


Recirculating air filter system with exhaust air monitoring Version UFA.025.030 and UFA.025.030.XL



The plug-in recirculating air filter system type UFA.025.030 is capable of retaining solvent vapours (hydrocarbons) permanently up to a filter saturation of more than 99.999%, under normal operating conditions as well as for a simulated accident in the safety storage cabinet.

- High flexibility in choosing the installation location
- Active personal protection through safe capture of harmful vapours with retention in the filter system
- Very low noise, only approx. 23 dB (A)
- ATEX-compliant:  II 3/-G Ex ic nA IIB T4 Gc
- Housing made of powder-coated sheet steel
- With multi-stage filter system, secondary filter, connection cable and mains plug
- Incl. monitoring electronics for exhaust air and filter monitoring and display for status and error indication
- Key control panel for navigation of the functions and status query
- Optical and acoustic alarm including potential-free alarm contact

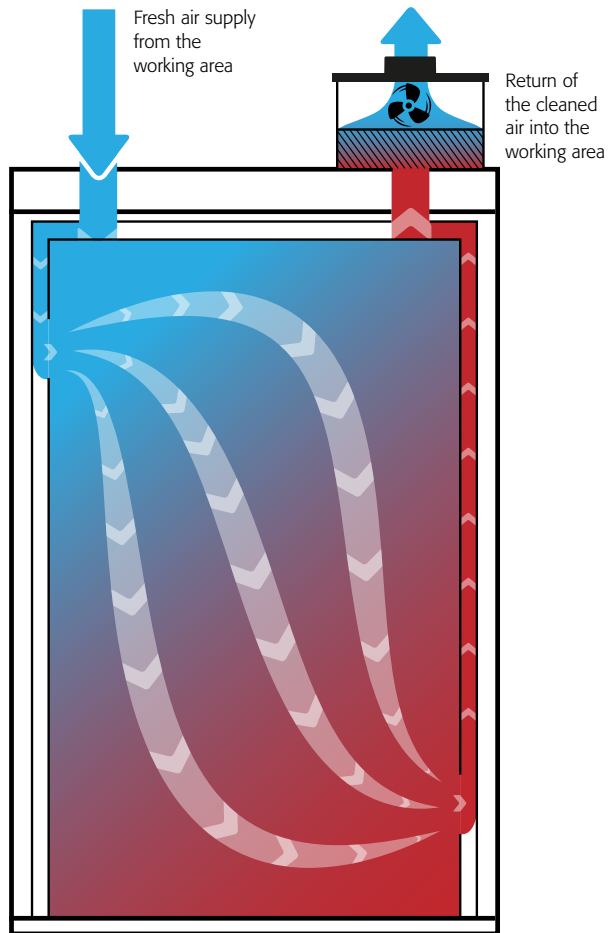
Technical data

Width external (mm)	308
Depth external (mm)	555
Height external (mm)	256
Nominal voltage (V)	85-264
Current consumption (A)	0,13
Emission sound pressure level dB (A)	23
Weight (kg)	17
Customs tariff number	84213925

UFA-Modell	Suitable model line
UFA.025.030	S-LINE / Q-LINE / V-LINE / UB-LINE / CS.195.105.F / E.195.095.F
UFA.025.030.XL	XL-LINE

Recirculating air filter systems

The flexible solution for complying with national occupational exposure limits and for avoiding a build-up of explosive atmospheres in solvent safety cabinets



Your advantages

- » Avoid complex wall and ceiling openings and expensive exhaust air ducts
- » High flexibility in choosing the installation location
- » Active personal protection through safe capture of harmful vapours with retention in the filter system
- » Very low noise, only approx. 23 dB (A)
- » Principle avoidance of hazardous area zones inside and around the safety storage cabinet

Product features and commissioning:

Filter technology

- Activated carbon (main filter) and broadband activated carbon (secondary filter) as absorbent filter media
- Filter housing made of reusable plastic (ABS) - used filters are sustainably reprocessed after return
- In the unlikely event of a filter breach, the secondary filter provides additional safety

Exhaust air monitoring

- Permanent, electronic monitoring of the exhaust air volume
- Visual and audible alarm with potential-free alarm contact

Filter monitoring

- Permanent monitoring of the filter saturation
- 2-stage alarm: optical via the display, acoustic via warning tone and with potential-free alarm contact

Assembly, easy and safe in only 2 steps:

- Position the recirculation filter unit on the cabinet ceiling
- Plug in the mains supply
- Use the optional potential-free contact to give an alarm





Extraction of hazardous materials

Do safety storage cabinets have to be technically ventilated?

1.

The legislative authority has facilitated the operation of safety storage cabinets without technical ventilation on the basis of **TRGS 510**, Annex 3, 2.2. If technical ventilation is not carried out in the long-run, contingency measures must be implemented, which ensure comparable explosion protection. (Applicable for German market).

2.

Please bear in mind that other regulations in addition to **TRGS 510** (Annexe 3) can also make technical ventilation necessary. For example, if corrosive or poisonous substances are stored or there is unpleasant odour for the employees due to the substances stored, a technical ventilation of the safety storage cabinet must be planned as a rule; for this, please refer to the Ordinance on Hazardous Substances or Workplaces Ordinance.

3.

With the **recirculating air filter system UFA.025.030**, it is also possible to ensure a technical ventilation of safety storage cabinets without an expensive exhaust fan and by avoiding explosion protection measures in a cost-effective manner!

Please adhere to the country-specific terms of use binding for you. In case of any doubt, the possible applications must be agreed with the relevant authority having jurisdiction.

What are the possible ventilation options?

Natural ventilation

- + No cost-intensive exhaust air ducts are necessary
- Explosion zones must be permanently ensured around the safety storage cabinet
- Possible health risk to the employees
- Ignition sources must still exist inside the safety storage cabinet

Technical ventilation using Local Exhaust Ventilation (LEV)

- + No health risk to the employees
- + All the hazardous materials (also acid and base vapours) will be eliminated
- Cost-intensive exhaust air ducts with possible wall/ceiling breaks will be necessary
- Installation of the safety storage cabinet becomes inflexible
- Energy consumption due to heat losses in the exhaust air

Technical ventilation using a recirculating air filter system

- + No health risk to the employees/workers
- + No cost-intensive exhaust air ducts are necessary
- + Flexible installation of the safety storage cabinet
- + No energy losses due to exhaust duct outwards
- + Permanent electronic monitoring of the exhaust air volume
- + Tested and certified system
- Only solvent vapours (hydrocarbons) can be filtered



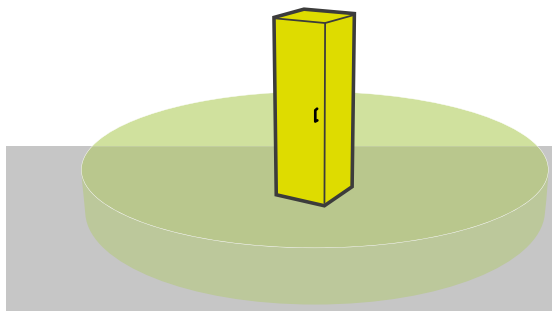
If you have any further questions on ventilation of safety storage cabinets, please contact us. Our employees will be happy to help you.

Please adhere to the country-specific regulations and provisions that are applicable for you.



Area classification for flammable liquids – storage in a safety storage cabinet (DGUV-standard 113-001, collection of examples 2.2.8)

NO AREA CLASSIFICATION



Case A: the LEL (lower explosion limit) is sufficiently below the flashpoint as the flashpoint of the flammable liquid is sufficiently above the storage temperature (refer to TRGS 721 point 3.2 (3))

OR

Case B: the flashpoint is **not** sufficiently above the storage temperature (refer to TRGS 721 point 3.2 (3))

Technical ventilation is available and the following conditions are fulfilled:

- container securely closed, regularly checked for leakage
- sealed containers only (no filling or decanting, no sampling)
- dried containers, no external flammable liquid residue

Protective measures:

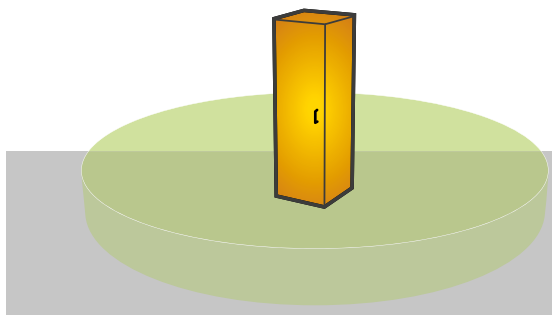
Case A: in accordance with TRGS 722, point 2.3.2

Case B: in accordance with TRGS 722, point 2.4.4.3

Case A and B: in accordance with TRGS 724, none

Area classification ZONE 2 inside the cabinet

No area classification outside the cabinet



the flashpoint is not sufficiently above the storage temperature (refer to TRGS 721, point 3.2 (3))

Case C: technical ventilation is available, the conditions for area classification (**Case B**) are not fulfilled in all points, containers are however tightly closed

OR

Case D: natural ventilation is available and the following conditions are fulfilled:

- container securely closed, regularly checked for leakage
- sealed containers only (no filling or decanting, no sampling)
- dried containers, no external flammable liquid residue

Protective measures:

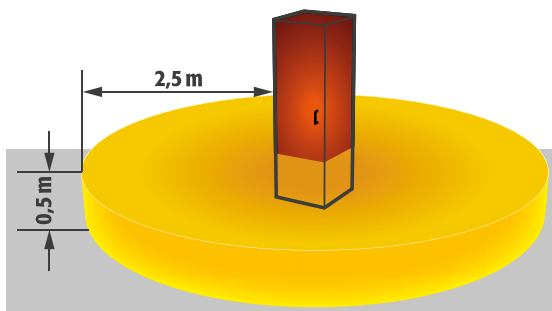
Case C: in accordance with TRGS 722, point 2.4.4.3

Case D: in accordance with TRGS 722, point 2.4.4.2

Case C and D: in accordance with TRGS 724, none

Area classification ZONE 1 inside the cabinet

Area classification ZONE 2 outside the cabinet



the flashpoint is **not** sufficiently above the storage temperature (refer to TRGS 721, point 3.2 (3))

Case E: natural ventilation is available, the conditions for area classification (**Case D**) are not fulfilled in all points, containers are however tightly closed

Protective measures:

Case E: in accordance with TRGS 722, point 2.4.4.2

Case E: in accordance with TRGS 724, none

Defining the zones for avoiding ignition sources in accordance with TRGS 723

The inside of the exhaust air duct is to be classified in the same zone as the inside of the safety storage cabinet.





Extraction of hazardous materials

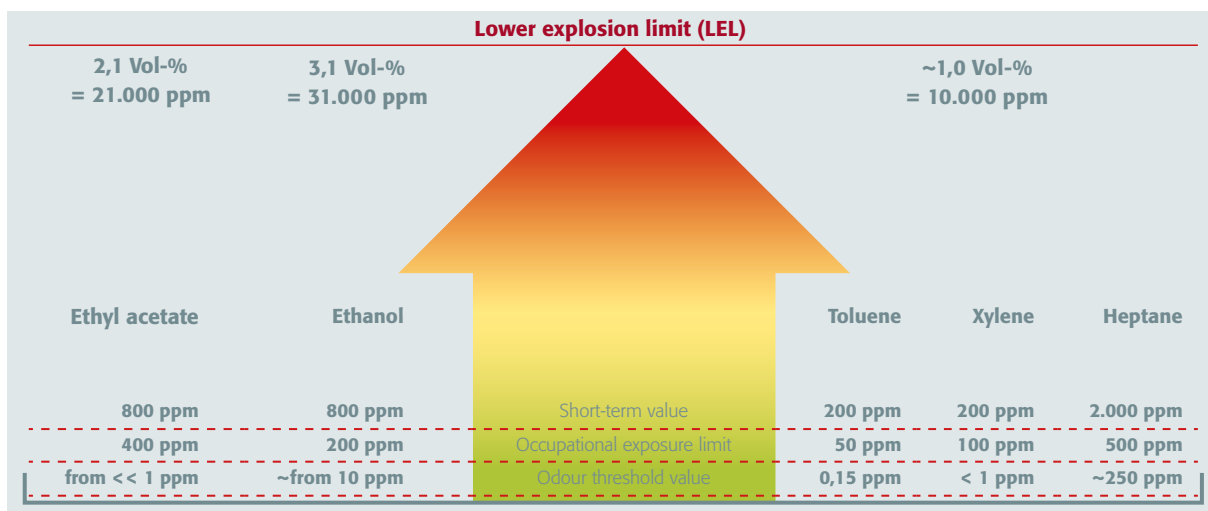
Which limit values are relevant for activities involving hazardous materials?

When working with hazardous substances, employees must be protected from substance-related hazards and damages. For the assessment of health hazards when handling and storing hazardous substances, the following limit values must be observed:

- » Limit values according to REACH
DNEL: Derived No-Effect Level (derived exposure level without effect) (by manufacturers or importers/marketers)
DMEL: Derived Minimum Effect Level
Risk-based limit values for carcinogenic and germ cell mutagenic substances (not provided for in REACH, only in legally nonbinding ECHA guidelines)
- » Limit values according to the Ordinance on Hazardous Substances/TRGS 900
OEL: Occupational exposure limit vs. MWC: Maximum workplace concentration
- » Carcinogenic hazardous substances according to TRGS 910
ERB: Exposure-Risk Relationships vs. TGC: Technical Guideline Concentration
- » HSE workplace exposure limits according to EH40/2005
WEL's: Workplace exposure limits
Are British occupational exposure limits which are set in order to help protect the health of workers. WEL's are concentrations of hazardous substances in the air, averaged over a specified period of time, referred to as a time-weighted average (TWA). Two time periods are generally used:
 - » long-term (8 hours) and
 - » short-term (15 minutes)
 - » The short-term exposure limits (STEL's) are set to help prevent effects such as eye irritation, which may occur following an exposure for a few minutes.

A possible health hazard can also be derived from the odour threshold value. Unpleasant or even annoying odours should always be the first sign of a possible health risk when working with hazardous substances. For the evaluation of possible explosion hazards during activities with flammable hazardous substances, the lower explosion limit (LEL) must also be taken into account.

The concentration ratios between odour threshold value, occupational exposure limit value, short-term value and lower explosion limit are illustrated in the following figure:



The occupational exposure limit value (OEL) as a legally binding threshold value

The occupational exposure limit value (OEL) is the limit value for the time-weighted average concentration of a substance in the air at the workplace in relation to a given reference period. It specifies the concentration of a substance at which acute or chronic harmful effects on health are generally not to be expected. Occupational exposure limit values are shift averages for approx. 8 hours daily exposure five days a week during the working life.



How do I safely comply with these limits?

If it is not possible to substitute the hazardous substances used with a less hazardous material – which must be justified in the risk assessment – technical measures must primarily be taken in accordance with the state of the art. The aim is – first and foremost – to protect the health of employees by avoiding or at least minimising exposure to hazardous substances and thus to prevent accidents and illnesses caused by hazardous substances. If these limit values are complied with, it can be assumed that employees will not fall ill and that their working capacity will be permanently maintained.

In order to achieve this goal and at the same time prevent the formation of hazardous explosive atmospheres, ventilation measures or the extraction of hazardous substances at the point of origin are of outstanding importance.

Technical measures have long been established in practice. However, these must be differentiated depending on the activity, in order to extract hazardous substances safely.

1. Passive storage of hazardous substances

Containers for hazardous substances in the safety cabinet or storage room are tightly closed and are not filled, emptied or opened for any other purposes.

In these applications, technical ventilation of the storerooms can be achieved by connecting to an on-site exhaust air system or recirculating air filter devices. If permanent technical ventilation is not possible, alternative measures must be taken to avoid exposing employees to health risks and to ensure explosion protection.

You will find suitable and supplementary products on the following pages in this catalogue.



2. Active storage of and working with hazardous materials (e.g. decanting, collecting, etc.)

Hazardous substances are stored in transportable containers and used at the place of storage as removal or collection containers or opened for other purposes.

In these cases, a higher risk of exposure to hazardous substances can be assumed. In principle, therefore, no filling should be carried out in a storeroom. In practice, however, this may be necessary for the decanting of smaller quantities or for the disposal of solvents. Such applications should be carried out at technically ventilated safety storage cabinets or – even better – in adequate workplaces for hazardous substances. You will find safe product solutions in this catalogue.



The lower explosion limit of a substance is many times higher than the occupational exposure limit of a substance. Therefore, always ensure adequate ventilation and thus safely comply with both limit values.



It Can Happen To Anyone – many different dangers threaten when handling hazardous materials!

The use of hazardous and combustible materials is part of the daily routine in most laboratories and industries and is unavoidable. What is often quickly forgotten in daily handling: the improper storage of such materials puts people, the environment and property in danger. Learn more about the safe storage of hazardous materials in our „HazMat Guide“.

You can order it on our website:

www.asecos.global/catalogues





EC DECLARATION OF CONFORMITY

in terms of the EC Machinery Directive 2006/42/EC, appendix II A

We

asecos GmbH
Weiherfeldsiedlung 16-18
D-63584 Gründau

hereby declare that the products referred to below

Description

Recirculating air filter system
UFA.025.030; UFA.025.030.XL

are developed, manufactured and placed on the market in accordance with the guidelines below:

2006/42/EG	DIRECTIVE 2006/42/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 May 2006 on machinery, and amending Directive 95/16/EC (recast)
2014/34/EU	DIRECTIVE 2014/34/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 February 2014 on the harmonisation of the laws of the Member States relating to equipment and protective systems intended for use in potentially explosive atmospheres (recast)
2014/35/EU	DIRECTIVE 2014/35/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits
2014/30/EU	DIRECTIVE 2014/30/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 February 2014 on the harmonisation of the laws of the Member States relating to electromagnetic compatibility (recast)
2011/65/EU	DIRECTIVE 2011/65/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment
2012/19/EU	DIRECTIVE 2012/19/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 on waste electrical and electronic equipment (WEEE)

Applied harmonised standards and regulations, in particular:

EN 61010-1:2010/A1:2019	Safety requirements for electrical equipment for measurement, control, and laboratory use Part 1: General requirements
EN 61326-1:2013	Electrical equipment for measurement, control and laboratory use - EMC requirements Part 1: General requirements (IEC 61326-1:2012)
EN 61000-6-2:2005	Electromagnetic compatibility (EMC) - Part 6-2: Generic standards — Immunity for industrial environments
EN 61000-6-3:2007/A1:2011	Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments
EN 60204-1:2018	Safety of machinery — Electrical equipment of machines — Part 1: General requirements
EN 60079-15:2010	Explosive atmospheres - Part 15: Equipment protection by type of protection 'n'

Other applied European or national standards, rules and regulations, in particular:

EN 50678:2020	General procedure for verifying the effectiveness of the protective measures of electrical equipment after repair
EN 50699:2020	Recurrent Tests of Electrical Equipment
TRGS 727	Technische Regel für Gefahrstoffe - Vermeidung von Zündgefahren infolge elektrostatischer Aufladungen
VDI 2058 Blatt 3 DIN 31000; VDE 1000:2017-04	Beurteilung von Lärm am Arbeitsplatz unter Berücksichtigung unterschiedlicher Tätigkeiten Allgemeine Leitsätze für das sicherheitsgerechte Gestalten von Produkten

Labelling/Documentation

Labelling

CE  II 3/- G Ex ic nA IIB T4 Gc

Technical documentation
Manual

Deposited at the manufacturer
Enclosed to the device

Authorised representative for
documentation

Norbert Holscher
asecos GmbH

Date and place of issue

Gründau, 12.2022

Michael Schrems
Managing partner