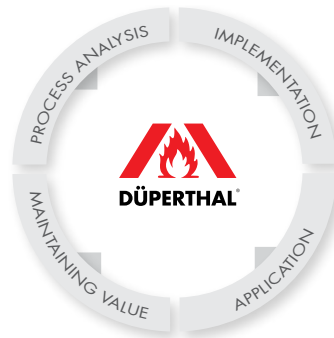
Project support on site

The professional handling of complex projects requires more than just delivering safety storage cabinets. DÜPERTHAL therefore provides comprehensive support for your national and international projects with planning, delivery service, construction site support and training of the lab managers and users.



Installation, implementation and final acceptance

Our team of specialists ensures a smooth and optimal assembly process on site. After complete installation of all components, the commissioning and joint final acceptance will be carried out with you.



3.

Application

Optimal integration – safe and economical solutions

We work conscientiously to optimise your process flows sustainably. This means that we attach great importance to documentation and training. In addition, the latest technology is used for evaluations. In this way, we integrate our products ideally into your existing structures.



Documentation

A detailed operations manual is supplied with each product, especially for complex projects. This already includes the CE certificate of conformity and the type certificate for the patented system solutions tested by independent third parties.



Training and risk assessment

In order that you are sure that our components can be used professionally and can be operated without any risk, we will be happy to train the responsible persons directly on the spot. The points treated can be included in your risk assessment.



Evaluation

With the Internet-capable Cabi2Net, all relevant operating parameters of the safety storage cabinets can be constantly monitored and evaluated. The query can be sent simply from a mobile phone, tablet or PC. This also safeguards your processes and helps you to make the internal value chain even more efficient

4.

Maintaining value

Product life cycle - maximum safety

To ensure the functionality and safety of your system solution in the long term, we recommend an annual inspection. Our service agreement guarantees you maintenance and spare parts long after installation and commissioning.



Occupational safety and health OSHA / EU-OSHA

When dealing with hazardous substances, the highest priority is the protection of employees and the environment. Therefore, DÜPERTHAL safety storage cabinets guarantee compliance with the requirements of the Occupational Safety and Health Administration (OSHA and EU-OSHA). We will clarify all relevant topics and train you in the safe handling of our products

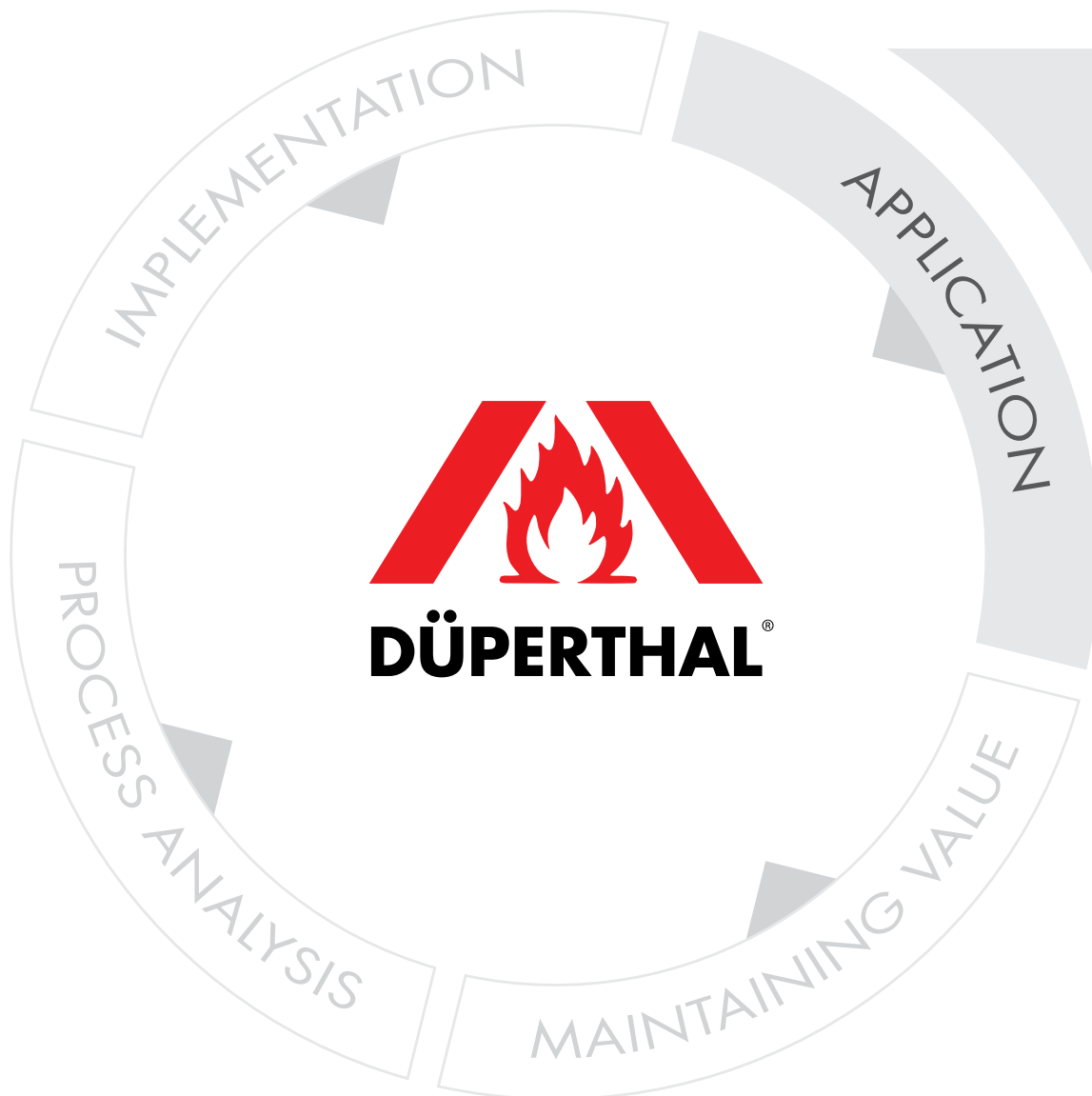


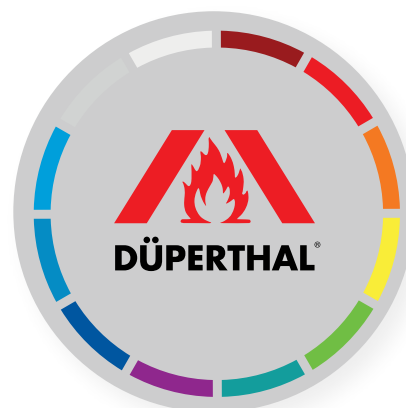
Permanent service agreement with regular maintenance and service

Highly complex processes rely on robust structures. With our service agreement, we can safeguard our reliable system solutions even better in your interest. The annual maintenance also extends the manufacturer's guarantee. A double benefit for you - in terms of safety and profitability.

Your Challenge – Our Solution

The handling of hazardous substances is subject to stringent regulations – for good reason. DÜPERTHAL can help you to meet all the relevant requirements whilst at the same time optimising your work processes. Based on the analysis of the actual status and the jointly defined objective, you receive an individually tailored and modular system solution from us. Thanks to our varied product range, you can design your laboratory and workplace flexibly and as needed





1. Storage

Safely storing hazardous substances

We offer a wide range of products for the safe storage of sensitive hazardous goods. Up to 90 minutes of protection in case of fire ensures maximum safety.



2. Use

Using products ergonomically

In addition to a large range of standard solutions, we have tailor-made solutions that integrate seamlessly into your workflows and optimise them.



3. Disposal

Disposing of materials in an environmentally sound manner

There are strict regulations for the disposal of dangerous goods. We provide a wide range of products and components for safe implementation in compliance with regulations.

90 minutes – Course of events and timetable of a fire

In the event of a fire, the 90 minutes of tested fire protection is the decisive factor in protecting people and minimising damage to property. DÜPERTHAL safety storage cabinets of fire resistance rating type 90 allow sufficient time for workers to leave the room in the event of a fire and allow the fire brigade sufficient time to get into the laboratory. Just before a smaller extinguishable fire from stored flammable substances causes an uncontrollable fire



The test of the cabinet under fire conditions is part of the standard. Each cabinet model is type-tested in a fire chamber in accordance with DIN EN 14470-1. The test parameters and test temperatures in the fire chamber and directly in the cabinet are specified in the standard, and further details are provided on the following pages.



10-15 min.

10-15 minutes - after the start of the fire

- » The fire brigade is at the source of the fire

After 10 minutes of burn time

- » Safety storage cabinets with a fire resistance of 10 minutes are now losing their function.
- » The flammable substances are no longer safe
- » The fire brigade must fight the fire at a considerably increased risk.
- » Heavy damage is to be expected.

90 min.



Your benefits with the 90-minute technology

- » Safety storage cabinets Type 90 retain their function for 90 minutes.
- » The hazardous substances are stored safely for at least 90 minutes.
- » The fire brigade has considerably more time to extinguish the fire safely.
- » Reduction of the fire load and minimisation of damage.

Fire chamber test according to DIN EN 14470-1

The fire resistance rating of safety storage cabinets in accordance with DIN EN 14470-1 is determined by the rise of temperature of the cabinet interior inside of a fire chamber according to the temperature-time curve in accordance with DIN EN 1363-1. Starting from an initial temperature of 20 ± 5 °C and after the time until the temperature in the cabinet interior increases to 180 °C maximum, the cabinet is then classified as type 15, 30, 60 or 90 (analogous to time in minutes). Safety storage cabinets for pressurised gas cylinders are subjected to a comparable test in accordance with DIN EN 14470-2, details on this are provided on page 264.



Your economic advantage

Example calculation:
(average values)

Cost of purchasing a
safety storage cabinet
tested fire resistance

Profitability/Costs

US standards European standard
FM/UL, NFPA 30 DIN EN 14470-1

€ 1,000
10 minutes

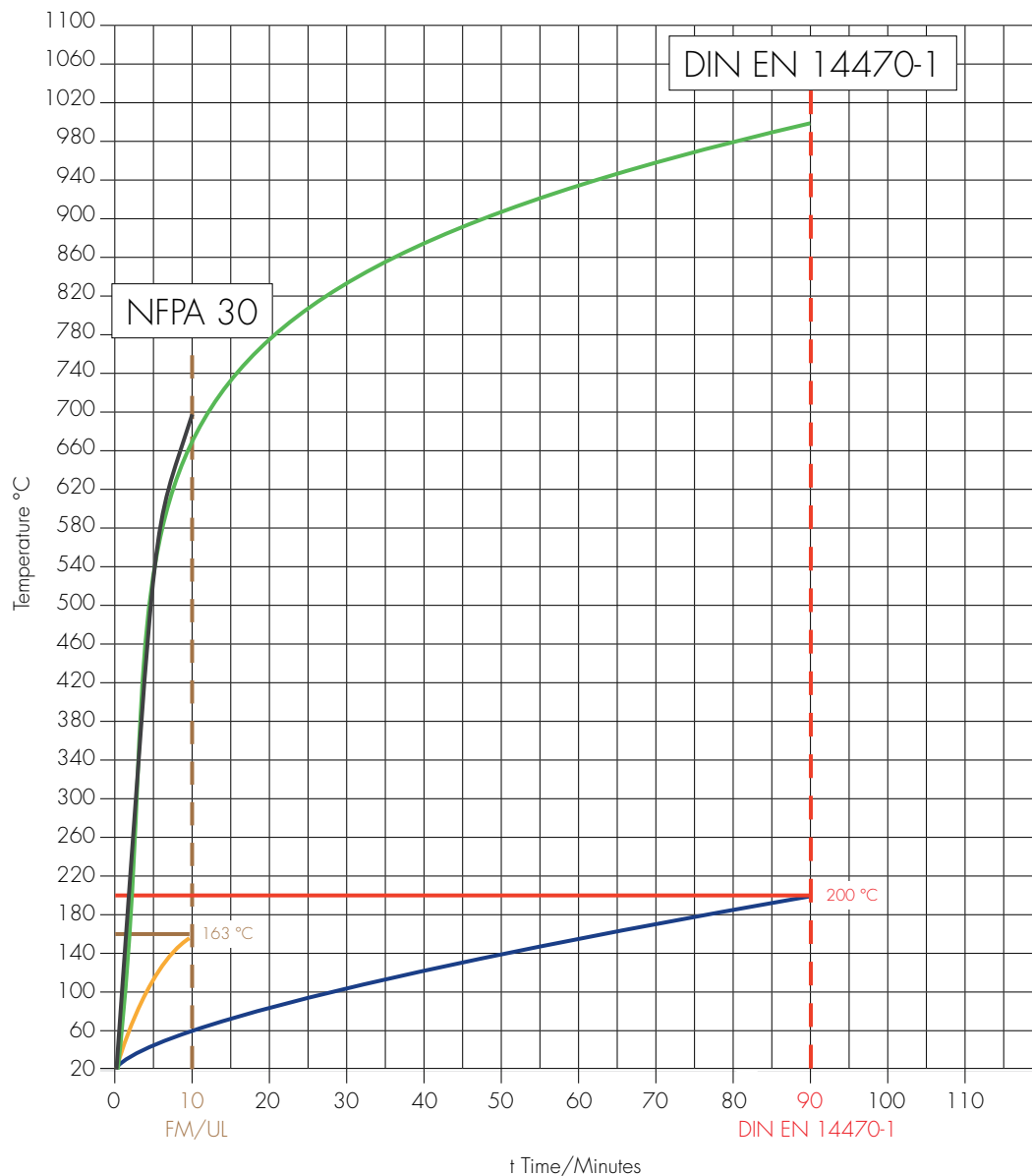
100 € per min.

€ 2,430
90 minutes

27 € per min.

Video of an
extreme test





Fire and explosion-proof safety storage cabinets Type 90 by DÜPERTHAL offer a reliable fire resistance of 90 minutes in accordance with DIN EN 14470-1.

US standards according to FM/UL, NFPA 30

- Maximum allowed temperature in the cabinet in acc. with FM/UL = 163 °C (325 °F).
- Temperature profile in accordance with NFPA 251 in the open fire chamber.
- Example of the rising temperature in an FM/UL cabinet during the fire test, monitored with 1 thermometer.

European standard DIN EN 14470-1.

- Maximum allowed temperature in the cabinet in acc. with DIN EN 14470-1 = 200 °C (392 °F).
- Temperature profile in accordance with DIN EN 1363-1 in the closed fire chamber.
- Example of the rising temperature in a Type 90 cabinet during the fire test, monitored with 11 thermometers.

Fire resistance class – Type 90:

90 minutes of safety thanks to special construction

Utmost care is essential in the handling of hazardous substances. Our technology with maximum fire resistance helps you to achieve this. Thus, thanks to their special construction, our safety storage cabinets guarantee fire resistance of 90 minutes, type-tested according to DIN EN 14470-1.



Type 90

Fire resistance

Construction:

- » The doors and the outer carcass are made of powder-coated sheet steel.
- » The inner carcass and the inside of the doors are made of high-quality decor panels.
- » There is a special insulation between the inner and outer carcasses, so that the heat cannot penetrate into the cabinet interior in case of fire
- » In case of fire, doors, drawers and ventilation openings for air supply and exhaust air are automatically closed and the door gaps as well as open joints are sealed by foam-forming gaskets.



Your benefits through DÜPERTHAL safety storage cabinets Type 90:

- » A chain reaction will be avoided in case of fire
- » Workers, the fire brigade, and rescue services will be protected.
- » Maximum fire protection for buildings and systems
- » Reduction of insurance contributions for fire protection is possible
- » Financial security, e.g. by reducing the risk of default of production and buildings.
- » Fulfilment of the requirements of risk management in accordance with ISO 9000 and ISO 14001.
- » Use of high-quality safety storage cabinets conserves resources and strengthens the image of your company.

Test criteria, protection objectives and minimum requirements

The three essential requirements of a safety storage cabinet in accordance with DIN EN 14470-1 are the minimisation of the risk of fire, the minimisation of fumes released into the work environment, and the retention of possible leakages. The test requirements of the laboratory furniture standard DIN EN 14727 also ensure a minimum of quality.



Extracts from DIN EN 14470-1

Ventilation

- » To prevent an explosive atmosphere, the ventilation must be effective directly above the bottom tray.
- » Ventilation openings for air supply and exhaust air must self-close when the temperature reaches 70 °C (158 °F).

Interior fittings

- » The bottom tray for the restraint of possible leakages must still be functional even after the fire resistance test.
- » The shelves must be made of non-absorbent material, bear the permissible load over the duration of the fire and be at most 1.75 m (5.74 ft) above the floor.

Door technology

- » Complete self-locking of the doors within a maximum of

20 seconds, optionally, an arrest system with temperature release at 50 °C (122 °F) is possible.

- » Closing force between the main closing and opposite closing edge of the door must not exceed 100 Newtons.
- » Each wing of the door must be operational with one hand.
- » If the doors are lockable, the locking device must not prevent self-closing in case of fire.

Fire chamber test

- » Each cabinet model and size is type-tested in a fire chamber test in accordance with DIN EN 14470-1 Type 90.

Tested safety at a very high level including:



Extracts from DIN EN 14727

Static endurance test

- » Standing surfaces, e.g. storage shelves, are subject to a static load and impact tests and must not show any breakage or other damage.

Dynamic load test

- » All components that move mechanically such as pull-out shelves, drawers and doors are tested with 50,000 cycles each. After the tests, the doors must close exactly and snap into place.



Tested safety at a very high level including

- » Type-testing according to DIN EN 14470-1 by recognised test institutes (TÜV Süd, iBMB Braunschweig, ift Rosenheim).
- » TÜV-tested according to DIN EN 14727 (laboratory furniture standard).
- » Type 90 classification in accordance with DIN EN 14470-1.
- » GS/CE mark.
- » High Quality mark of approval for upper-level style, user-friendliness and increased lifetime.

High-quality safety storage cabinets with maximum fire protection



Your added advantage with DÜPERTHAL safety storage cabinets!

» **Maximum fire protection for your safety**

Maximum safety with Type 90 technology and automatic self-closing doors in case of fire

» **Upper-level style for your health**

Ventilation in every cabinet level with visual inspection of the butterfly valves, with a continuous earthing concept as a standard.

» **Increased lifetime for your investment**

Continuous testing in accordance with DIN EN 14727, even 80,000 instead of 50,000 cycles in the dynamic load test.



1 Ventilation

Ventilation in **every cabinet level** and visual inspection of the venting cut-off flaps

2 Earthing (system)

To prevent ignition hazards through earthing in accordance with TRGS 727, the bearing surfaces are conductively connected as a standard to the equipotential bonding saddles.

3 Automatic closing of the doors

In case of fire, a the mocouple automatically triggers the uninterrupted closing system via the non-wearing safety feature (functional principle similar to the air bag system).

4 Base

A setback base is the solution to ergonomic working and a safe position.

5 Lock arrangement

The ergonomic lock arrangement at handle level increases handling convenience.

6 Transport

Due to the base construction with removable base boards, the cabinet is accessible from all sides. As a result, simple transport, for example with a hand pallet truck, is possible.

Solved internally, confi med externally and independently

For DÜPERTHAL, quality is the main focus. Proof of this is provided by the quality marks of approval awarded to each of our safety storage cabinets, in recognition of our comprehensive quality management system as per DIN EN ISO 9001. One basic condition here is that, apart from our own in-house inspections, production of the safety storage cabinets is continuously monitored by external accredited test institutes.



Tested safety - Made in Germany

Tested safety at the highest level including

- » Type-tested according to DIN EN 14470-1 as well as DIN EN 14470-2 by recognised test institutes (TÜV Süd, iBMB Braunschweig, ift Rosenheim).
- » TÜV testing according to DIN EN 14727 (laboratory furniture standard).
- » GS/CE mark.
- » High Quality mark of approval for upper-level style, user-friendliness and increased lifetime.



DÜPERTHAL Innovation –

sustainably protected technical inventions based on well over

50 national and international patents!

DIN EN



What else should you pay attention to?

Explosion and health protection

In accordance with DIN EN 14470, safety storage cabinets must be provided with supply and exhaust air connection in order to prevent hazardous vapours escaping into the working area by means of a technical exhaust air system. In this case, the ventilation must be carried out to the open air in a safe place. Alternatively, ATEX-compliant (2014/34 / EU) recirculating air filter systems have been tried and tested in practice in safety storage cabinets for solvents. In accordance with TRGS 510, safety storage cabinets without industrial ventilation must be earthed due to the increased danger potential.



» Exhaust air systems

» Filter systems



Your added advantage with industrial ventilation!

» Preventing an explosive atmosphere

A concentration dilution can already be achieved in the safety storage cabinet from a 10-fold air exchange per hour, so that an ex-zone around the cabinet is avoided. Please note that a lab bottle that has been opened once can already be a permanent source of emissions.

» Minimisation of health risks

With industrial ventilation, an increased risk of explosion as well as odour pollution can be

counteracted. In practice, it might be necessary to set a higher air exchange.

» Effectiveness / Functionality

The ventilation must be effective immediately above the bottom tray, since solvent vapours are often heavier than air. The laboratory directive also requires that the extraction is applied directly at the point of danger. Therefore, all DÜPERTHAL safety storage cabinets are equipped with ventilation at each cabinet level.

Our commitment to sustainable action

As an internationally operating family business with a company culture characterised by the community, we maintain clear values that characterise our daily thinking and action. In this way, we always have the big picture in mind in order to achieve satisfaction and success together with our customers and partners. This vision is committed to bringing the requirements of customers, the environment and society into harmony.





Economic aspects

The holistic view of the processes of our customers is deeply rooted in our corporate philosophy. This is how we create the basic conditions for optimised, safe and ergonomic work processes. Retaining the value of the products not only reduces costs. The increased lifetime of the safety storage cabinets also saves resources and saves energy for production.



Ecological aspects

DÜPERTHAL is committed to environmental protection and resource efficiency. We attach great importance to the commitment to use locally available raw materials. The short transport routes from suppliers in the surrounding area help to reduce emissions of harmful substances. At the same time, the use of recyclable materials relieves the environment during production.



Socio-cultural aspects

We promote and protect scientific research and development. With our products and services we increase safety in the workplace. We help our customers focus on the essentials - their work and the development of innovations that advance our society. Therefore, we do not limit ourselves to Germany. We document and certify our services in many countries and languages in order to implement our high standards on a comprehensive basis.

We continue the advancement of our company with the same diligence. For that is how we lay the foundation stone for securing our future-oriented production sites and the preservation of valuable jobs in the region.

Cabi2Net – networking for maximum safety



6

The future of the working world starts today!

The requirements for laboratory and industrial buildings continue to grow and pose great challenges to executives, facility managers and building operators and users. Sustainability and future viability are major factors in planning and operating a building according to the so-called Green Building Concept.



Green building and software

Comprehensive software systems are installed in the building technology for optimisation of performance, safety, comfort and cost reduction. A wide range of building components are controlled and optimised, including e.g. ventilation, air-conditioning, lighting, room automation, fire protection. Ideally, these systems are already taken into account in the planning in order to profit from the extensive benefits from the commissioning of the building and to amortise the investment quickly.

What contribution does DÜPERTHAL make to optimisation?

6

DÜPERTHAL's Cabi2Net system revolutionises central control of work processes. With up-to-date data and intelligent networking, it helps to organise the value chain efficiently. Information e.g. on fill levels or faults can be called up on the internet via a web interface, independent of terminal devices. The system is easily scalable and can be integrated into the general building automation.



Your technical advantage

With the use of Cabi2Net and the variety of possibilities to combine a wide range of sensors, all operating parameters relevant to you can be monitored constantly. Also, various systems for further processing of data and information can be controlled to guarantee stable and secure processes in your workplaces.



Your economic advantage

All relevant parameters can be recorded, collected and evaluated on Cabi2Net. This allows more flexible work processes and a more and more efficient organisation of the internal value chain. Your employees can use the released resources more effectively and actively for their scientific research

Precise and forward-looking with Cabi2Net

Logical steps - consistent, continuous safety: With Cabi2Net as a module, the value chain can be optimised and planned strategically. Efficient workflows – your technical and economic advantage.



Your technical advantage with Cabi2Net

- » Safety cabinet as **workplace** and storage location.
- » **System-like monitoring** of the ventilation ensures a high level of safety.
- » All parameters **at a glance** with Cabi2Net.
- » Cabinets **networked** in the system - optionally also as a "stand-alone" version with UMTS card.
- » Digital inputs and outputs for **numerous additional functions**.
- » **Remote access** to information at any time.
- » Digital and analogue **level evaluation** possible
- » Continuous monitoring of **temperature data**.
- » Media and quantity selection **traceable** at any time.



Safety in organisation

- » Programmable access control and clear **user profiles** – only instructed employees have access to the cabinet contents, which means increased legal certainty
- » System controlled working with identification and unlocking of the doors means defined work safety – and **increased legal certainty** in case of damage or injuries.
- » Digital storage of the **safety data sheets** and instructions, accessible at any time.
- » **Continuous documentation** of the hazardous substances used, storage plans and hazardous substance lists.

6



Your economic advantage with Cabi2Net

- » Authorised self-service for media issue **releases resources** which can be used for active operations elsewhere.
- » Quantity limits can be used to define the maximum daily requirement and achieve **quantity reduction**
- » Key data can be allocated, booked and settled directly with one **cost centre**.
- » Direct use of the key data in the purchasing organisation helps to achieve security of supply and effective risk management.
- » **Central ordering system** with direct data transmission to media suppliers for automated purchasing of the necessary chemicals.
- » Transparency and inspection of media consumption **reduces purchasing and procurement costs as well as disposal costs.**
- » High degree of compatibility with existing data management systems and integrated interfaces reduce operating costs and **support paperless organisation.**



Smart technology - the added advantage in safety and comfort

Enter a new world with Cabi2Net and Smart Control from DÜPERTHAL (for more information see the following pages)! With these new features, you can connect your safety storage cabinets to each other in the network for the first time. This allows you to easily route all relevant information on the operational status of your DÜPERTHAL safety storage cabinets e.g. with your smart phone, tablet or PC - worldwide.

	Display TouchScreen	Network capability	Web capability	Exhaust air flow monitoring	Level monitor (supply/disposal) Capacitive sensor	Level monitor (disposal) Float sensor	Temperature monitoring	Status Door opening	Your individual requirement
Cabi2Net	●	●	●	●	●	●	●	●	?
Smart Control	●	●	—	●	●	●	●	●	?

Intelligent hardware and software

- » Network interfaces.
- » Digital and analogue inputs for evaluation of sensors for level monitoring, temperature control, flow rate, etc
- » Digital outputs for switching signal lamps, acoustic warning devices, release or locking mechanisms.
- » Industrial displays with touch function, visualisation via web browser or display on PC monitor.
- » Individual adjustment of the system configuration, thanks to different user levels.
- » Easy operation with keyboard, mouse or touch screen.
- » Individual control of all cabinets in the system.
- » Real-time electronic documentation.
- » Remote access to process-relevant information

Occupational safety - the digital transformation

6

In scientific research and production operations and the requirements of each individual have continually increased with respect to performance and efficiency. Also, when it comes to occupational safety, operators have more and more responsibility today. Factors such as demographic change and the resulting gaps in knowledge management require stable, safe processes for sustainable occupational safety.



Process reliability through sensors

Process reliability is now the central keyword. The operator is not only responsible for the safety of the user and the activities throughout the internal process chain; he must also document this and prepare it for further processing by digital devices such as a PC or tablet. Reliable sensors for monitoring the respective parameters are a basic requirement for this. We present to you a large selection of sensors on the following pages.

Process reliability - sensors for your application

In combination with the large selection of sensors in particular, you can further optimise your processes and tailor them to your requirements. For example, fill levels can be recorded for every extraction and/or collection of flammable liquids and appropriate independent measures can be initiated. The technology also allows you to evaluate temperatures or to monitor the closing of the doors. The powerful interface has no limits - just tell us your requirements and we will work with you to achieve the best technical and economical solution!



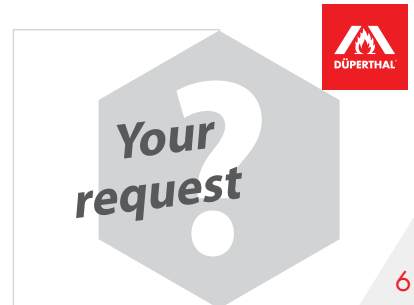
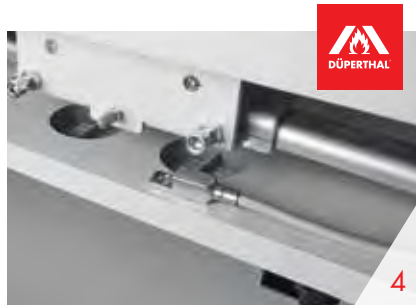
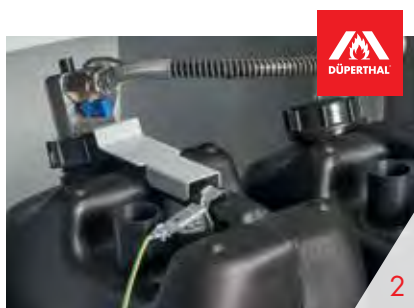
1 Level monitoring capacitive (unaffected by media)

To minimise risk of overfilling in accordance with TRGS 509, the use of sensors for level monitoring is recommended. Capacitive sensors are unaffected by media and are optionally available in analogue mode for continuous measurement, or in digital mode for level measurement.

2 Level monitor with float probe

Sensors with a float probe are an alternative to filling level monitoring. In digital and analogue versions, 1 to 3 measuring points for level measurement are possible.

Our large selection of sensors in combination with DÜPERTHAL safety storage cabinets relieves you of daily work and helps you meet requirements with confidence: Process reliability is guaranteed and all parameters are automatically documented in conjunction with Cabi2Net for the risk assessment.



3 Monitoring of exhaust function

To minimise an explosive atmosphere when storing hazardous substances, the exhaust function and the required exhaust air flow rate must be constantly monitored (24/7), especially when filling and transfer take place.

4 Temperature sensor

For the storage of substances for which self-ignition cannot entirely be ruled out, e.g. lithium-ion batteries, a temperature probe is recommended. This is an early warning system for the detection of thermal events inside the cabinet.

5 Status query door opening

The doors of safety storage cabinets for the storage of hazardous substances must be kept closed after use. This applies especially if the stored media pose risks to safety due to their exposure. This sensor can provide an easy way to monitor the status of the door (open/closed).

6 Your requirement

Do you have a special requirement for which you need to find a solution? Then, together, we will find a way!

Ingenious - actively combined

The safety storage cabinets for active storage have a monitored ventilation to prevent the formation of an explosive atmosphere. Additionally, the timely exchange of collection containers is automatically triggered by the integrated fill level monitor and the risk of collection containers overflowing is minimised



Smart Control - the clever add-on

The new Smart Control with touch screen includes the ability to monitor the status of door opening, temperatures and the exhaust air and the fill level. With monitoring of the ventilation function by Smart Control it is possible to monitor the defined explosion protection concept according to TRGS 400 and to document this. In addition, the Smart Control can be used as a level monitor for containers in safety storage cabinets for active storage and warns of overfilling. The display includes an error indicator and logging and makes a proactive contribution to health & safety and environmental protection.



Your technical advantage

- » Safety storage cabinet as workplace and storage location.
- » Systemised ventilation monitoring ensures high level of safety.
- » Safety digital inputs and outputs for numerous additional functions such as monitoring door status, temperatures and much more.
- » Digital and analogue level evaluation possible.
- » Media and quantity selection traceable at any time.



Your economic advantage

- » Quantity limits can be used to define the maximum daily requirement and achieve quantity reduction.
- » Transparency and inspection of media consumption reduce purchasing and procurement costs as well as disposal costs.
- » Direct use of the key data in the purchasing organisation supported.
- » Security of supply and risk management.

System solutions | Process example

In industry, there are more and more digital interfaces between companies and their partners, e.g. the automatic delivery of components and screws. In the chemical sector, tracking systems for hazardous substances are the first step in the networked world of work. However, there is a virtually unlimited number of applications which require safe processes for safe handling of hazardous substances.



Your added advantage from your system solution!

- » **Process reliability with approved system solutions**
With the tested system solutions from DÜPERTHAL your processes are stable for the long term, securely and digitally documented.
- » **Evaluation and safety in the network**
All system-relevant parameters can be accessed via the network and stored using Cabi2Net.
- » **The highest fire protection for your safety**
With the Type 90 technology of the safety storage cabinets, you can rely on maximum safety in case of fire

Process example in detail

Based on extensive analyses - at your location - we develop secure process solutions. We provide you with an example on this page. Let us inspire you - we would be happy to arrange a date and time to discuss what your individual solution could look like.

6



1 ACTCOM XL

For the supply of the HPLC system with solvents in commercial containers.

2 DISPOSAL UTS ergo line

To collect HPLC solvent wastes - equipped with an analogue, capacitive sensor for continuous level monitoring.

3 DISPOSAL BENCH line

To collect large quantities of solvent wastes, for example from PREP systems, equipped with digital, capacitive fill level sensor.

4 VisiCon - waste collection system

For direct feeding of the solvent wastes in accordance with the regulations via the bench penetrations to the DISPOSAL line cabinets.

5 CLASSIC PRO XL

For the classic storage of sealed containers including sensors to monitor the door status - whether open or closed - as well as for temperature monitoring.

6 Cabi2Net

For process reliability, the Cabi2Net is networked with all cabinets to collect data about the status of the exhaust air, fill level, door opening or temperature and evaluate it via an independent web interface.

Comfort Service Agreement

We thank you for the trust you have shown in purchasing DÜPERTHAL safety storage cabinets.

Please note that according to BetrSichV, TRGS 526, TRGS 510, ArbStättV and the maintenance interval indicated by the manufacturer, all safety-relevant features have to be checked by a qualified person once a year in accordance with TRBS 1203. In order to meet these requirements and to guarantee the safe function of your safety storage cabinets, we recommend that the cabinets should be checked once a year by our service technicians.

Your benefits: DÜPERTHAL Comfort* Service Agreement

- » 5-year manufacturer's guarantee. **
- » First inspection is free of charge.



Your economic advantage

- » 5-year manufacturer's guarantee. **
- » First inspection is free of charge.
- » Cost saving with regard to repairs, time expenditure is not billed separately (included in lump sum).
- » Travel expenses are included in the lump sum.
- » Guarantee systematic monitoring of your safety equipment for audits. We remind you about upcoming deadlines.

Your technical advantage

- » Your cabinet's protective function is constantly maintained.
- » Support from trained and certified service technicians.
- » Inspection of safety storage cabinets and exhaust air filter systems.



**Preventive maintenance.
Sustainable maintenance.
Our service sets new standards.**

Your contact person - Service

Phone: +49 6188 9139-166

E-mail: service@dueperthal.com



DÜPERTHAL is certified acc. to
DIN EN ISO 9001



Customer:

(please specify exact address and phone no.)

Service agreement no.:

between the recipient as the
customer and the
DÜPERTHAL SICHERHEITSTECHNIK GmbH & Co. KG
Frankenstrasse 3
63791 Karlstein, Germany

In Germany, the annual inspection of safety storage cabinets including proof of the test is legally required by the BetrSichV, TRGS 526, TRGS 510, and the ArbStättV legislation. Employers are responsible for implementation.

The DÜPERTHAL Comfort* Service Agreement includes the following services:

- » Annual safety inspection and maintenance
- » Test certificate and test label
- » Time expenditure for repairs (spare parts are billed separately)
- » Travel expenses
- » 5-year manufacturer's guarantee**



Number of safety storage cabinets:

(please enter quantity)

1	
2-3	
4 or more	

Lump sum per safety storage cabinet/year:

Number of exhaust air filter systems:

(please enter quantity)

1	
2-3	
4 or more	

Lump sum per exhaust air filter system/year:

The inspection and maintenance covers all safety-relevant parts, such as fire protection and air seals, fusible links, ventilation openings, door closers and locking systems as well as insulation. Furthermore, all mechanical components are checked to ensure that they are working properly and an exhaust air measurement is taken.

Deviations from this agreement are only valid if they have been agreed on in writing by both parties to the contract. Otherwise the service terms and conditions (supplement) must be complied with.

Karlstein,

Date

Place / Date

DÜPERTHAL SICHERHEITSTECHNIK GmbH & Co. KG

CLIENT

Date / Signature / Company stamp

Date / Signature / Company stamp

* Only valid for cabinets not older than 2 years (from delivery date). ** Manufacturer's guarantee does not apply to cabinets of other manufacturers.

Delivery checklist for safety storage cabinets

Simply complete and send back by e-mail to info@dueperthal.com

Dear Customer,

This checklist is part of the order. We would like to deliver and align your safety storage cabinets at the place of use. To ensure a timely and smooth delivery at the preferred installation location / place of use without complications, we need you to fill in the information below. If information is incomplete or received too late, substantial additional costs may arise, which we have to pass on to you. Please take notice of the delivery date mentioned in the order confirmation.

1. Order data	3. Access route/transport route outside the building
Customer	3.1 Is access possible with a 26 t truck, min. dimensions 3 x 12 x 4 m (W x L x H)?
Customer no.:	<input type="checkbox"/> Yes, road width approx. W _____ x H _____ m <input type="checkbox"/> no
Company:	<input type="checkbox"/> Roofing – max. clearance height only _____ m
Post code/city:	<input type="checkbox"/> Bridge – max. clearance height _____ m
Name:	<input type="checkbox"/> Blocked, because _____
Phone:	<input type="checkbox"/> Route not suitable, because _____
Department:	3.2 Distance to the building? _____ m
PO no:	3.3 Road surface?
Order no:	3.4 Pedestrian zone <input type="checkbox"/> yes <input type="checkbox"/> no. Delivery time from _____ to _____
Delivery address	3.5 At ground level <input type="checkbox"/> yes <input type="checkbox"/> no
Company:	3.5 Steps into the building <input type="checkbox"/> yes, _____ steps <input type="checkbox"/> no
Contact person on site:	3.6 Loading ramp available <input type="checkbox"/> yes <input type="checkbox"/> no
Phone:	3.7 Can the truck bridge the steps by means of its rear lifting platform? <input type="checkbox"/> yes <input type="checkbox"/> no
Street:	3.8 Parking facilities <input type="checkbox"/> yes <input type="checkbox"/> no
Post code/city:	3.9 Forklift truck & driver available <input type="checkbox"/> yes <input type="checkbox"/> no
Cabinet model:	3.10 Best access route by road?
Dimensions: (W x D x H in mm)	4. Transport route inside the building
Weight: (in kg)	4.1 Is the load bearing capacity of the transport route sufficient for the weight listed above? <input type="checkbox"/> yes <input type="checkbox"/> no
2. Installation location and delivery date	4.2 Installation location on ground floor <input type="checkbox"/> yes <input type="checkbox"/> no
2.1 When will the rooms/transport routes be ready for use? (This includes all lifts, staircases, corridors on the way)	4.3 Installation location in basement/on upper floor <input type="checkbox"/> yes, _____ floor
2.2 Delivery possible from _____ to _____	5. Lift
2.3 Installation location (building, room):	5.1 Lift available? <input type="checkbox"/> yes <input type="checkbox"/> no
2.4 Person to be notified by phone:	5.2 Lift usable? <input type="checkbox"/> yes <input type="checkbox"/> no
2.5 Phone:	5.3 Load bearing capacity in kg
	5.4 Usable inner carcass (W x D x H)
	5.5 Door clearance dimensions (W x H)



6. Stairs

6.1 Transport by stairs?

☐ yes, _____ floor ☐ no

Note: In case of transport to buildings without a service lift and delivery above ground floor, any additional costs arising for additional personnel, equipment, load crane, etc. will be borne by the customer and will be billed separately at cost.

6.2 What kind of stairs are there on site? Please mark with a cross!

☐ Version 1

A = Stair width = _____ cm

B = Landing depth = _____ cm

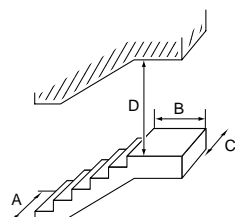
C = Landing width = _____ cm

D = Lintel height = _____ cm

No. of steps = _____

Step depth = _____ cm

Step height = _____ cm



☐ Version 2

A = Stair width = _____ cm

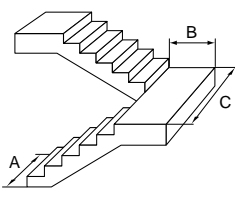
B = Landing depth = _____ cm

C = Landing width = _____ cm

No. of steps = _____

Step depth = _____ cm

Step height = _____ cm



☐ Version 3

A = Stair width = _____ cm

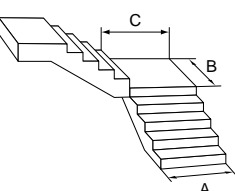
B = Landing depth = _____ cm

C = Landing width = _____ cm

No. of steps = _____

Step depth = _____ cm

Step height = _____ cm



When giving the dimensions, please consider all obstructions like banisters, radiators or similar objects!

6.3 Do all stairs along the transport route correspond to the version marked above?

☐ yes ☐ no. Differences:

6.4 Other stairs:

Description:

Sketch

Note: Delivery via a spiral staircase is only conditionally possible; please arrange with us a transport route inspection by our carrier in good time!

6.6 Number of stairs in total?

6.7 Type of stairs (e.g. concrete, wood, steel, etc.)?

To the building _____

Inside the building _____

Note: Rubber edges on steps may be damaged; we cannot accept liability for this.

6.8 Protruding edges ☐ yes _____ cm overhang ☐ no

6.9 Can each individual step be loaded with the cabinet's weight? ☐ yes ☐ no

7. Doors

7.1 How many doors are there along the transport route?

7.2 Door dimensions	Clear height [cm]	Clear width [cm]	Space available behind [m]
Door 1			
Door 2			
Door 3			
Door 4			
Door 5			

8. Requirements for the installation location/ceiling load

Please take into account the allowable ceiling/floor load at the installation location for all safety storage cabinets. In particular, the SUPREME plus XL and XXL safety cabinets for pressurised gas cylinders may not be installed without consulting a structural engineer first if the ceiling load is less than 600 kg/m².

8.1 The surface must be level and flat and be able to bear the weight of the safety cabinet when fully loaded. Is the load bearing capacity of the installation location sufficient for the weight listed above? ☐ yes ☐ no

8.2 Is the floor at the installation location free of cables and underfloor heating? ☐ yes ☐ no

Note: Furthermore, the installation location must ensure that the safety storage cabinet

- cannot be damaged by vehicles.
- is not exposed to any direct or indirect heat source.
- is protected against moisture.
- is not exposed to an operating temperature below -5 °C or above +45 °C.

The lump sum price quoted for transport is subject to the condition that the installation location (place of use) is freely accessible and it is possible to complete the transport on site. The customer assures that they are aware of the dimensions of the safety storage cabinets to be delivered and that their information regarding the conditions on site at the place of delivery is completely accurate. Any additional costs will be borne by the customer. These may arise from differences between the information given above and the actual situation on site and consequent further action necessary to be taken, such as exceeding the delivery time and/or interventions in the building fabric (widening of door openings, dismantling and reassembly of banisters, etc.) or the installation of a crane to bring the safety storage cabinet to the place requested by the customer. If the transport company refuses transport for reasons of risk and the customer nevertheless insists on installation, all of the customer's rights of recourse are cancelled should the mentioned risks materialise, unless a case of deliberate intent or gross negligence exists.

Date / Signature / Company stamp

Offering you a personal service

Intelligent technology – Great service

There is more to safety than simply buying a safety storage cabinet. This is why we offer you our certified knowledge, comprehensive service and expertise – supporting you before, during and especially after your decision to buy a DÜPERTHAL safety storage cabinet. For a reassuring feeling of having done everything within your power.

Individual advice.
Intelligent solutions.
Safety requires experts.

Your contact person – for Germany

Phone: +49 6188 9139-0

E-mail: info@dueperthal.com

Your contact person – for all other countries

Phone: +49 6188 9139-150

E-mail: info@dueperthal.com

Preventive inspections.
Sustainable maintenance.
Our service sets new standards.

Your contact person – Technical Service

Phone: +49 6188 9139-166

E-mail: service@dueperthal.com



Safety means responsibility.

DÜPERTHAL is one of the leading manufacturers of safety storage cabinets. There are good reasons for choosing DÜPERTHAL safety technology. Find out more about us and our entire product range on www.dueperthal.com.

We look forward to your call!

Mondays to Thursdays from 8.00 am to 5.00 pm
Fridays from 8.00 am to 4.00 pm

DÜPERTHAL Sicherheitstechnik GmbH & Co. KG
Frankenstrasse 3 | 63791 Karlstein | Germany



Metric Equivalents

Commonly used measurements

[rounded]

Volume / Liquid measure equivalents

Containers & Drum Sizes

[ounce]	4	8	16	32	[pint]	1	[quart]	1	2	[gallon]	1	1.32	1 ½	2
[litre]	0.12	0.24	0.5	1	0.5	1	2	4	5	6	7.5			

[gallon]	2 ½	2.64	3	3 ½	4	5	6	6.6	8	10	12	15.9	30	55
[litre]	9.5	10	11	13	15	19	23	25	30	38	45	60	110	200

[inch]	¼	⅜	½	¾	1 ½	2
[mm]	6	10	13	19	38	51

Sheet Steel Sizes

[gauge steel]	24	18	16	14
[mm]	0.5	1	1.5	1.9

Weight Equivalents

[pounds]	60	132	165	350	600	1000	1500
[kg]	27	60	75	159	272	454	680

Pressure and Temperature

[psig]	3	5	[Fahrenheit]	34°	50°	59°	68°	122°	158°	165°	325°	392°
[bar]	0.2	0.35	[Celsius]	1°	10°	15°	20°	50°	70°	74°	163°	200°



Conversion Chart

Fahrenheit to Celcius:
 $(^{\circ}\text{F} - 32) \times 0.5555 = ^{\circ}\text{C}$

Inches to Millimeters:
Multiply by 25.4

Inches to Centimeters:
Multiply by 2.54

Feet to Meters:
Multiply by 0.3048

Feet to Centimeters:
Multiply by 30.48

Feet to Millimeters:
Multiply by 304.8

Ounces to Grams:
Multiply by 28.35

Pounds to Kilograms:
Multiply by 0.4536

Gallons to Litres:
Multiply by 3.785

DPVT B.V. DUPA Veiligheidstechniek

Pottenbakkerstraat 18 | 4871 EP Etten-Leur

Tel +31 76 204 30 15

info@dupa.nl | www.dupa.nl