



RESPIRATORY PROTECTION PRODUCT CATALOG

 23/24



CONTENT

PRODUCT CATALOG

"We design and develop the next generation of respiratory protection equipment, 100% made in Germany".



At e-breathe Safety, it's not just about manufacturing protective equipment. Our approach goes far beyond that - we design and develop innovative solutions that meet the ever-increasing demands in the field of occupational safety.

Our range includes filtering respiratory protection, insulating respiratory protection, matching respiratory fittings, respiratory protection suits, and a comprehensive selection of accessories and equipment manufactured to strict quality standards. Our portfolio includes a diverse selection of respiratory protection solutions specifically designed to meet the varied needs of different industries and work environments.

In our catalog, you will not only find information about our products and services, but you will also find valuable assistance in selecting the right respiratory protection and configuring your respiratory protection solution. On our capital overview pages, you will find topic-specific content and interesting introductory topics that will provide valuable assistance in your decision-making and application.

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At e-breathe Safety, we are passionately dedicated at designing and developing the next generation of respiratory protection equipment. For a decade, we have been continuously setting new standards by introducing innovative products and test stands that continuously improve user protection and comfort.

The ever-growing need for intelligent respiratory protection solutions and the pursuit of maximum customer satisfaction have inspired us to develop and launch innovative respiratory protection systems. Under our guiding principle "solid, simple and safe", we at e-breathe work tirelessly to develop innovative respiratory protection devices that offer our customers maximum comfort, versatility and efficiency.

SAFETY IN EVERY BREATH: E-BREATHE

Over 31 years of experience and a deep understanding of market requirements form the foundation of our philosophy at e-breathe. The "e" in our name stands for electronic and efficient - characteristics that distinguish our breathing apparatus. The spiral in our logo is more than just a graphic element - it represents a crucial component of our respiratory protection solutions. It symbolizes the ventilation wheel, which plays a central role in our respiratory protection devices. The ventilation wheel is responsible for continuously supplying the user with fresh and clean air, even in the most demanding work environments. The spiral therefore symbolizes not only the technology that drives our products, but also e-breathe's commitment to the safety and health of our customers.

A USER-CENTERED APPROACH TO THE DEVELOPMENT OF RESPIRATORY PROTECTION SOLUTIONS

Our dedication is to develop personal protective equipment focused on the user. Our declared goal is to respond flexible to the requirements of a continuously changing market. To meet this requirement, we work closely with customers from industrial, private and public sectors.

INNOVATION IN RESPIRATORY PROTECTION: OUR WIDE RANGE, YOUR PROTECTION

Our main focus lies on the continuous expansion of our product portfolio in the field of respiratory protection. In doing so, we rely on a combination of many years of experience in the industry and our proximity to the market. We are continuously expanding our portfolio in line with market and customer needs. As a result, we are able to offer more than just tried-and-tested standard products; we can also develop customized special solutions to meet our customers' individual needs.

FLEXIBILITY & ADAPTABILITY: MODULAR CONCEPT FOR CUSTOMIZED PROTECTION SOLUTIONS

During the development of our products, we follow the concept of a modular design, which offers our customers unprecedented flexibility in the selection and combination of products and accessories. As a result, various combination and expansion options are possible to meet specific requirements.

QUALITY THAT LASTS LONGER: SUSTAINABLE RESPIRATORY PROTECTION SOLUTIONS FROM E-BREATHE.

Our products feature excellent durability and long service life and are specifically designed to be repairable in case of wear or damage. A modular design and our extensive range of spare parts ensure we can achieve these goals. These features make our quality products an economical choice for companies and assist them in reducing the cost of industrial safety equipment over the medium term.

FIRST-HAND SERVICE - OUR COMMITMENT TO EXCELLENT CUSTOMER SUPPORT.

We recognize that safety isn't solely found in our products, but also in the quality of the support we provide. Our customers can trust that they will not only receive high-quality respiratory protection products, but also top-notch assistance in product selection, handling, maintenance, and operation. We firmly believe that safety, quality, and customer support are intricately linked and form the cornerstones of our work at e-breathe. Therefore, we offer comprehensive services directly from the manufacturer and have developed service and maintenance plans to provide the best possible support to our customers. Our services encompass training for safe product handling and usage, as well as extensive maintenance services. These services are carried out both on-site with our customers by our trained team and internationally through our certified trading partners, either at our headquarters or their locations.

OUR VALUES



ECONOMICAL

Reusable, premium protective equipment offers the optimal balance between quality and cost. The extended lifespan of our products and the option for repairs make them an economical choice for businesses.

QUALITY

e-breathe represents the highest standards of quality, continuous innovation, and user-friendly products. Throughout all phases of product production, we ensure the highest quality, safety, and performance standards, all 100% made in Germany and Europe.

SERVICE

Safety, quality and customer support are inseparably linked and form the cornerstones of our work at e-breathe. Our comprehensive service and consulting services complete our product portfolio.

SATISFIED USERS

e-breathe designs personal protective equipment with a user-centric approach, where user acceptance is a pivotal factor. To achieve this, we actively listen to the needs of the users and translate them into carefully designed solution concepts.

BECOME A DISTRIBUTION PARTNER

Are you a specialist dealer for products in the field of personal protective equipment and would like to expand your product portfolio?

e-breathe offers high-quality respiratory protection products made in Germany. As a distribution partner, we offer you the opportunity to sell our high-quality products in your own distribution network. With our wide range of innovative products and our dedicated support team, we strive to be successful together. An appreciative and fair approach towards business partners is a key part of our corporate culture.

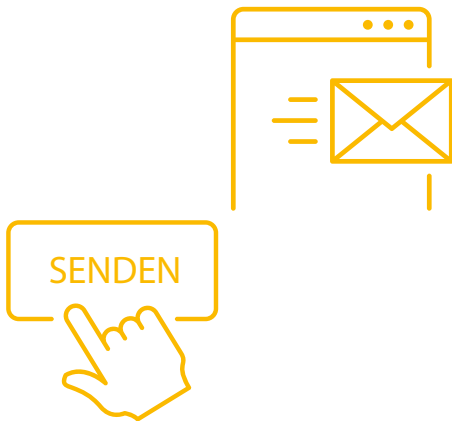


If you are interested in becoming a distributor or getting more information, please do not hesitate to contact us. Our sales team is available to answer your questions and provide you with more details about our partnership.

STAY UP TO DATE WITH OUR NEWSLETTER!

Receive first-hand information about the latest developments, products and innovations at e-breathe Safety. Our newsletter is a regular source of important information, exclusive insights and tips on respiratory solutions and personal protective equipment. Sign up today to become part of our network and enjoy the benefits of our expertise. Stay well-informed with e-breathe!

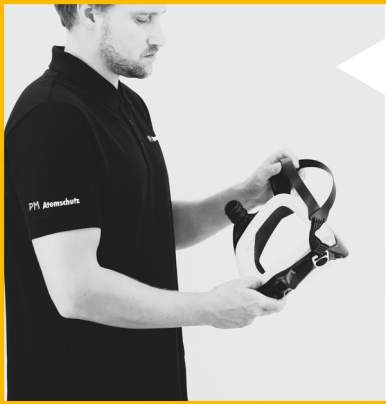
<https://e-breathe.de/newsletter/>



We regularly update our catalog with new content, products and services. The latest version of our catalog is available for download on our website. Learn first-hand about the latest developments, products and innovations at e-breathe Safety.



You can find the latest information on our homepage.



CONSULTATION

Our qualified and trained e-breathe PPE experts offer professional advice. We will work closely with you to develop customized solution concepts that are tailored to your individual requirements. We present you with a wide range of products and solutions from e-breathe. Should it become apparent during the consultation process that we do not have the right solution for you, our many years of expertise in the PPE market enable us to recommend alternative solutions from other renowned manufacturers and to refer you to competent specialist distributors. The consultation can take place at your site, online or at our headquarters.



SALES & TRADE

From our new headquarters, we serve customers worldwide in regions where product approvals meet EN standards. At national level and in the DACH region (Germany, Austria and Switzerland), we sell our products directly to end customers or together with specialist distributors.

In an international level, we maintain close partnerships with carefully selected specialist distributors. Through a continuous exchange of information, we are able to process customer inquiries quickly and train our specialist distributors about our products on a regular basis. This ensures that customers always receive qualified advice and support.

We are always looking for new partnerships and distributors to expand our product range and share our mission to promote safety and health in the workplace. If you are interested in becoming a part of our growing network, please do not hesitate to contact us.



PRODUCTION & LOGISTICS

Our products are manufactured and extensively tested at our headquarters in Mönchengladbach, Germany. Products such as our blowers, filters, headpieces and compressed air hose units are produced and stored exclusively in Germany. Textile products such as hoods and suits are produced in Europe by certified PPE manufacturers according to our strict quality standards.

Our short production routes and supply chains enable us to maintain sufficient stock levels at all times to avoid delivery bottlenecks or failures for our customers.



MAINTENANCE & REPAIR

Rely on our specially trained maintenance teams to maintain and repair your respiratory protection systems. This will ensure both the prevention of failures and the reliability of your system at all times.

In our service center, we rely on high-quality stationary test equipment and test systems to ensure comprehensive testing of the entire system. Maintenance and repair of your respiratory protection systems is carried out in our own in-house service workshops - directly from the manufacturer - by our qualified personnel.



TRAINING, EDUCATION & INSTRUCTION

Initial instructions and regular trainings are indispensable to ensure the safe handling of respiratory protective devices and personal protective equipment. The implementation of interesting and entertaining training courses belongs to the core competences of the e-breathe Safety Service. This applies to both small and large numbers of participants.

Our training courses are characterized by personal interaction, therefore we conduct all training courses in real time. Our customers can choose between face-to-face trainings at our location, in-house trainings at your company or live webinars in virtual environments.



RENTAL SERVICE: RENTAL & PRACTICE TEST

The purchase of respiratory protection equipment is not an option for every company. Whether the work under respiratory protection is only sporadic or there is a need to equip additional personnel at short notice. Renting PPE can often be a more attractive option. In these cases, we provide our e-breathe systems and equipment for rental. Our rental equipment offers the flexibility required by your company.

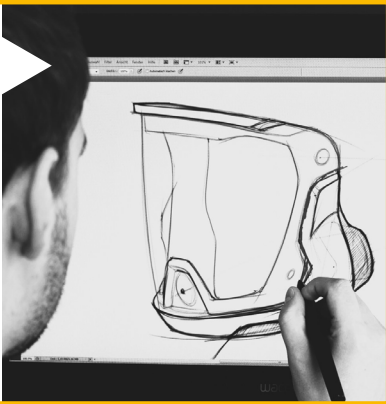
As part of our rental service, we also offer the option to test our equipment before purchase to help our customers selecting the right solution for their specific needs.



RESEARCH & DEVELOPMENT

Our team has diverse expertise from various fields, including mechanical engineering, industrial design, engineering sciences, electrical engineering as well as production technology. Our development department finds the best solution for individual problems.

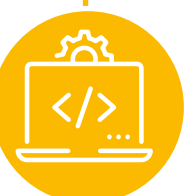
We perform contract development and participate in the development and research of new respiratory protection solutions in individual and joint projects in cooperation with manufacturers, institutes, universities or our customers.



E-BREATHE LABORATORY

Many years of experience in the development of various respiratory protection products, active participation in various research projects and careful quality assurance of our manufactured products have led to the decision to establish a modern laboratory with a wide range of self-developed test benches.

This enables us to perform a wide range of orienting tests already in the development process or for external products and partners for research purposes, prototype tests or quality tests that meet the requirements of EN and ISO standards.



Our Best
Service



Safety begins with the right
consultation.

At e-breathe, we are convinced that safety and consultation go hand in hand. Our experts know exactly what measures need to be taken to ensure the best possible occupational safety. In this context, consulting is our top priority. As the safety and protection of people is our top concern. Our commitment does not end with the purchase of a product, it continues with the ongoing support of our customers.



QUALIFIED
PROFESSIONALS

Our product consultation is always carried out by qualified specialist personnel who have in-depth knowledge and many years of experience in the field of occupational safety. The continuous training and further education of our employees is of particular importance to us.



AFTER SALES
SERVICE

We do understand that safety doesn't just lie in the products themselves, but also in the quality of the support we provide. Customers can be confident that they will not only receive high-quality respiratory protection products, but also customer-focused after-sales service in the areas of: Maintenance, Replacement and Repair, Servicing and Product Support.



WHEREVER YOU
NEED US

Our consulting services are flexible and adapt to the individual needs of our customers. You can choose whether you prefer personal consulting on site at your company, would like to meet our experts at our headquarters, or opt for online consulting - our experts provide you with the support needed.

As specialists in the field of filtering and insulating respiratory protection, we are happy to provide advice and to assist you in selecting the right product for your requirements. We understand the complexity of selecting the appropriate personal protective equipment (PPE) and the tension between user acceptance, optimal protective performance and compliance with legal standards and regulations.

Our consulting services also include advice on combining respiratory protection with other PPE components or existing PPE such as chemical protection, head protection, hearing protection, welding protection and eye and face protection. When selecting and combining these elements, we ensure that their protective effects do not interfere with each other. This ensures compliance with the special requirements of PPE Use Ordinance, which states that the use of respiratory protective equipment in combination with other personal protective equipment must not impair the respective protective functions.

Thanks to our many years of experience in advising consumers with a wide range of requirements from various industries, we are familiar with numerous application and usage scenarios. We are aware of the situations in which products can be used successfully, but we are also aware of the application limits of certain systems and solutions and take this into account in our consulting process. Therefore, we are also happy to help you if one of our products is not the right solution for your requirements, and we will work with you to find suitable alternatives.

Our occupational health and safety experts have extensive knowledge and will be happy to advise you. They are specially trained and able to provide you with all the relevant legal requirements for handling personal protective equipment. Regardless of the industry, we keep you up to date on the frequent changes to laws, regulations and standards in the area of occupational safety.

PUTTING IT THROUGH ITS PACES - ACCEPTANCE IN THE USER TEST

We know what measures need to be taken to ensure the best possible occupational safety in day-to-day business or when faced with special challenges. Since safety and the protection of people are the focus of these products, the selection of personal protective equipment is only the first step: it is not uncommon for solutions to be implemented that do not cover all the necessary aspects or do not have the necessary certification and, in the worst case, are rejected by users.

Involving employees in the selection of suitable PPE creates greater wearer acceptance. Wearing trials and practical tests help in the selection of suitable equipment and avoid high costs due to incorrect purchases. For this reason, we will provide you with different systems for wearer trials by your employees on request and review which systems are suitable for your individual needs and circumstances.

Our product range

We focus on quality, maximum protection and products that meet European standards and directives as well as your personal requirement profile. In addition to our high-quality product range, we offer comprehensive services that complete our portfolio.

FILTERING
RESPIRATORY PROTECTION
(NEGATIVE PRESSURE)

- Half masks
- Full face masks
- Respiratory filters
- Filters with respirators

BODY PROTECTION

- Blower protective suits
- Compressed air protective suits

POWERED AIR RESPIRATORY
PROTECTION
(POSITIVE PRESSURE)

- PAPR
- Respiratory filters for PAPR
- Headpieces & hoods for PAPR
- Half & full masks for PAPR
- PAPR -Protective suits

FRESH AIR HOSE UNITS
(POSITIVE PRESSURE)

- Fresh air pressure hose equipment

INSULATING
RESPIRATORY PROTECTION
(POSITIVE PRESSURE)

- Compressed air hose equipment
- Compressed air filter station
- Compressed air hoses
- Headpieces & Hoods
- Half & full masks for compressed air

Our services

Production

PRODUCTION MADE IN GERMANY & IN EUROPE: QUALITY YOU CAN TRUST



PRECISION AND INNOVATION

QUALITY CONTROL

SHORT DISTANCES

We produce and test our wide range of products at our headquarters. At e-breathe, quality is our top priority, which is why our blowers, filters, head parts and compressed air hose units are manufactured in Germany by trained professionals. Our textile products, such as hoods and suits, are manufactured in Europe by certified PPE manufacturers according to our strict quality specifications

Our products are manufactured to the highest German and European standards. At our manufacturing facility, we focus on precision and innovation to create products that meet the highest standards of our customers. A key to ensuring this quality is the close link between our quality and development department and our production facility. This physical proximity allows us to react quickly to changes and to monitor our products immediately in our testing facilities to ensure that they meet the high standards e-breathe Safety stands for.

SHORT PRODUCTION ROUTES:

We attach great importance to short production routes and efficient supply chains. Optimized processes guarantee that we can always keep sufficient raw materials and goods in stock. This means for our customers: fast delivery times, short waiting times, avoidance of bottlenecks and a high level of reliability. In this way, we guarantee that our customers will always be supplied on time and in line with their requirements, without delays or failures.

INDIVIDUAL MANUFACTURING / QUALITY CONTROL IN OUR OWN LABORATORY:

Using state-of-the-art equipment, we continuously monitor the quality of our products. In doing so, we not only offer high-quality products from our own production, but also customized production services according to your specific requirements and quality standards. Our qualified experts are at your side throughout the entire development and manufacturing process.

Our manufacturing processes are precisely adapted to your specific specifications and quality requirements to ensure that the final product meets your expectations exactly. In our laboratory, we perform stringent quality controls according to pre-defined standards. Each product is carefully tested to ensure that it meets the highest quality standards. In this way, we guarantee quality, reliability and durability in every respect.

Our services

Distribution / Trade

Our new headquarters in Mönchengladbach, Germany, serves as the starting point for the worldwide distribution of our products, where they are used in regions that apply EN standards and product approvals.

DIRECT SALES IN THE D-A-CH REGION

In Germany, Austria and Switzerland, we sell our products directly, both to end customers and to wholesalers. Our many years of experience in the industry form the basis for comprehensive advice and support for our customers. Our dedicated sales team personally assists our customers and visits them on site to discuss individual requirements.

In addition, we cooperate closely with our selected reseller network, which ensures broad geographical coverage. Together with our resellers, we can ensure that our products and solutions are available throughout the region. Our sales team works hand in hand with our distributors and conducts joint customer and consultation meetings.

DISTRIBUTION THROUGH SELECTED TRADING PARTNERS

In addition, we rely on a strong network of trading partners and work closely with carefully selected specialist resellers both nationally and internationally. Our suppliers are selected on the basis of their ability to meet our corporate values and service requirements. That includes technical competencies, product and service quality, a willingness to be innovative in products and services, quick response times, and on-time and accurate deliveries.

These partnerships are based on trust and close communication. Our distributors are continuously trained to ensure that our customers always receive the best support.

BECOME A DISTRIBUTOR

If you are interested in becoming a distributor or would like more information, please do not hesitate to contact us. Our sales team is available to answer your questions and give you more details about a possible partnership.

Logistics



WORLDWIDE DELIVERY

HIGH STOCKPILING

SHORT DELIVERY TIMES

In our central warehouse we are able to react flexibly to unforeseeable events and avoid bottlenecks. Our strategy is based on high availability, generous storage capacities and optimal processes that ensure the security of supply. We aim to prevent outages caused by long delivery times while being able to respond to fluctuations in demand. To achieve this, we generally keep a high quantity of finished products and consumables in stock.

In close coordination with our customers and specialist distributors, we also maintain special stockpiles to meet specific requirements and needs. Thanks to our extensive warehousing and optimal picking processes, we can ensure short delivery times. In this way, we ensure that our customers are always supplied with the products they need in good time, whether to cover fluctuations in demand or to support larger projects.

Our Services

Research & Development

Refusing to settle for the status quo, we are always on the lookout for innovations and improvements. Our commitment to these goals is reflected in the activities of our development department, which specializes in finding customized solutions to individual challenges. Our expertise extends to the development of products in the field of respiratory protection and occupational safety, as well as the development of assemblies, textile products, hardware and software solutions for test facilities to verify product requirements, and test rigs to perform tests in accordance with EN/ and ISO standards.

As a supplement to our own product development, we also carry out contract development according to specific requirements of customers, users, authorities or suppliers. In addition, we actively participate in research and development projects for new occupational safety solutions, which are carried out within the framework of funded individual, cooperation or joint projects with manufacturers, companies, research institutes, universities or our customers.

E-BREATHE SAFETY RESEARCH AND DEVELOPMENT DEPARTMENT

Benefit from our extensive know-how and over 30 years of experience in the field of respiratory protection and occupational safety. Our research and development team has a broad expertise in various fields and is always well informed about current and future technical requirements and the changing market situation due to its participation in the DIN standards committee as well as in the IVPS (Association of Interests in Personal Protective Equipment).

Our R&D team consists of qualified specialists, including industrial designers, mechanical engineers, textile and electrical engineers, and industrial engineers. They handle all aspects of product development, from brainstorming and conceptualization, prototyping and testing, to certification, production and quality control.

Interdisciplinary collaboration from Research and Development with our other departments Sales, Technical Service, Purchasing, Production and Logistics provides both support and knowledge transfer. These continuous interdisciplinary exchanges form the foundation for optimal integration of customer feedback, market requirements and efficiency improvements. As a result, we are able to respond quickly to potential challenges and seamlessly incorporate insights gained in the development processes.

OUR ENGINEERING SERVICES

- Planning
- Conception
- Development / Construction
- Testing & trials according to EN standards
- Certification
- Production
- Technical support



Our Services

Research & Development

IN-HOUSE MAKERSPACE & LAB

Our development processes are supported by state-of-the-art technology and in-depth expertise. We use advanced CAD design software, 3D printers (FDM /SLA), 3D scanners, laser cutters, vacuum drawing machines and sewing machines to create precise models. In addition, we have advanced testing equipment that allows us to produce prototypes and perform testing and trials in our laboratory.

This combination of technology and expertise forms the basis for developing, designing, producing and manufacturing high-quality and safe personal protective equipment. Our in-house makerspace and lab are critical to our development department and allow us to continuously drive innovation and ideas.

PARTNER/ RESEARCH/ & DEVELOPMENT PROJECTS

SYNERGIES AND COOPERATION FOR SUCCESS

Our partnerships play a key role in our success. Strategic collaboration opens up a wide range of opportunities for us and our partners to create the best possible solutions for users. By combining resources, expertise and extensive experience with other partners, we can create synergy effects that directly enhance the quality of our products.

This has already resulted in exciting projects and product solutions in various areas in the past. Therefore, we are always looking to expand our network of partners and experts in order to jointly develop innovative solutions and provide the best possible support to users.

We are open to new ideas, innovations and challenges. If you are interested in a partnership/collaboration or would like to develop innovative projects in the field of personal protective equipment, please do not hesitate to contact us.

Examples of cooperation:

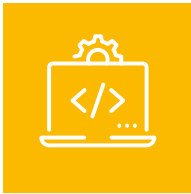
- Joint development of respirator suits in conjunction with our air sources and respirator blowers to provide comprehensive protective equipment.
- Production of OEM products according to the specific requirements of our partners.
- Carrying out cross-approvals for respiratory protection products from different manufacturers at the request of customers or to expand our product portfolio to meet the diverse needs of our customers.

RESEARCH

For more than a decade, we have successfully collaborated with colleges, universities, research institutions and partners from industry or manufacturers of personal protective equipment on research and development projects under various safety research programs of the German government.

This long-standing collaboration has resulted in the creation of numerous projects that have produced innovative product developments, new protective functions and deployment concepts, as well as automated testing rigs and improved testing procedures. Each of these projects helped to expand our expert knowledge in various fields and to integrate these learnings seamlessly into our development processes.

To continue to be innovative and pioneer cutting edge respiratory protection products, we are always willing to partner in such R&D projects. If you are considering a similar project and are looking for a competent expert in this field, do not hesitate to contact us. We are at your disposal to jointly design innovative solutions and contribute to the improvement of safety standards.



Many years of experience in the development of various respiratory protection products, active participation in diverse research projects and careful quality assurance of our manufactured products have led to the decision to establish a modern laboratory with a wide range of self-developed test rigs.

It enables us to carry out a large number of orienting tests already in the development process or for external products and partners that meet the requirements of EN and ISO standards. Our experienced test engineers carry out tests in accordance with the applicable norms and standards.

In doing so, we not only test compliance with applicable standards and guidelines, but also take a close look at the limits of use of the products and functional samples in the development process and determine the moment from which the requirements are no longer met in order to gain precise insights into the performance of the products.

As a manufacturer of respiratory protection products, we are familiar with testing and certification according to relevant standards. Indeed, we have already successfully undergone this comprehensive testing process at various institutes. These years of experience have motivated us to develop our own in-depth testing procedures, which enable us to perform and offer cost-effective, fast and short-term testing services. Our in-house testing not only ensures the highest quality standards, but also helps to ensure that our respiratory protection solutions meet the most stringent requirements.



Figure: Test facility leakage chamber EN13274-1



Figure: Test device CO2 content of inhaled air EN13274-6

INTERNAL AND EXTERNAL QUALITY AND ORDER INSPECTION

Our comprehensive internal inspection and testing procedures give us the opportunity to check in advance whether products would be able to withstand the requirements of a certification and complete it successfully. This allows us to address any deficiencies and weaknesses at an early stage and ensure that products will easily withstand certification testing.

We use these processes to monitor and test our products internally, but also offer this service as external quality and contract testing. For instance, we offer the performance of external testing of production batches, which can be used for your internal quality and monitoring processes.

OUR TESTING SERVICES :

- Testing of prototypes in the development phase
- Testing and evaluation of products before certification
- Testing according to valid standards and determination of application limits
- Accompaniment during tests
- Testing of production batches
- Preparation of detailed test reports



We offer tests for your products according to the following test procedures in both complete and partial form. For further information and a detailed overview of our offered testing options, please do not hesitate to contact us.

Test methods respiratory protective devices according to EN 13274 part 1-7

- EN 13274-1: Bestimmung der nach innen gerichteten Leckage
- EN 13274-1: Determination of inward leakage
- EN 13274-2: Practical performance tests
- EN 13274-3: Determination of breathing resistance
- EN 13274-4: Flame tests
- EN 13274-5: Climatic conditions
- EN 13274-6: Determination of carbon dioxide content of inhaled air
- EN 13274-7: Determination of the permeability of particle filters

Test methods respiratory protective devices according to ISO 16900 part 1-14

- ISO 16900-1: Determination of inward leakage
- ISO 16900-2: Determination of breathing resistance
- ISO 16900-3: Determination of particle filter leakage
- ISO 16900-5: Test equipment - respiratory machine, respiratory simulator, test heads/torso for respiratory protective devices
- ISO 16900-6: Mechanical resistance/strength of components
- ISO 16900-7: Practical performance tests
- ISO 16900-8: Measurement of airflow from respiratory protective devices
- ISO 16900-9: Determination of carbon dioxide content of inhaled air
- ISO 16900-11: Determination of field of vision
- ISO 16900-12: Determination of work of breathing and maximum values of breathing resistance
- ISO 16900-14: Measurement of noise level

DEVELOPMENT OF TEST STANDS AND TEST EQUIPMENT

As a research and development oriented company, we are dedicated to develop our own test stands and test equipment. This includes both the hardware and the associated software, including ISO test heads and other required test equipment.

In developing our test stands, we place particular emphasis on user-friendliness, ease of operation and the implementation of automated test sequences. Besides accelerating testing, this also minimizes potential sources of error. The simplification of the test sequences also allows the user to quickly become familiar with the handling of the equipment.

Our software includes predefined, selectable test sequences with input fields for respiratory protective equipment. For each test performed, the software automatically generates a test report with results that can be assigned to the respective test job. In addition, our software offers the possibility to test individual test parameters outside the standard specifications. This offers the possibility to determine the moment a product's application limits will be reached.

In addition to our testing services, we also offer the possibility to purchase our test stands and testing equipment or to develop customized test stands according to individual requirements.

DETAILS:

- Automated test stands
- Automatically generated test reports
- Easy and fast handling
- Predefined programs according to EN standards and ISO standards

KUNDENGRUPPE:

- For developers and manufacturers of respiratory protection products
- For certification institutes and testing laboratories
- For research institutes, colleges and universities



Illustration: ISO test torso with test head in size L

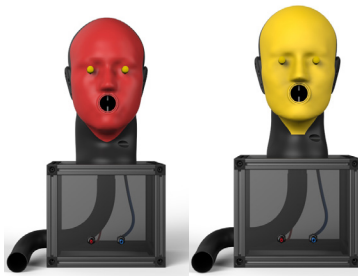


Illustration: ISO test heads in different face sizes

Training

e-breathe Safety Service



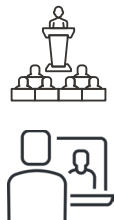
The high quality of personal protective equipment is just one component in ensuring safety in the workplace. Just as crucial as suitable and high-quality material is the training of the users. This knowledge is imparted by our expert trainers in our seminars in order to prepare employees in the best possible way.

Regular training and instruction are required by national laws and regulations. We offer appropriate respiratory protection training and instruction.

Recurring instructions are often carried out by multipliers within the company. The multiplier training imparts the necessary components for instruction including the issuance of a certificate.

Our qualified specialists attach great importance to clear presentations, a high proportion of practical exercises and detailed information material. At the end of the training course, participants receive a certificate.

The aim of the respiratory protection training is to enable the user to put on and use respiratory protection equipment properly. He becomes familiar with the care of the equipment, knows the mode of action and properties of the equipment and is informed about product markings.



At your location, in our training center in Mönchengladbach or live as a webinar:

We offer our training courses and instructions both at your location or at our training center in Mönchengladbach as well as a live online seminar. All trainings and instructions are held as face-to-face trainings, where participants can ask questions directly to the instructor and communicate directly with our trainer and other participants.

Our e-breathe Safety Training services:

- Trainings and courses at our headquarters in Mönchengladbach, at your site or online
- Qualified personnel
- Trainings & courses with certificate
- Customizable instruction and training
- All trainings & courses can be requested online



Training

e-breathe Safety Service

Our training program:

In compact, product-related training courses, we teach the possible uses, functions and maintenance routines of e-breathe systems and products.

- Basic / advanced training Filtering devices: PAPR, Half & Full Face Masks
- Basic / advanced training insulating devices: fresh air/compressed air hose devices and container devices without rescue tasks
- Basic instruction in respiratory protection systems/products
- Training course for equipment maintainers: Maintenance and servicing of e-breathe respiratory protection

Basic / Advanced Training Filtering Devices: PAPR, Half & Full Face Masks

Goal:

The participant is able to properly put on and use respiratory protective equipment and is familiar with the care of the equipment. The participant knows the functionality and characteristics of the equipment and is informed about the rights and duties of equipment wearers.

Target Audience:

All users who are required to wear respiratory protective equipment on the job to protect their health.

Training details:

Duration: approx. 3 hours

Dates: by arrangement

Location: Head office or on site

Number of participants: max. 16 persons
(for optimal learning success)

This training is offered as a first and a follow-up training.



Live training at your site or in our training center

Online live training

Content:

Theory:

- Regelwerke für Atemschutz / Gebrauchsanleitung Hersteller
- Rules and regulations for respiratory protection / manufacturer's instructions for use.
- Purpose of respiratory protection
- Composition of the ambient air & exposure of the pollutants being considered
- Human respiration, physiological aspects
- Consequences of oxygen deficiency on the human organism
- Classification of respirators
- Requirements for wearing respiratory protection
- Occupational health precautions
- Exposure to respiratory protection devices
- Design and mode of action of filtering devices
- Limits of protective effect and duration of use
- Post-use information + maintenance (e.g. care, cleaning, inspection, testing, compliance with maintenance intervals, proper storage of equipment)
- General explanation about filter equipment
- Filter science (construction, types and selection)
- Perception of filter breakdown, replacement & disposal

Practice:

- Inbetriebnahme / Prüfung des Atemschutzgerätes
- Commissioning / testing of the respirator
- Putting on the respirator
- Tightness test head part (no fit test)
- Behavior during the practical use, demonstration of common usage errors

Training

e-breathe Safety Service



Basic / Advanced Training Insulating equipment: Fresh air / compressed air hose equipment and container equipment without rescue tasks

Goal:

The participant will be able to properly don and use respiratory protective equipment and will be familiar with the care of the equipment. The participant knows the operation and characteristics of the equipment and is informed of the rights and responsibilities of equipment wearers.

Target Audience:

All users who are required to wear self-contained breathing apparatus in their work to protect their health.

Training details:

Duration: approx. 0.5-1 day

Dates: by arrangement

Location: Head office or on site

Number of participants: max. 16 persons
(for optimal learning success)

This training is offered as a first and a follow-up training.



Live training at your site or in our training center



Online live training

Content:

Theory:

- Rules and regulations for respiratory protection / manufacturer's instructions for use
- Purpose of respiratory protection
- Composition of ambient air & exposure to the pollutants under consideration
- Human respiration, physiological aspects
- Consequences of oxygen deficiency on the human organism
- Classification of respirators
- Requirements for wearing respiratory protection
- Occupational health precautions
- Exposure to respiratory protective devices
- Construction and mode of action of insulating devices
- Limits of protective effect and duration of use
- Post-use information + maintenance (e.g. care, cleaning, inspection, testing, compliance with maintenance intervals, proper storage of equipment)
- General explanation about insulating equipment
- Difference between normal and overpressure
- Handling of cylinders (transport)

Practice:

- Commissioning / testing of the equipment
- Putting on the breathing apparatus
- Tightness test head part (no fit test)
- Behavior during the practical use, demonstration of common usage errors
- Practical exercises
- Taking off the respirator / equipment



Basic instruction Respiratory protection systems / products

Goal:

In this training, users of respiratory protection systems will gain knowledge about the basic handling of the system, as well as the necessary steps to take care of the equipment.

Target Audience:

Users who are familiar with respirator handling and have purchased a new respiratory protection system and need instruction on the new system.

Training details:

Duration: 20 to 40 minutes

Dates: by arrangement

Location: headquarters or on site

Requirement:

- Training filter devices/insulation devices

Content:

The basic briefing for respiratory protection systems includes the following topics and is explained directly on the device:

Theory:

- Instruction in device handling (e.g. PAPR, filter & headpiece)
- Filter change / filter function
- Instructions for use of the manufacturer
- Charging cycle (avoidance of deep discharge)
- Cleaning of the units
- Storage of the units
- Observance of maintenance intervals

Practice:

- Commissioning
- Donning & doffing
- Practical exercises



Live training at your site or in our training center



Online live training

Training course for equipment maintainers: Maintenance and servicing of e-breathe breathing apparatus/systems

Goal:

The specialists acquire theoretical and practical knowledge about the care, maintenance and servicing of e-breathe respiratory protection systems: PAPR, respirators and compressed air systems.

Target Audience:

Suitable for all respiratory protection professionals tasked with the care and maintenance of e-breathe respirators.

Training details:

Duration: by arrangement

Dates: by arrangement

Location: Headquarters in Mönchengladbach

Requirement:

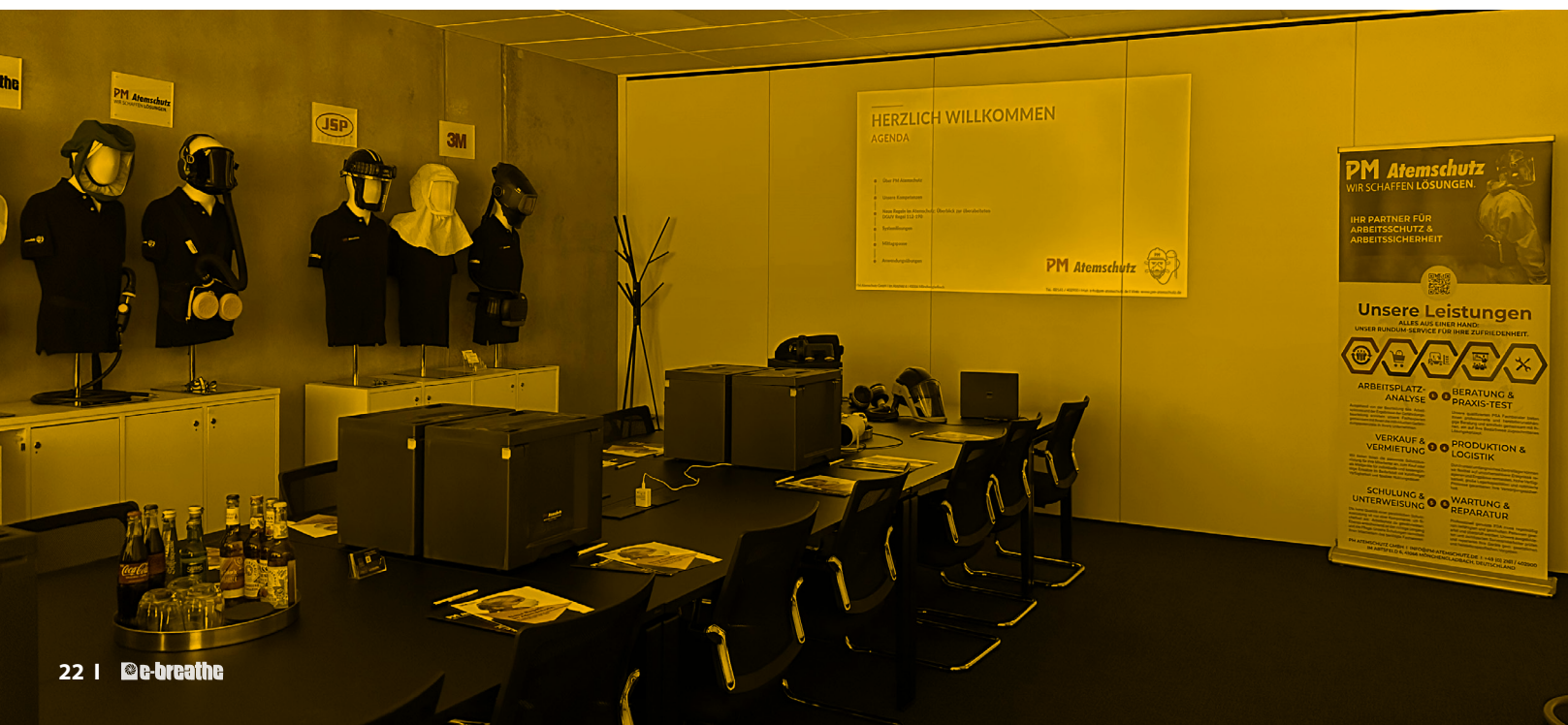
- Basic seminar for qualified persons for maintenance and servicing of respiratory protection equipment

Content:

- Assembly and disassembly of PAPR
- Cleaning and disinfection of used breathing connections and components of respirators
- Maintenance and repair of breathing connections and components of respirators
- Repair and replacement of used or defective materials (e.g. filters, seals)
- Testing of breathing connections and components of respirators
- Documentation of work performed
- Monitoring of storage times
- Planning of the work to be carried out



Live training in our training center





Your health and safety as well as the health and safety of your employees are our top priority.
For good reason, respiratory protective equipment is subject to the care and maintenance requirements prescribed by national regulations and by manufacturers. Many national regulations define an annual maintenance interval. This recommendation is also followed by e-breathe Safety, which is declared as the manufacturer's specification for its equipment. Maximum care and regular inspections are essential for the safety of the user and for reliable operation of the equipment and prevent failures when you need your equipment.

e-breathe Safety Service

Being a competent manufacturer, we also support you with product maintenance and repairs and ensure the trouble-free functioning of your products at all times. For this purpose we have specially trained and certified service partners who have the appropriate equipment and service software at hand to provide maintenance and servicing for your respiratory protective equipment.

You will receive a test report according to DGUV 112-190 and manufacturer's specifications after each maintenance and your products will be provided with a test badge. You can find the next maintenance date on the inspection sticker. The complete test documentation is transparently prepared and sent to you. The documentation will be continuously updated at each service date so you will have detailed information about the condition of your products during their entire service life.

Our service partners offer on-site service on your premises, at your desired date, or you can simply and easily send your equipment to one of our service centres.

For all work, only original components from e-breathe Safety are used. To ensure that your equipment is optimally maintained and always reliably ready for use. If parts have to be replaced or if repair work is required which goes beyond maintenance, you will be informed in advance and given a cost estimate. The work will only be carried out after consultation and your approval.

The regular maintenance prevents abrasion and can significantly extend the service life of your respiratory equipment.

Our service partners have trained specialist personnel and the appropriate authorisations to ensure long-term safety and reliability of the technology. No matter if recurring tests of respiratory protective devices or the cleaning and disinfection - we will provide the best service for you.

Do you have any questions about the scope of testing or about the procedure? If so, please contact us or an e-breathe Safety Service Partner, we will be happy to help you and provide all the necessary information.

Services of the e-breathe Safety Service:

- Maintenance according to DGUV 112-190 and manufacturer's recommendations with test report and test seal
- All our service partners are trained respiratory protection technicians and instructors
- Documentation and recording of reparation data for your safety
- Provision of temporary replacement equipment (on demand)
- Cost estimates before repair authorization
- Individually coordinated maintenance plans according to service life and workload

NEW - e-breathe Service Box:

Our practical e-breathe service boxes are available in two sizes and are ideal for storing and shipping your equipment. Feel free to contact us.



Maintenance service: PAPR or Compressed Air Systems



Service partner:
Certified e-breathe Safety
service partners can be found
on our website at:
www.e-breathe.de

Maintenance of the PAPR:

- Cleaning and disinfection of the blower unit
- Replacement and disposal of filter elements
- Visual inspection
- Battery check
- Charging station check
- Inspection / Readout by Service Software
- Checking the air flow (recalibration if necessary)
- Checking the alarm functions
- Replacement of defective or missing parts (e.g. seals)
- 30 minute test run
- Marking with test badge
- Preparation of a test report

Maintenance of the CA Regulator valve:

- Cleaning and disinfection of the compressed air regulator unit
- Visual inspection
- Inspection of the carrying device
- Airflow check
- Alarm function check
- Leakage check
- Inspection of the compressed air connections / couplings
- Marking with test badge
- Preparation of a test report

MAINTENANCE OF THE HEAD PIECE:

- Cleaning and disinfection
- Visual inspection and functional testing
- Replacement of defective or missing parts
- Replacement of hygiene parts if necessary (e.g. face seal) Airtight and hygienic packaging
- Marking with test badge and barcode
- Preparation of a test report

Maintenance CA Filter Station: (Inhouse)

- Visual inspection and functional test
- Leakage check
- Compressed air connections check
- Compressed air supply check
- Replacement of filter elements and disposal
- Marking with test badge and barcode
- Preparation of a test report

Maintenance of the breathing air hose:

- Cleaning and disinfection
- Visual inspection and functional testing
- Replacement of defective or missing parts
- Airtight and hygienic packaging
- Marking with test badge and barcode
- Preparation of a test report

Maintenance Compressed Air Hose: (Inhouse)

- Cleaning
- Visual inspection and functional testing
- Leakage check
- Marking with test badge and barcode
- Preparation of a test report



Rental: Protective equipment for a limited period of time

Some situations, especially unpredictable ones, can quickly create bottlenecks and require respiratory protection equipment only for a limited period of time. In such cases, it may be more economical to ensure the health of employees with rented equipment.

In sudden exceptional situations, suitable protective equipment is needed in the appropriate quantity at short notice. Our Rental Service is prepared for such situations and can provide larger quantities as rental equipment. In our central warehouse we keep about 300 PAPR and compressed air devices and over 500 head parts in stock for rental.

As a rule, we allow a lead time of one week for the preparation, provision and dispatch of the systems for large orders. However, even in emergency situations, we are at your side as a reliable partner and try to provide you with the appropriate equipment in the shortest possible time.

The respiratory protection equipment and accessories are delivered protected and organized in a robust plastic storage box and arrive directly at your site ready for use. The inspection and cleaning* of the equipment after use is an integral part of every order and is already included in our rental price.

PUTTING THE EQUIPMENT THROUGH ITS PACES: PRODUCT TEST AND TEST RUN DIRECTLY AT YOUR SITE

The rental of equipment offers you the possibility to put the products through their paces directly at your site before a permanent or possible purchase. For this reason, we offer you the possibility to purchase the equipment directly from us after the rental period has expired.

RENTAL SERVICE IN CASE OF BREAKDOWNS DUE TO MAINTENANCE:

You need replacement equipment during maintenance of your equipment? In order to maintain your operational processes and to protect against downtimes, we provide replacement equipment for the duration of repair and maintenance orders at a reasonable price upon request.

BENEFITS E-BREATHE SAFETY RENTAL SERVICE:

- Schnelle Lieferung der gemieteten Atemschutzausrüstung
- Fast delivery of the rented respiratory protection equipment
 - Flexible rental period according to your needs
 - Collection of used respiratory protection equipment after use (optional)
 - Inspection, cleaning and disinfection of the equipment after each use
 - Replacement of hygienic spare parts (e.g. face seals)
 - Transparent calculation of the rental period, the consumables used and the spare parts to be replaced
 - Initial instruction and proof of handling of the equipment
 - Possibility to purchase the respiratory equipment after the rental period



Rental Service: Rental offer

Rental of Head Pieces:

- Face Shield
- Reusable Hoods
- Full Face Masks / Half Masks
- Rental includes breathing air hose



Rental of limited-use hoods / suits:

- Limited-use hoods are simply disposed of
- No cleaning and maintenance costs during use
- No maintenance costs after use
- Rental includes breathing air hose



Rental of PAPR:

- PAPR for different requirements
- PAPR for EX areas



Rental of Compressed Air Systems:

- Compressed air control valves
- Compressed air hoses in various lengths
- mobile compressed air filter stations



Provision of Spare Parts & Consumables:

- Breathing Air Filters & Prefilters
- Protective covers for PAPR & breathing air hose
- Visors & Protective Films
- Face seals and headgear
- Batteries for PAPR



Selection of Respiratory Protection

With regard to the health and safety of employees, decision-makers are challenged to create the optimal solution for their application. With regard to operational concerns, it is important to understand and correctly interpret both the applicable laws and the recommendations of the institutions responsible for legal accident insurance.

Various factors play a role in selecting the right respiratory protection system. Factors such as the area of use and the working environment with its specific sources of danger and individual requirements must be taken into account, as well as comfort, design, maintenance and servicing costs, cost-effectiveness, availability and the service life of the equipment.

THE FOLLOWING FACTORS ARE ESSENTIAL IN SELECTING OF RESPIRATORY PROTECTION:

1. HAZARD ASSESSMENT

The first step in the hazard assessment is to comprehensively investigate and monitor hazards and exposures in the workplace or work area. Related to the use and need for respiratory protection, determine if hazards from the surrounding atmosphere are present. Do an identification of harmful exposures to gases, vapors, dusts, fumes, aerosols, or other pollutants and check, adequate oxygen concentration.

2. HAZARD CLASSIFICATION

The subsequent risk assessment of the identified hazards and exposures according to type and level of risk, duration of risk, and probability of risk forms the basis for the proper selection of respiratory protective equipment. Evaluate all risks that may arise in the workplace (e.g., from noise, falling object hazards, fall hazards, restricted movement, flying sparks, pollutant concentrations, and oxygen levels).

3. SELECTION OF RESPIRATORY PROTECTION EQUIPMENT

The hazard assessment provides information about the type of protective equipment needed and the specific protective characteristics that must be present. Keep in mind the following guiding principle "as much protection as necessary, as little exposure as possible".

Now determine the concrete protection that the respiratory protective equipment should provide:

- Protection against particles
- Protection against gases, vapors and particles
- Which warning properties does the pollutant have and what is the concentration?
- How high is the oxygen concentration?
- Is any other protection needed? For example: eye and face protection, hearing protection, head protection.

4. TRAINING / INSTRUCTION OF THE USERS

An optimal protective effect can only be guaranteed by correct handling of the equipment. Incorrectly used and worn protective equipment is unfortunately not uncommon in practice. Maximum protection therefore requires instructed and trained users.

5. MAINTENANCE AND SERVICING OF RESPIRATORY PROTECTION EQUIPMENT

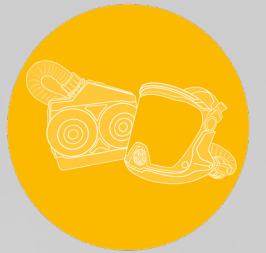
Regular maintenance and inspection of the equipment is essential for reliable and safe use. For a long service life of the equipment, the equipment should be designed for easy maintenance.

Types of Respiratory Protection

The classification of respiratory protective devices distinguishes between filtering respiratory protective devices, which operate depending on the ambient atmosphere, and isolating respiratory protective devices, which operate independently of the ambient atmosphere.

FILTER RESPIRATORY PROTECTION:

Filter devices are dependent on the ambient atmosphere and assume, among other things, that sufficient oxygen (at least 17%) is available. In addition, the ambient conditions must be known and the pollutants must be able to be filtered by a filter and must be clearly perceptible (by smell / taste).



Filter devices must not be used if the concentration of impurities is high enough to pose a direct threat to life and limb.

A PAPR consists of a battery-powered respirator, a carrying device, a breathing air hose, a breathing connection and one or more particle, gas or combination filters.

Polluted ambient air is sucked in by a respiratory protection blower, which then streams through the connected filter and is filtered of particles or gases and vapours. The PAPR is connected to the breathing connection either directly or via a breathing air hose, via which the filtered air is led to the wearer. An over-pressure is built up in the breathing connection, which prevents pollutants from penetrating directly into the head part.

ISOLATING RESPIRATORY PROTECTION:

Isolating devices operate independently of the ambient atmosphere. They offer protection against oxygen deficiency and atmospheres containing pollutants. Non-toxic respiratory gases are supplied to the wearer. They are used for applications with insufficient oxygen in the environment, when the ambient conditions are unknown or when pollutants cannot be filtered or are poorly or imperceptibly noticeable.



Isolating devices consist of an environment-independent air source (e.g. breathable compressed air from a compressor / compressed air network), a compressed air hose, a carrying device, a compressed air regulator valve, a breathing air hose, a breathing connection and a compressed air filter station.

The compressor continuously supplies breathable compressed air via a compressed air hose to the compressed air control valve of the carrier. This can adjust the flow rate of the volume flow at the control valve, which is then led to the breathing connection of the wearer via the connected breathing air hose. An over-pressure is created in the breathing connection, which prevents pollutants from penetrating directly into the head section.

The compressed air supplied by the compressor has to have breathing quality according to EN 12021. Otherwise, a compressed air filter station must be used.

NEED HELP MAKING THE RIGHT CHOICE?

If you need help selecting the right PPE solution, our sales team and technical service will be happy to advise you.

Contact us: info@e-breathe.de | +49 (0) 2161/402900

Overpressure Respiratory Protection



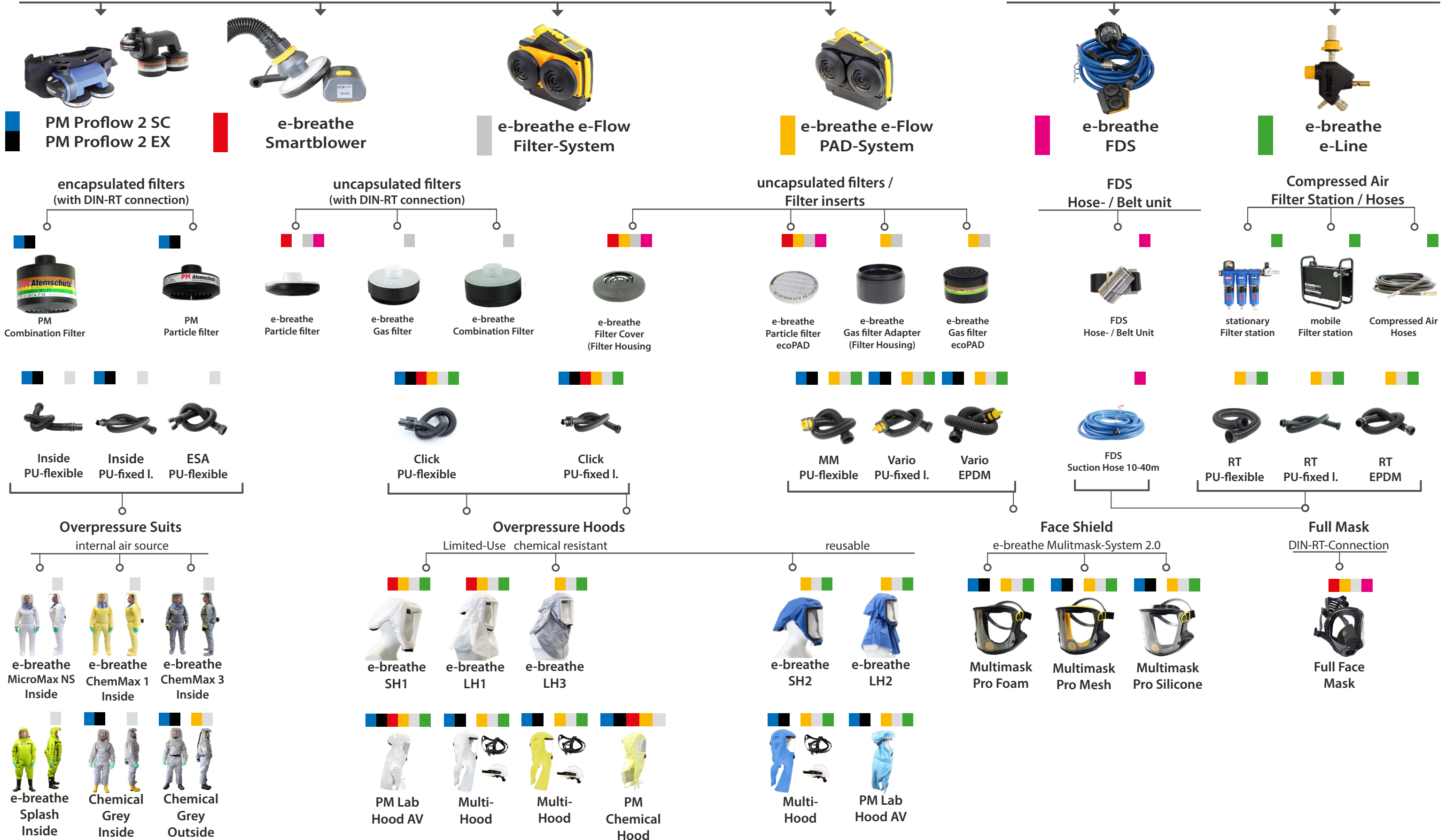
Filtering Respiratory Protection depending on the ambient atmosphere



Isolating Respiratory Protection independent of the ambient atmosphere

Power assisted Filtering Devices

Fresh Air Pressure Hose Device / Compressed Airline



Which respiratory protection system do you need?

Different respiratory protection systems for individual applications & requirements.
Depending on the concentration of pollutants in the workplace and the requirements of the workplace environment, a different respiratory protection system is needed. Three different systems are available to choose from: Filtering respiratory protection systems with a respiratory protection blower, Insulating compressed air respiratory protection systems and Insulating fresh air pressure hose devices.

The following symbols are used as a guidance to indicate which respiratory protection system is being used: Blower Filtering Device or Insulating Device and with which headpiece types (hood or mask) it can be combined.



BLOWER RESPIRATORY PROTECTION SYSTEMS WITH HOODS & SUITS

A blower filter unit is worn on the belt or back for maximum freedom of movement. The respiratory protection blower provides the user with a constant supply of breathable air. The air flow can be individually adjusted on the device and the user does not feel any breathing resistance. For this reason, there are no wearing time limitations when using a respiratory protection blower with a hood. Depending on the filter selected, the devices can be used to protect against particles, gases and vapors. If the concentration of contaminants is too high or the ambient conditions are unclear, an isolation device must be used.

Powered respiratory protection systems with hoods according to EN12941 TH3 can be used up to a maximum of 100 APF D (VdGW).



BLOWER RESPIRATORY PROTECTION SYSTEMS WITH HALF & FULL FACE MASK

Powered air purifying respirators with a half and full face mask can be worn on a belt or directly on the mask with our special systems. The respirators, which fit closely to the face, offer a higher protection factor than hoods, however, due to their fit, they lead to greater strain on the user when worn and are subject to wearing time limitations. For short operations, they offer the advantage that the respirator can be used with only a filter, without a blower.

Blower respirator systems with half & full face masks according to EN12941 TM3 can be used up to a maximum of 500 APF D (VdGW).



COMPRESSED AIR HOSE EQUIPMENT

Compressed air hose devices can be used with a hood or respirator. The compressed air control valve is worn on the belt and supplied with breathable air via a compressed air hose and an additional compressor. When using a compressed air hose device, the supplied compressed air must be of breathing air quality according to EN12021. Otherwise, a compressed air filter station must be used. Compressed air hose devices belong to the group of insulating respiratory protective devices and are used when the pollutant concentration is too high to use filtering respiratory protection or it has unknown poor warning properties.

Compressed air respirators with hoods conforming to EN14594 Class 3A/B can be used up to a maximum of 100 APF D (VdGW).



FRESH AIR PRESSURE HOSE UNITS

Fresh air pressure hose devices belong to the group of insulating respiratory protective devices and are mainly used in contaminated or low-oxygen work areas where the use of filtering respiratory protection or compressed air respiratory protection is not possible. The required breathing air is drawn in from an area outside the contaminated ambient atmosphere via a respiratory protection blower and supplied to the breathing connection via an air supply hose over a distance of up to 40 meters. The system offers the advantage of covering different application possibilities. For example, the respiratory protection blower can also be used with the full-face mask in areas where filtering respiratory protection is sufficient. The user thus has a 2in1 system and can switch depending on the activity to be performed.

Fresh air respiratory protection systems with full-face masks according to EN138 Class 2 can be used up to a maximum of 1000 APF D (VdGW).



Filtering Respiratory Protection

In this chapter you will find our respiratory protection blowers / blower filter units. A more detailed overview and further information can be found in our separate product brochure.

36 Powered air-purifying respirator (PAPR)

e-breathe e-Flow
e-breathe Smartblower
PM Proflow 2 SC / PM Proflow EX

52 Filter

146 Ready-Packs with PAPR

POWER ASSISTED FILTER PROTECTION

Includes: Powered air-purifying respirator, carrying device, breathing hose, respiratory connection and one or more filters that remove contaminants from the ambient atmosphere. A constant overpressure is built up in the breathing connection.

Benefits:

- Breathing air is supplied to the wearer
 - Blower is worn directly on the belt
 - No limitation on wearing time for helmets & hoods
 - Constant air flow for efficient cooling
 - Freely Portable
 - Suitable for beard & spectacle wearer
 - Combined Protection
- No breathing resistance
 - Increased mobility
 - Higher productivity
 - High wearing comfort
 - Flexible applications
 - High wearing acceptance
 - Respiratory, head, face and eye protection

Components

Breath Connection

Half mask / Full face mask
Helmet / Visor / Hood
Protective suit

Breathing Air Hose

Fixed length
Flexible length
EPDM (heat resistant)

Hose covers disposable

Reusable
Aluminized

Carrying Device

Hip belt
Shoulder straps
Back harness straps

PAPR

Blower unit
Battery
Charger

Filter

Particle Filter
Gas Filter
Combination Filter

Respiratory Filter Accessories

Prefilter
Prefilter holder
Filter decon / Shower caps

e-breathe e-Flow

Powered Air Purifying Respirator



THE ALL-IN-ONE POWERED AIR PURIFYING RESPIRATOR:

With its new e-breathe PAPR-system, e-breathe has developed an absolute all-rounder. Thanks to its innovative and modular concept, the e-Flow belongs to the newest generation of air purifying respirators. The slim housing and ergonomic design enable an easy operation even in confined spaces. The system includes a basic unit and various filter boxes that serve as filter housings. The modular design allows the unit to be configured precisely to suit individual requirements. No matter whether the situation requires a connection with DIN round thread filters, an e-breathe ecoPAD filter or a three-filter operation, the modular e-Flow is always immediately ready for operation.

INTELLIGENT TECHNOLOGY FOR MAXIMUM SAFETY:

In addition to its universal application, the blower also convinces in terms of technology and equipment. The blower is equipped with the newest technology and offers maximum safety and protection.

• AUTOMATIC SYSTEM TEST:

The integrated software of the intelligent e-Flow carries out an automatic system test each time the device is switched on and thereby checks the functionality of the device before each operation.

• INTELLIGENT 2-STEP WARNING SYSTEM:

All the important components are permanently monitored by the electronics guaranteeing that the user is warned when the volume falls below the minimum level, when the filter is full or when the battery power is too low.

The alarm function of the e-breathe e-Flow is equipped with a 2-step warning system:

Stage 1 - Warning: audible and visual signal

Stage 2 - Alarm: audible, visual and mechanical (vibration alarm) signal

• RELIABLE ENERGY SOURCE:

Long-lasting and reliable blower breathing protection requires a reliable energy source, which has been implemented in the new e-breathe e-Flow as a replaceable and lightweight lithium-ion battery with fast charging function and a long service life. The communication between the system and the battery provides a real-time display of the remaining battery life.

• MADE IN GERMANY

To ensure a high quality of our products the manufacturing takes place in Germany. The complete service, maintenance and repair also is done in Germany. This minimizes downtimes due to long transport routes and/or poor availability of spare parts and ensures a rapid re-use.

Technical Specifications

Operation Mode	e-breathe e-Flow Hood-System -> CE certified according to EN 12941 (TH3)
Approvals:	e-breathe e-Flow Full Mask System -> CE certified according to EN 12942 (TM3)
Airflow (automatic readjustment):	Air flow adjustable in three stages and head section mode at the device hood system 160 - 180 - 200 l/min full mask system 120 - 140 - 160 l/min half mask system 80 - 100 - 120 l/min
Airflow Warning:	< 160 l/min hood system < 120 l/min full mask system < 80 l/min half mask system
Battery Warning:	< 15 min remaining time
Battery:	Lithium-Ion Battery: 14,4V / 3,4Ah / 49WH
Operating Time:	approx. 8 to 10 hours (Depends on the concentration of pollutants and the adjusted airflow.)
Battery Recharging Time:	less than 2,5 hours (quick charge function enables rapid charging: 1 hours for 80%)
Temperature Range:	-10°C to +40°C <70% RH
Weight:	approx. 1100g (with battery / without filters / without belt)
Alarm System:	optical alarm (Display of the alarm at the color display with corresponding error code.) acoustic alarm (≥ 75 dB) vibration alarm
IP Protection Class:	IP65 with Decon Cap

Product Characteristics:

High Comfort:

- low noise level
- the system adapts optimally to every requirement due to different carrying systems
- ergonomic fit: blower fits tightly to the body and provides a high wearing comfort

Maximum Safety:

- intelligent 2-stage warning system
- easy handling
- robust construction with reliable electronics and protection class IP 65

Air Flow:

- constant monitoring of the air flow, independently of battery charge status and filter saturation
- Strong air flow with an air volume control from 160l/min to 200l/min to ensure an over-pressure in the head section even under extreme conditions.

Modular Construction:

- Basic unit, which can be combined with various filter elements depending on the specific application
- easy to maintain: quick & easy replacement of spare parts and components

Filters / Filter Accessories:

- Particle filters, Gas filters and Combination filters available.
- DIN round thread filter connection for disaster protection
- Pre-filters, Pre-filter holders, Filter decon caps and filter caps available

Made in Germany:

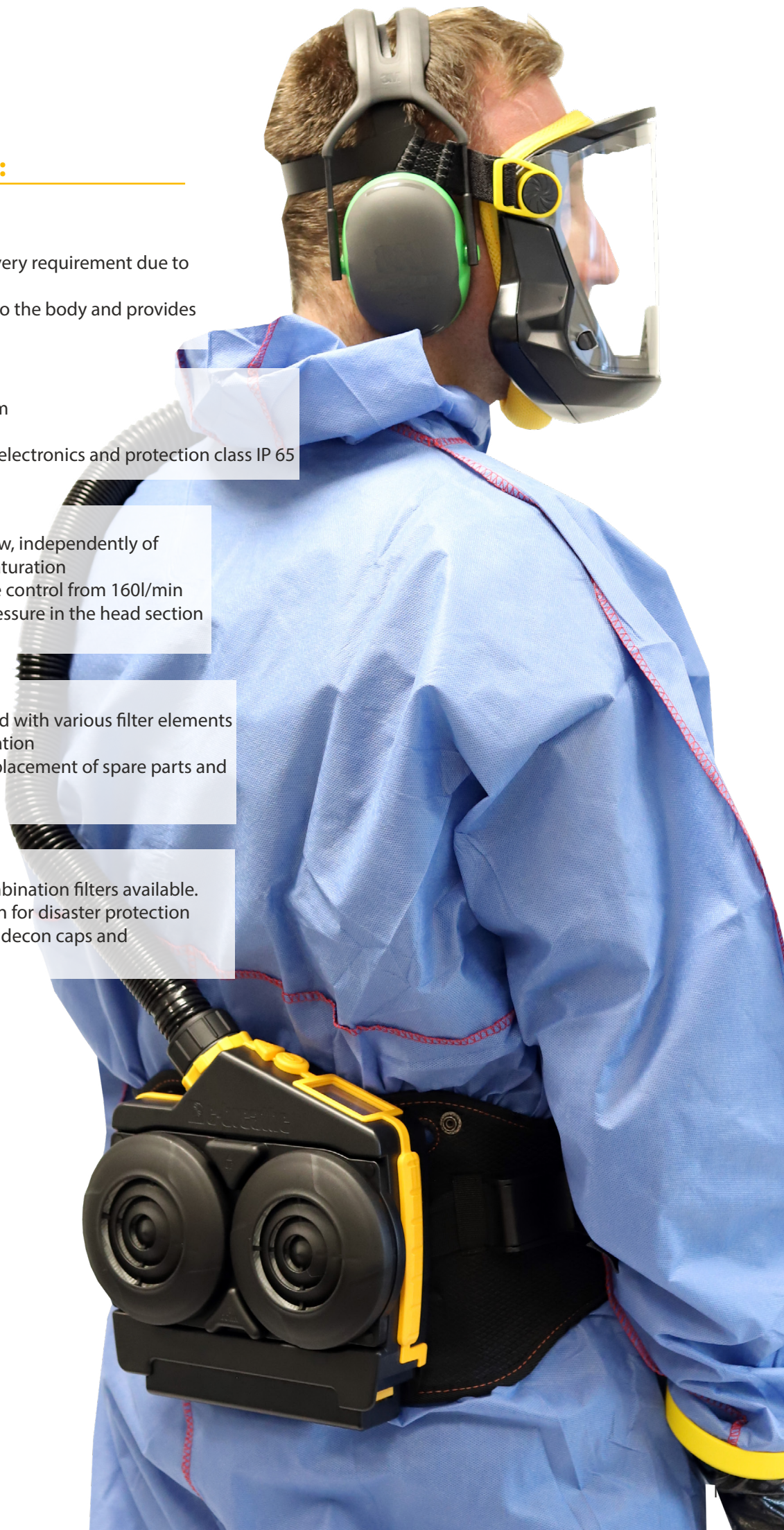
- Developed in Germany
- Produced in Germany
- Certified in Germany

Breathing Devices:

- Face shields
- Limited-Use & Reusable Hoods
- Blower suits
- Half masks & Full face masks

Approvals:

- EN 12941: Class TH3
- EN 12942: Class TM3
- EN 138: Class B
- PPE Regulation



e-breathe e-Flow

PAPR



- BASIC UNIT:**
The basic unit combines technology and intelligent electronics. The built-in brushless motor from ebm-papst impresses with above-average quality and has a significantly longer service life than conventional motors.
- FILTER CONNECTION / BOXES:**
The e-Flow has a modular design and features different filter mountings. Thanks to the interchangeable filter boxes, different filter holders can be used with the e-Flow depending on the application. For this purpose, the filter box can be changed easily and quickly, thus adapting to your individual requirements.

Can be used with: DIN round thread filters, e-breathe ecoPAD particle filters & ecoPAD gas filters, three-filter operation.
- E-BREATHE ECOPAD FILTER SYSTEM:**
 - The e-breathe filter range effectively protects against particles, gases and vapors.
 - Modular replacement of the combination filter when one filter becomes saturated: Individual replacement of the particle filter or the gas filter is possible.
 - Optional filter accessories, which can be easily & quickly clicked onto the filter cover:
 - Pre-filter holder, with openings on the sides, prevents suction blockage
 - Pre-filters, increasing the service life of the filter pads
 - Spark arrester to protect against a filter fire
 - decon cap, with opening facing downwards, allowing showering with blower
- EXCHANGEABLE LI-ION BATTERY:**
 - The battery is replaceable with a simple click.
 - Quick charge function charges the battery up to 80% in one hour and fully in 3 hours.
 - Battery life is approximately 8-10 hours, depending on filter/head combination and pollutant load.
- ADJUSTABLE AIR FLOW:**
The airflow can be increased/decreased, depending on the head part selected, simply by pressing a button in three different increments. Especially during strenuous work or when used in hot or humid environments, this proves to be a pleasant and useful addition.
- HOSE CONNECTION:**
The DIN round thread connection is compatible with all e-breathe & PM headpieces and hoses.
- WEARING COMFORT:**
 - Fit: permanently tight to the body.
 - Large selection of different wearing systems for a wide range of applications
- USB SERVICE INTERFACE:**
Through the service flap located on the back of the e-Flow, the e-Flow can be connected to the PC, read out and configured with regard to your needs.
- COLOR DISPLAY:**
As soon as you start the e-breathe e-Flow blower respiratory protection system, it performs a system test of all important components. After only a few seconds, the e-Flow shows all important information on the home screen in the display:

Battery status

- Battery charge status
- Remaining battery life

08:15 h

Filter status

- Current filter capacity

100 %

Air flow rate

- Set air flow rate

160 - 180 - 200 l/min

Headpiece mode

- Half mask mode
- Full mask mode
- Hood mode

Service date

- Display of the next service date + reminder

05.11.2022

System information

- Operating hours
- Battery charge cycles
- Software version

192 h

e-breathe e-Flow

PAPR





The starter pack is designed for owners of headboards approved with the e-breathe e-Flow. When used with the head unit, filters and breathing air hose, the starter pack provides all the necessary components to get the system into operation.

Starter-Packs: PAPR e-Flow		
Article Name	Part Number	Image
The starter pack consists of: Blower unit, filter holder, battery, charging station, cleaning kit, comfort belt, 1 pair of e-breathe ecoPAD P3 filters and limited use device cover.		
e-breathe e-Flow Blower Unit with PAD-Box - Hood System 160-180-200 l/min - Full Mask System 120-140-160 l/min	3220051xx 00 02	
e-breathe e-Flow Blower Unit with Filter-Box - Hood System 160-180-200 l/min - Full Mask System 120-140-160 l/min	322005xxx 099 101	
e-breathe e-Flow Blower Unit Basic with PAD-Box Basic with Filter-Box	3220050xx 60 50	

Accessory & Spare Parts: e-Flow		
Article name:	Part Number	Image
e-Flow PAD-Box (Box for ecoPAD Filter)	322005001	
e-breathe Filter Cover (Piece)	322002131	
e-breathe Gasfilter - Adapter (Piece)	322002246	
e-Flow Filter-Box (Box for standard connection thread)	322005002	
e-Flow Battery Li-Ion 14,4 V / 3,4 Ah / 49WH	322002236	
e-Flow Charging Station	322005003	
e-breathe Wall Mount for Charging Station	322002136	



Accessory & Spare Parts: e-Flow		
Article name:	Part Number	Image
e-breathe Comfort Belt Pro	322003003	
e-breathe Carrying Devices	refer to chapter Smartbelt / Carrying Devices	
e-Flow Disposable Device Cover - PAD-Box - Filter-Box	3220050xx 04 05	
e-Flow Heat Protection Device Cover - PAD-Box - Filter-Box	2231004xx 02 01	
Cleaning / Storage Kit - PAD-Box - Filter-Box	5005100xx 49 48	
PM PSA Rapid Desinfektionsmittel	129001000	
e-breathe Service Box M	119458610	
Storage Case	119458616	
Detergents, Cleaning & Storage Accessories	see chapter Cleaning & Storage	
e-breathe Prefilter (PU 20)	302052691	
e-breathe Prefilter holder (Piece)	322052606	
e-breathe Decon Shower Cap	322002224	
e-breathe Spark Protection Inserts for ecoPAD (Pair)	322002138	
e-breathe Filter	see chapter Filter	

e-breathe Smartblower System

PAPR



The small and lightweight Smartblower respiratory protection system offers maximum flexibility and safety. The system has a modular construction and consists of a Battery/Control Unit (SVE), a connecting cable and the blower unit. The system can be extended according to specific requirements. The unit is suitable for pressurised applications and supplies the connected head piece with filtered breathing air. The blower is controlled by a 350g Battery/Control Unit and delivers an air volume from 140l/min up to 160l/min.

The Smartblower System features a wide range of practical functions:

Automatic airflow readjustment

The integrated software controls and monitors the airflow to ensure that the user is supplied with the required airflow rate even in the event of a more and more saturated filter or decreasing battery power. If the system is no longer able to ensure the correct airflow rate the system automatically gives the user an optical and audible warning.

Ultralight

With only 435g in weight (Motor Unit + Battery Unit) the system is ultra-light. The blower motor impresses with its compact size and its weight of only 85g. Thanks to its very low weight the motor unit can directly be connected to a full face mask without a breathing hose. The lightweight and ergonomic design ensures an optimal weight balance of the unit and guarantees maximum comfort

Wide range of components for every application

To complete the system, e-breathe offers a wide range of compatible face pieces, such as half and full face masks or hoods, filters and accessories. The system provides a large number of options and accessories to best fit your application.

Modular Respiratory Protection System

All main components have a modular design enabling quick replacement of damaged parts. The associated downtimes and costs are thus kept as low as possible.

Exchangeable Lithium-Ion Battery

The Battery/Control Unit consists of a Lithium-Ion Battery with a battery run from up to 8h. A second Battery/Control Unit can be used as an exchangeable battery and allows the user to work without a break. The simple and efficient quick charge system allows rapid charging (1 hour for 80% and 3 hours for the whole battery).

Protection Class IP67

The Battery/Control Unit and the Motor Unit feature heavy-duty design and achieve a high Protection Class IP67 (protection while temporarily submerged) in closed condition.

Technical Specifications:

Operating mode:	e-breathe Smartblower Hood-Mode One Filter Mode	e-breathe Smartblower Full Mask Mode One Filter Mode
Approvals:	CE certified according to EN 12941 (TH3)	CE certified according to EN 12942 (TM3)
Airflow (automatic readjustment):	not adjustable on the device 140-160 l/min	not adjustable on the device 140 l/min
Airflow warning:	< 135 l/min	Nein
Battery warning:	< 15 min remaining runtime	< 15 min remaining runtime
Battery:	Lithium-Ion Battery: 11,25V / 2,95Ah	Lithium-Ion Battery: 11,25V / 2,95Ah
Operating Time:	approx. 6-8 hours	approx. 6-8 hours
Battery Recharging Time:	1 hour = 80% quick charge function 3 hours = 100%	1 hour = 80% quick charge function 3 hours = 100%
Number of filters:	1 x Particle filter	1 x Particle filter
Accessories:	-	-
SVE (control unit):	SVE Hood Mode	SVE Full Mask Mode
Temperature Range:	-0°C to +40°C <70% RH	-0°C to +40°C <70% RH
Weight:	ca. 470g (without belt / without filter)	ca. 470g (without belt / without filter)
Alarm System:	Optical alarm (displayed on display) Audible alarm (≥ 75 dB)	Optical alarm (displayed on display) Audible alarm (≥ 75 dB)
IP Protection Class:	IP65 with decontamination caps	IP65 with decontamination caps

Smartblower Operating Modes

PAPR

Full Face Mask Mode: One Filter Mode

The Motor Unit can be easily screwed frontally between a half mask or a full face mask and a filter into the screw thread of the mask. The lightweight Battery /Control Unit can be attached to the hip belt. The blower serves as a breathing support. It extends the application time and results in a work facilitation for the user.

- Suitable for all applications, which require a protection with a full face mask
- Breathing assistance for the user & extension of application time
- Cost-effective due to one filter mode & e-breathe filter system
- Work facilitation for the user

Technical Details:

- SVE Mode: SVE Full Face Mask Mode
- Number of filters: 1x Particle Filter
- Battery life: ca. 6-8 h
- Certification: CE Certification according to EN 12942



Hood Mode: One Filter Mode

The Motor Unit and the Battery/Control Unit are worn comfortably on a Belt. The Motor Unit and the hood are connected through a breathing hose which supplies the hood with breathable air. The blower builds up a constant overpressure inside the hood which prevents the intrusion of harmful substances. The blower is operated by only one filter and is therefore more cost-effective and more sustainable than other solutions.

- Possible application: pharmaceutical industry & disaster medicine
- No limits on application time & no G26 medical check-up

Technical Details:

- SVE Mode: SVE Hood-/ One Filter Mode
- Number of filters: 1x Particle Filter
- Headtop: Hood
- Battery life: ca. 6-8 h
- Certification: CE Certification according to EN 12941



Hood Mode: Two Filter Mode

The Smartblower Hood / Two Filter Mode allows two particle filters to be used at the same time due to the additionally available Y-Connector. The Y-connector is screwed between the motor unit and the particle filter.

This enables the use of two particle filters to extend the battery life and achieve a higher initial volume flow. The Y-Connector with blower and particle filter can be worn on the belt or mounted on the Smartbelt backbelt system.

Technical Details:

- SVE Mode: SVE Hood-/ One Filter Mode
- Accessories: Y-connector required
- Number of filters: 2x Particle Filter
- Head part type: Respirator hoods
- Battery life: ca. 6-8 h
- Certification: CE Certification according to EN 12941



e-breathe Smartblower System

PAPR

Modular Respiratory Protection System

Accessory: Smartbelt
For carefree work. Combined with accessory it can be worn as a back strap.

Motor-Unit
The small blower motor supplies up to 160ltr/min. of air.

Accessory: Y-Connector
Combines 2 filters with the Smartblower motor, enabling the air supply and the air consumption to be spread through 2 filters.

SVE (Battery/Control Unit)

- Works reliably a whole work shift
- Light intelligent li-ion battery
- Weight: 350g
- Complete battery charging after 3h
- IP 67 watertight
- Color Display

SVE Cable

- Waterproof connecting cable
- Available in different versions
- Screw connection for a secure hold

EN-round thread connection
Cost-reducing thread filter connection with an one filter mode.

Control & Supply Unit:

The 350g lightweight SVE (Control & Supply Unit) controls and monitors the small blower. To ensure a high level of safety, the integrated software of the intelligent SVE performs an automatic system test each time it is switched on and records all usage data during operation, thus providing reliable information for service.

The integrated color display provides an easy operation and convinces by its functionality. All important functions and information can be quickly accessed at all times. The optical and acoustic signal warns the user in case of a decreasing flow rate or battery run time or in case of a saturated filter.

The lithium-ion battery (11.25V/2.95Ah) integrated inside the SVE supplies the user reliably and safely for an entire shift. With the integrated quick charge function, the unit is charged up to 80% after only one hour and is quickly ready for use again. Complete charging is achieved after three hours. A second SVE can be used as a rechargeable battery to ensure failure-free operation.

To ensure a safe and optimal use of the blower, the SVE is adjusted to the customer's requirements and intended use before delivery.

The following operating modes are possible:

- **Full mask operation:** For full masks and half masks
- **Hood operation:** For respirator hoods with one or two particle filters

The color Display informs the user about:

Status Display
Display of the remaining battery time in real-time and the selected air volume.

Battery-, filter-, blower warning
If the remaining running time, the volume flow or motor error is not reached, the user is warned.

system information
Display of operating hours, serial number, battery charging cycles and the next service date

Y-Connector & Smartbelt

Accessory Respirator

Accessory for the Smartblower System

Y-Connector



The Y-Connector combines 2 filters with the Smartblower motor, enabling the air supply and the air consumption to be spread through 2 filters. This is necessary when the Smartblower is used against gases.

To increase the air volume or to extend the lifetime of the filters the Y Connector can also be used with two particle filters.

The Y-Connector is available in 2 versions:

- **Y-Connector Hip:** Connected to the BeltClip it can be worn directly on the belt.
- **Y-Connector:** Due to the bayonet lock it can be connected directly to the back carrying Smartbelt System.

Smartbelt - Back Carrying System



The Smartbelt adapts excellently to the requirements of various application areas. It follows every movement of the user light and flexible and therefore supports him optimally on the activities to be performed.

Due to the modular construction of the components and the safety buttons at the Smartbelt, the system can be easily extended and the wearing position can be changed according to the users' requirements. The user can choose from five different wearing positions and combinations which enables him to attach the system for example to a hip belt or a backpack system.

The Backpack System combines comfort, safety and ergonomics. The back cushion made of functional foam ensures sufficient ventilation and wicks away warmth and moisture. The ergonomic harness construction perfectly distributes the weight to the hip and shoulder area. The bayonet locking at the Smartbelt ensures a safe and quick inclusion of the Y-connector.

For more information on the product and ordering information, refer to chapter Respiratory Accessories.

Components Smartbelt:




Wings (basic unit)

Backpack Harness

Blower Belt

Buckle Band

The Starter Packs are intended for users with headpieces, which are already certified with the Smartblower System. In combination with a head piece, breathing hose and filters, the Starter Pack offers all necessary components to put the Smartblower System in operation.

Starter-Packs: PAPR Smartblower		
Article name:	Part Number	Image
The Starter Pack consists of: Motor, SVE hoods / single filter operation (battery), charging station, belt blower, belt clip, SVE spiral cable 2.0 DV, cleaning kit and 1x e-breathe P3 filter		
e-breathe Smartblower One Filter-System	322002100	
The starter pack consists of: Motor, SVE full mask operation (rechargeable battery), charging station, belt blower, SVE spiral cable 2.0 DV and cleaning kit and 1x e-breathe P3 filter		
e-breathe Smartblower Full Face Mask-System	322002200	
The starter pack consists of: Motor, SVE hoods / single filter operation (battery), charging station, SVE spiral cable 2.0 DV, Smartbelt waist belt, Y-connector and cleaning kit and 2x e-breathe P3 filters		
e-breathe Smartblower Two Filter-System	322002201	

Accessory & Spare Parts: Smartblower		
Article name	Part Number	Image
e-breathe Smartblower Motor V.1.1 (without cable)	322092102	
Battery/Control Unit (SVE) SVE Hood / Onde Filter Mode [1] SVE Full Mask Mode [2]	322092103	
e-breathe Smartblower Charging Station V.1.1	322002101	
SVE Spiral Cable 2.0 DS (double screw connection)	322002137	

Accessory & Spare Parts: Smartblower		
Article name	Part Number	Image
e-breathe Wall Mount Charging Station	322002136	
e-breathe Cleaning / Storage Kit	500510046	
e-breathe BeltClip	322004021	
e-breathe Smartblower Belt (50mm)	322002105	
e-breathe Belt decon	302062996	
e-breathe Smartbelt Backbelt System	See chapter Smartbelt / Carrying Devices	
Y-Connector Hip (For belt clip)	322003000	
Y-Connector (For Smartbelt)	322003001	
e-breathe Smartblower Device Cover Limited-Use	116001042	
PM Rescue Clean Disinfectant	129001000	
Detergents, Cleaning & Storage Accessories	See chapter Cleaning & Storage	
e-breathe Prefilter (PU 20)	302052691	
e-breathe Prefilter Holder (Piece)	322052606	
e-breathe Filter	See chapter Filter	

PM Proflow 2 SC / EX

PAPR



The PM Proflow SC is a compact and durable blower-assisted respiratory protection system. Smart and easy to use, the PM Proflow 2 SC blower unit features a number of improvements over the original Proflow concept.

The ergonomic design of the lightweight and compact PM Proflow SC includes a curved back plate that provides comfort even during long periods of work. A wide range of head sections allows it to meet the needs of a variety of applications.

The rotation of the powerful motor varies depending on the filter/head section combination used. A microprocessor calculates and automatically adjusts the power required to maintain the specified airflow rate.



MULTIFUNCTIONAL AND VERSATILE

- Different head parts allow usage in a wide range of applications.
- A wide range of filters is available, including PSL, APSL, ABPSL, ABEPSL, ABEKPSL and ABEKHgPSL filters.

Technical specifications:

	PM Proflow SC
Approvals:	CE certified according to EN 12941 (TH3) CE certified according to EN 12942 (TM3)
Airflow (automatic readjustment):	not adjustable on the device 120 l/min 160 l/min
Airflow warning:	< 120 l/min < 160 l/min
Battery warning:	< 15 min remaining runtime
Battery:	Nickel metal hydride battery: 9,6 V
Operating Time:	approx. 4-8 hours (depending on combination filter / head part)
Battery Recharging Time:	6 hours charging time, automatic trickle charge
Temperature Range:	-10°C to +40°C <95% RH
Weight:	ca. 1400g (without belt / without filter)
Alarm System:	Optical alarm (display of battery status (A), exhaustion of filter capacity (P)) Acoustic alarm (with low battery capacity)
IP Protection Class:	IP54



Intelligent

- The electronic control of the air supply ensures a pleasant air flow and automatically compensates for changes in filter resistance.
- The data storage function in the unit records all usage data to provide reliable and downloadable information for service and maintenance.
- The manufacturer provides a 3-year warranty or a maximum of 1,800 hours of operation on the blower unit if the annually due service is performed by an authorized partner. (max. 1 year warranty on the battery).

Performance monitoring

- The warning system ensures a reliable operation.
- Permanent visual monitoring of the battery charge status and filter clogging with acoustic signal when the battery needs to be charged or the filter needs to be replaced.
- Operating time of 4 - 8 hours with one single charge (depending on the filter/head combination).

Minimal maintenance required

- No calibration or maintenance required by the wearer.
- Using electronics, PM Atemschutz, as an approved service center, is able to run diagnostic programs for verification and provide comprehensive service history records.

Low operating costs

- Durable construction and heavy-duty materials provide a long useful life.
- The splash-proof housing allows for easy decontamination.

Always on standby mode

- The integrated battery unit is securely enclosed in the housing and can be recharged inside the device.
- A lightweight NiMH rechargeable battery with quick charge function is used.
- The Smartcharger indicates the charging status and switches to trickle charge. A fully charged battery can remain connected in standby mode.
- A secured on/off switch prevents accidental turn-off.



PM Proflow EX

ATEX device for use in explosive atmospheres:
The PM Proflow EX is designed for applications where a potentially flammable atmosphere requires a system with explosion protection. Tested and approved in potentially explosive gas-air mixtures as well as in dust-air areas.

EX Classification: II 2G Ex ib IIC T3/II 3D Ex tD A22 IP54 T80C

PM Proflow SC / EX

PAPR



The starter pack is intended for owners of headboards that are approved with the PM Proflow SC / EX. When the basic unit is used in combination with the head piece, filters and breathing air hose, the starter pack provides all the necessary components to put the system into operation.

Starter-Packs: PAPR PM Proflow		
Article name:	Part Number	Image
The starter pack includes: PM Proflow 2 SC Blower, battery charger, battery, comfort belt		
PM Proflow 2 SC Blower Unit - 120 l/min Full Mask Mode - 160 l/min Hood Mode	1000xxxxx 64024 29808	
PM Proflow 2 SC Blower Unit Basic (without belt) - 120 l/min Full Mask Mode - 160 l/min Hood Mode	100064xxx 124 324	
PM Proflow 2 EX Blower Unit - 120 l/min Full Mask Mode - 160 l/min Hood Mode	No longer Available since 2018!	

Spare Parts & Accessories: PM Proflow		
Article name:	Part Number	Image
Proflow 2–NiMH Battery 9,6 V/4,5 Ah	105063790	
Proflow EX–NiMH Battery 9,6 V/3,8 Ah	No longer Available!	
Charger PF for NiMH Batteries	100063791	
Blower Body PF2-SC	100064049 No longer Available!	
Motor unit PF2-SC Motor unit PF2-EX	100064189	
Tension Ring PF	109063594	

PM Proflow SC / EX

PAPR



Spare Parts & Accessories: PM Proflow SC & EX		
Article name	Part Number	Image
e-breathe Comfort belt Pro	322003003	
e-breathe Carrying Devices	See chapter Smartbelt / Carrying Devices	
Filter sealing	227063899	
External power supply (230 V) PM Emergency battery pack	100063588 252002000	
Proflow Device Cover Protective Cover for Hose	116001031 116001041	
Proflow Cleaning / Storage Kit	500510046	
e-breathe Service Box M Storage Case	119458610 119458616	
Detergents, Cleaning & Storage Accessories	See chapter Cleaning & Storage	
PM Cover for filter	500052693	
e-breathe Prefilter (PU 20) PM Prefilter Set (Prefilter 6 pcs. + -holder 2 pcs.) PM Filter	302052691 302052692 See chapter Filter	

Filter Respiratory Protection

54 Filter: Half / Full Masks & Blower Filter Devices

- e-breathe Particle Filter
- e-breathe Gas Filter
- e-breathe Combination Filter
- PM Particle Filter
- PM Combination Filter

150 Use / Filter Recommendation

Filters for half & full face masks:

Respiratory filters, approved to EN143 & EN14387, which have a DIN round thread connection to EN-148-1, can be used with half masks and full face masks which have the same filter connection.

When using a half mask, the weight of the mounted respirator filter must not exceed 300 g. When using a full face mask, the weight of the mounted respiratory protection filter must not exceed 500 g. With full-face masks of class 1, only the filters intended by the manufacturer may be used.

The purpose of the limitation is to prevent the mask from leaking due to the weight of the filter. If the use of heavier filters is indispensable, filters with breathing tube devices may be used.

Filters for PAPR:

Respiratory protection filters for PAPR are approved according to EN12941 & EN12942 and may only be used with a PAPR that has been tested and certified in combination. The filters are specifically matched to the corresponding PAPR and approved as a system.



PAPR



Face Mask



Filter identification:

Example of a filter marking based on a gas filter that may be used with both half and full face masks as well as with blower filter systems.

Manufacturer identification

See manufacturer information!


Filter code colors


Filter type - Gas filter


Filter class 1 / 2 / 3 - AEK1 / B2

EN standard and year - EN14387 filter with mask

Manufacturer Batch no.


e-breathe Safety, Im Abtsfeld 6,
41066 Mönchengladbach, Germany
www.e-breathe.de


-xx°C / <xx%J


CE XXXX

ecoPAD Gas Filter

GF A1B2E1K1

EN 14387:2004+A1:2008

Lot No. XXXXX

Article No: 322002143

GF A1B2E1K1

EN 12941:1998+A1:2003+A2:2008
EN 12942:1998+A1:2003+A2:2008

MM / JJJJ

Temperature range / Maximum humidity of storage conditions

Conformity-mark + no.

Item number of the manufacturer

Filter type - A / B / E / K

EN Norm and Year - EN12941 Filter for blower / hood - EN12942 Filter for blower / mask

End of Shelf life

Particle filter:

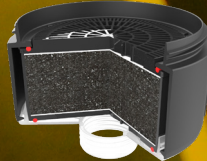
Particulate filters provide protection against particles and are divided into three classes, according to their separation capacity: P1 / P2 / P3. A higher protection class includes a lower one. The filter medium in the particulate filter traps the particles, thus increasing its resistance. As soon as the filter resistance is too high, the filter must be replaced.



Filter Type	Filter Color Code	Main area of application	Class	Particle filter Filter performance EN 143 ¹⁾ / EN 12941 /-42 ²⁾	FFP-Masks Filter performance EN 149
P3	white	P = For use against solid toxic, radioactive and harmful particles, as well as microorganisms such as bacteria and viruses.	1	80,0 %	80,0 %
			2	94,0 %	94,0 %
			3	99,95 %	99,0 %
¹⁾ EN 143: The test volume flow for particle filters in combination with a mask is 95 l/min.					
²⁾ EN 12941 / EN 12942: The test volume flow is calculated by the maximum volume flow of the blower divided by the number of filters. Example: e-breathe Smartblower -> Maximum volume flow 140 l/min : 1 filter = 140 l/min					
NR	NR (not reusable) = The particle filter is not intended for multiple use and can only be used for one work shift				
R	R (reusable) = The particle filter is intended for multiple use and can be used over several work shifts				
S	S (Solid) = The particle filter is intended for use against solid aerosols				
SL	SL (Solid Liquid) = The particle filter is intended for use against solid and liquid aerosols				

Gas filter:

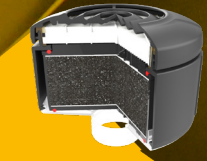
Gas filters provide protection against gases and vapors and are divided into three classes according to their type and main area of application, based on their performance. The absorption capacity of each filter class includes those of the lower classes of the same type. The activated carbon in the gas filter absorbs different gases. Once the gas filter is saturated or exhausted, the gas breaks through. The user may notice this by smell and/or taste and the filter must be replaced.



Filter Type	Filter Color Code	Main area of application	Class	maximum permitted gas concentration							
				Half- / Full Mask				PAPR			
				EN 14387				EN 12941 / EN 12942			
A	brown	Protects against organic gases and vapors with a boiling point above +65 °C. z. e.g. solvents, toluene, xylene and styrene.	1	0,1	Vol-%	1000	ppm	0,05	Vol-%	500	ppm
			2	0,5	Vol-%	5000	ppm	0,1	Vol-%	1000	ppm
			3	1,0	Vol-%	10000	ppm	0,5	Vol-%	5000	ppm
B	gray	Protects against inorganic gases and vapors. z. e.g. chlorine, hydrogen sulfide and hydrocyanic acid (not against CO).	1	0,1	Vol-%	1000	ppm	0,05	Vol-%	500	ppm
			2	0,5	Vol-%	5000	ppm	0,1	Vol-%	1000	ppm
			3	1,0	Vol-%	10000	ppm	0,5	Vol-%	5000	ppm
E	yellow	Protects against acid gases and vapors. z. e.g. sulfur dioxide and hydrogen fluoride	1	0,1	Vol-%	1000	ppm	0,05	Vol-%	500	ppm
			2	0,5	Vol-%	5000	ppm	0,1	Vol-%	1000	ppm
			3	1,0	Vol-%	10000	ppm	0,5	Vol-%	5000	ppm
K	green	Protects against ammonia and certain amines. z. e.g. ethylenediamine	1	0,1	Vol-%	1000	ppm	0,05	Vol-%	500	ppm
			2	0,5	Vol-%	5000	ppm	0,1	Vol-%	1000	ppm
			3	1,0	Vol-%	10000	ppm	0,5	Vol-%	5000	ppm
AX	brown	Protects against organic gases and vapors with a boiling point below 65 °C. z. e.g. acetone, methanol and dichloromethane	-	Observe manufacturer's instructions							
SX	violet	Protects against specifically named gases and vapors, according to manufacturer's specifications.	-	Observe manufacturer's instructions							
NO	blue	Protects against nitrogen oxides e.g. NO, NO2, NOX Note: May only be used once.	-	Observe manufacturer's instructions							
HG	red	Protects against mercury vapor.	-	Observe manufacturer's instructions							
CO	black	Warning. Maximum application time 50 hours.	-	Observe manufacturer's instructions							
		Protects against carbon monoxide Note: May only be used once,									
3) EN 14387: The test volume flow for gas filters in combination with a mask is 30 l/min.											
4) EN 12941 / EN 12942: The test volume flow is calculated by the maximum volume flow of the blower divided by the number of filters. Example: e-breathe e-Flow stage 3 -> 200 l/min : 2 filters = 100 l/min											

Combination filter:

Combination filters are a combination of a gas filter and a particle filter. They thus provide protection against gases, vapors and particles. They must be replaced as soon as one of the two components becomes saturated.



e-breathe ecoPAD Filter system



Particularly with resources becoming increasingly limited, the sustainability of products is coming more and more into focus. With the ecoPAD filter system, e-breathe is treading this environmentally friendly path and goes one step further.

sustainable & efficient: the ecoPAD system

The ecoPAD filter is a reusable filter designed from a screw-on filter housing. Thus, the housing can be reused and the used ecoPAD (filter medium) can be replaced easily & quickly. As long as you reuse the intact filter housing, you only need new replacement ecoPADs for replacement.

The filter media used in the ecoPADs is exactly the same as used in standard encapsulated filters. The tight fit in the filter housing is achieved by a special rubber lining, which was developed especially for the ecoPAD system.

The various adapters of the ecoPAD system can be connected in no time. For the user, this means maximum protection, with minimal breathing resistance at the same time.

Construction e-breathe filter system: Combination filter

1. Filter holder (DIN-RG connection)
2. ecoPAD GF (gas filter medium)
3. gas filter adapter
4. ecoPAD P3 (particle filter medium)
5. Filter cover



modular exchange of the combination filter:

A modular exchange is possible when used with a combination filter if one filter is saturated. If necessary, only the particle or gas filter can be replaced separately. As a result, only the saturated filter can be replaced and the other filter can be used until saturated.

Space saving:

During the development of the ecoPADs, it was explicitly designed to be particularly flat and light. This means that only about one third of the space that would be required for storing conventional filters is required for storage.

Cost-effective:

The ecoPAD respiratory protection filters do not only score with space and cost savings in logistics and storage, but also protect the environment and material budget due to the reusable, modular design of the filter housing and the longer utilization of the particle or gas filter until saturation.

e-breathe e-Flow with PAD system:

The new e-breathe e-Flow with PAD-Box has an integrated ecoPAD holder directly into the housing. The corresponding ecoPAD is inserted directly into the blower and then closed tightly with the corresponding filter adapters.



The unique concept saves the DIN round thread connection, making the entire unit flatter and lighter. Depending on the ambient air and requirements, a particle, gas or combination filter can be used.

Ungekapselte Filter mit DIN-Rundgewindeanschluss nach EN 148-1 / EN 143 / EN 14387 / EN 12941 / EN 12942

Filter	Part Number	For use against:	Color Code	Image
Particle filter (consisting of ecoPAD PF P3 & filter cover + filter holder)				
e-breathe Particle filter P3 R / PSL	322002109	Unencapsulated filter for use against solid and li-liquid toxic, radioactive and harmful particles as well as microorganisms such as bacteria and viruses.		
Particle filter: ecoPAD PF (Replacement Particle filter-PAD)				
e-breathe ecoPAD PF P3 R / PSL (VPE 4)	322002110	Solid and liquid toxic, radioactive and harmful particles as well as microorganisms such as bacteria and viruses. - Replacement filter media for e-breathe particle filters		
Gas filter: ecoPAD GF (Replacement Gas filter-PAD)				
e-breathe ecoPAD GF A2	322002144	Organic gases and vapors, such as solvents, with a boiling point above 65 °C. - Replacement Gas Filter PAD		
e-breathe ecoPAD GF A1B2E1K1	322002143	Organic, inorganic and acid gases and vapors, as well as ammonia. - Replacement Gas Filter-PAD		
Gas filter (consisting of ecoPAD GF + gas filter adapter + filter holder)				
e-breathe Gas filter A2	322002147	Organic gases and vapors, such as solvents, with a boiling point above 65 °C.		
e-breathe Gas filter A1B2EK1	322002146	Organic, inorganic and acid gases and vapors, as well as ammonia.		
Combination filter (consisting of particle filter & gas filter)				
e-breathe Combination filter A2-P3 R / PSL	322012147	Organic gases and vapors, such as solvents, with a boiling point above 65 °C, solid and liquid particles, radioactive and toxic particles, and microorganisms.		
e-breathe Combination filter A1B2E1K1-P3	322012146	Protects against organic, inorganic and acid gases and vapors, as well as ammonia and organic ammonia derivatives, solid and liquid particles harmful to health, such as radioactive and toxic substances and microorganisms.		
Components: e-breathe filter housing				
e-breathe Filter cover	322002131	Screws onto e-Flow PAD box, filter holder or gas filter adapter to use / seal ecoPAD P3.		
e-breathe Gas filter - adapter	322002246	Screws onto e-Flow PAD box or filter holder to use / seal ecoPAD GF.		
e-breathe Filter holder	322002128	Holder with DIN round thread connection is required to use the filters with half / full face mask or e-Flow filter box.		
Exercise filter				
e-breathe Exercise filter	322912146	For training purposes, with screw thread for suitable full and half masks, without filtering content. ** NOT SUITABLE FOR REAL USE **		

Filter encapsulated



Encapsulated Filters - State-of-the-art Technology

In encapsulated filters, the filter media are firmly connected to the filter housing. As soon as the filter housing is saturated / used, the entire filter has to be disposed of. In combination filters, which consist of a particle and gas filter, the filter is disposed of as soon as one of the two parts is saturated. As a result, the component that could still be used is also disposed of.

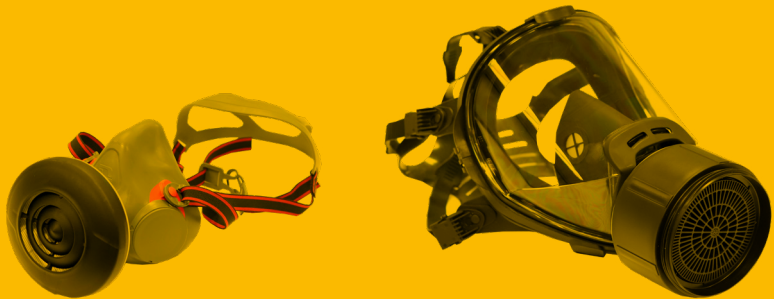
Construction of an encapsulated Filter: Example: Combination Filter

- 1. DIN round thread connection
- 2. Filter housing
- 3. Gas filter medium (activated carbon)
- 4. Particle filter medium (fleece)



Encapsulated filters with DIN round thread connection according to EN 143 / EN 14387 / EN 12941 / EN 12942				
Filter	Art. no.	For use against:	Colour Code	Image
Particle filter				
PM Particle Filter P3 R / PSL	100052676	Solid and liquid toxic, radioactive and harmful particles, and microorganisms such as bacteria and viruses.		
Combination filter				
PM Combination Filter A2-P3 R / PSL	100043173	Organic gases and vapours, such as solvents, with a boiling point above 65 °C, solid and liquid particles, radioactive and toxic particles, and microorganisms.		
PM Combination Filter A2B2-P3 R / PSL	100043174	Organic and inorganic gases and vapours, solid and liquid particles, radioactive and toxic particles and microorganisms.		
PM Combination Filter A1B2E2K2-P3 R / PSL	100043191	Organic, inorganic and acid gases and vapours as well as ammonia and organic ammonia derivatives, solid and liquid particles harmful to health, such as radioactive and toxic substances and microorganisms.		

Filter Accessories



Accessories: Filter			
Filter	Part Number	For use against:	Image
Compatible with e-breathe and PM Filters:			
Closure cap for filter thread	146042507	The sealing cap is attached to the round thread of the filter and extends its service life. During storage, the cover protects against moisture and dust.	
Pre filter (PU 20)	302052691	The pre-filter captures coarse particles and extends the life of the particle filter. The prefilter is mounted between the filter and the prefilter holder.	
Compatible only with e-breathe Filters:			
e-breathe Odor Filter PAD (piece)	Auf Anfrage	The odor filter can be used against unpleasant odors that arise during disinfection or welding. The odor filter pad is mounted between the decon shower cap and the filter cover.	
e-breathe Prefilter holder (piece)	322052606	The pre-filter holder is clicked onto the filter cover and is required to use the pre-filter and the spark arrestor. The side openings of the pre-filter holder prevent direct suction.	
e-breathe Spark arrestor inserts (pair)	322002138	The spark arrestor inserts are mounted directly in the filter cover or pre-filter holder and are used during work involving flying sparks to prevent a filter fire (e.g. welding work).	
e-breathe Cover Cap for Filter Lid	322002225	The closure cover is clicked onto the filter cover and extends its service life. During storage, the cover protects against moisture and dust. During cleaning, it protects the fan.	
e-breathe Decon Shower Cap	322002224	The shower cap is clicked onto the filter lid and prevents water from entering the filter during showering / decontamination.	
Compatible only with PM Filters:			
PM Prefilter Set (Prefilter 6 pcs. + Prefilter holder 2 pcs.)	302052692	The prefilter keeps coarse particles out and thus extends the service life of the particle filter. The prefilter is mounted between the filter and the prefilter holder.	
PM Cover Cap for Filter	500052693	The closure cover extends the service life of the filter. During storage, the cover protects against moisture and dust.	
PM Decon Shower Cover	500580013	Cover cap for PM filter. Prevents water from entering the filter during showering / decontamination.	

Isolating Respiratory Protection

In this chapter you will find our compressed air devices. Further information can be found in our separate product brochure.

44 Compressed Air Hose Devices

e-breathe e-Line

50 Compressed Air Filter Station

e-breathe Compressed Air Filter Station Pro 2 / 3

e-breathe Compressed Air Filter Station Pro 2 / 3 WH

55 Compressed Air Hose

e-breathe Compressed Air Hose



Compressed Air Hose Devices:

Consisting of: Compressed air hose, compressed air regulator valve, carrying device, breathing air hose, breathing connection and compressed air filter station, which processes the compressed air from the compressor into breathable air (according to EN 12021).

Compressed Air Hose Units are supplied with compressed air (e.g. from a compressor) at an overpressure of up to max. 10 bar to supply breathing air. This makes them independent of the ambient atmosphere and allows them to be used in areas where filter respiratory protection would be impossible (e.g. if the concentration of pollutants is too high).

The duration of use is generally not limited by a limited battery life or exhausted filter capacity. However, freedom of movement is restricted by the length of the compressed air hose.

A distinction is made between two classes:

Class A: light requirements max. length of compressed air hose 10m

Components

Breath Connection

Half mask, full mask, helmet, visor,
Hood and protective suit

Breathing Air Hose

fixed length, flexible length,
EPDM (heat resistant)

Carrying Devices

hip belt, shoulder straps,
back straps

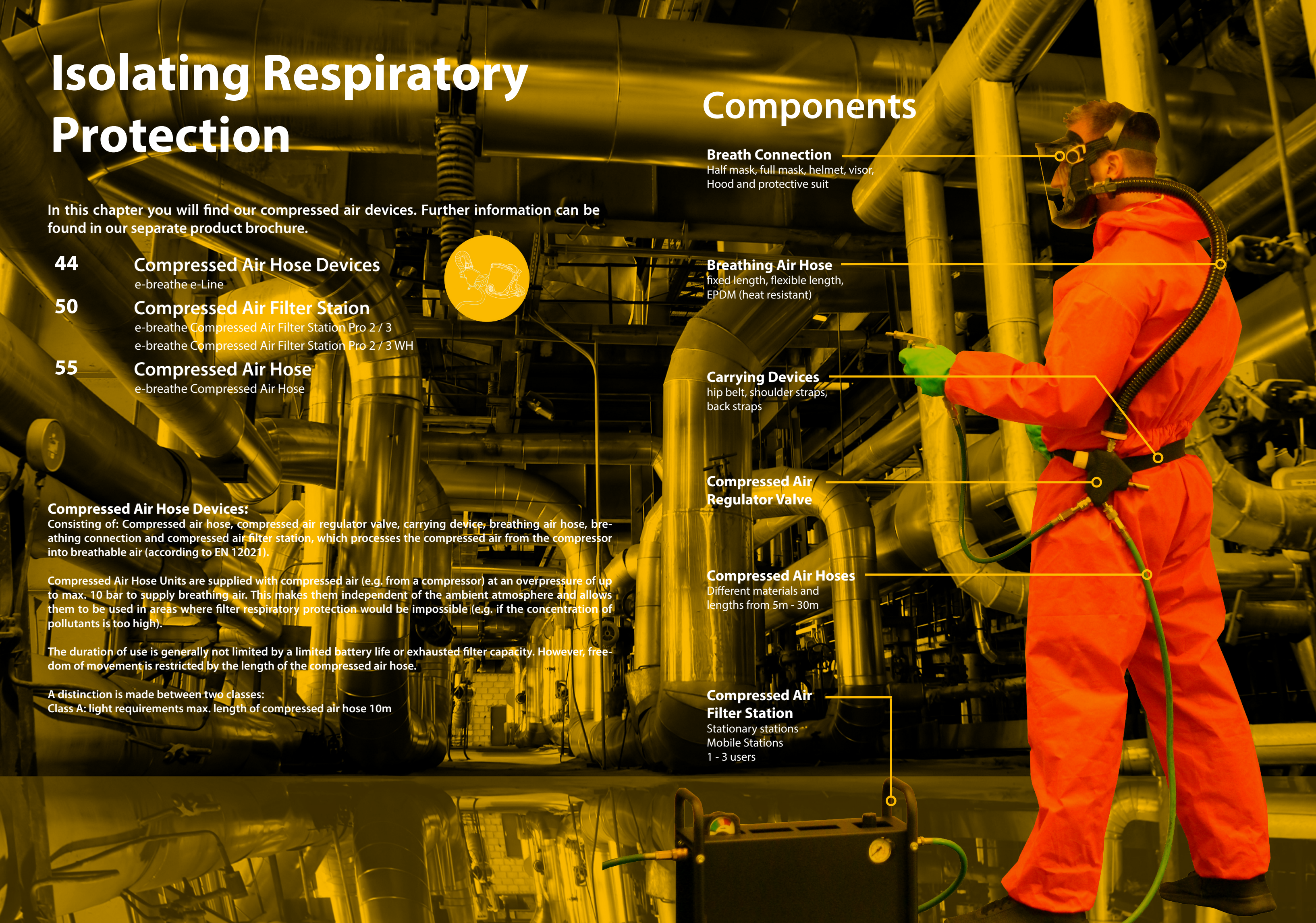
Compressed Air Regulator Valve

Compressed Air Hoses

Different materials and
lengths from 5m - 30m

Compressed Air Filter Station

Stationary stations
Mobile Stations
1 - 3 users



e-breathe e-Line

Compressed Air Hose Device



Combined with an e-breathe headpiece or suit, the **e-Line CA Regulator** is a compressed air assisted breathing system with a continuous airflow. The e-Line Regulator is worn on a belt.

The required compressed air is generated by a compressor that delivers the compressed air to a filter station in the case of non-respirable and polluted air. The compressed air from the high-pressure network/compressor is converted by the filter station into breathing air for externally ventilated breathing protection systems. The filtered air passes the e-Line compressed air regulator valve through a breathing air hose to the user's head/suit. The generated overpressure in the head section prevents the ingress of harmful substances. The system protects the user reliably against pollutants such as particles, dust, fumes (aerosols), gases and vapours.

Isolating respirators can be used in environments where the use of filtering respirators is not possible as they operate independently of the ambient air. They are used, for example, when the concentration of pollutants exceeds the permitted limit value of the filters or during long, tedious work, as the operating time is not limited by the limited operating times of respiratory filters or battery-powered blower units.

Robust Design:

The e-Line system has a robust and durable construction which reliably protects the control unit inside. Thanks to its smooth surface, the housing is easy to clean. It can be easily opened for quick and easy maintenance.

Compressed Air Hose Adapter:

The union nut on the adapter rotates freely and prevents twisting of the breathing air hose for increased wearing comfort. In addition, an exchangeable silencer is installed in the hose adapter, which limits the noise level to max. 65 dB.

Individual Airflow:

The air flow can be adjusted by pressing the control button. It can be set individually as required by the user from 170 l/min - 280 l/min. This requires an operating pressure of 4-7 bar.

Alarm Device for maximum protection:

The e-Line compressed air control valve has an integrated warning whistle with a loud signal over 90 dB which sounds if the minimum operating pressure or the minimum air flow is not reached.

Various Carrying Devices:

The belt system allows individual adaptation to specific work requirements. The e-Line valve can be mounted on either the right or left side of the belt. Various carrying straps allow a wide range of applications, for example for standard work, welding or decontamination work.

Optional Tool Connection:

The e-Line system can optionally be supplemented with a tool connection to be able to supply compressed air tools or paint spray guns with compressed air. The compressed air and tool connection can be attached either to the left or right and is therefore ideally suited for left- and right-handed users.

Technical Specifications:

CA Regulator Valve Approvals:	e-breathe e-Line CE certified according to EN 14594 (3A / 3B / 4A)
Operating Pressure:	4 - 7 Bar
Air Flow: (continuous air flow)	adjustable on the device 170 - 300 l/min
Airflow warning:	< 170 l/min / < 3,5 Bar
Warning Signal / Alarm System:	> 90 dBa / acoustic alarm via warning whistle
Volume:	< 65 dBa
Temperature Range:	-10°C to +40°C <70% RH
Weight:	490g (without belt)
Dimensions:	130mm x 160mm x 55mm

e-breathe e-Line

Compressed Air Hose Device



Product Characteristics:

- Ergonomic design with individual adjustment possibilities
- Suitable for right- and left-handed users
- Optional tool connection
- Adjustable air flow from 170-300 l/min
- Operating Pressure 4-7 Bar
- Warning Device in case of insufficient air supply
- Low volume thanks to silencer
- Standard breathing hose connection with DIN round thread for all e-breathe and PM Head Pieces
- Large selection of head pieces, masks and suits
- High breathing comfort and no inhalation resistance

Made in Germany:

- Developed in Germany
- Produced in Germany
- Certified in Germany

Breathing Devices:

- Face shields
- Limited-Use & Reusable Hoods
- Blower Suits
- Half masks & full face masks

Approvals:

- EN 14594: Class B
- PPE Regulation

Areas of application:

- Industrial applications
- Oil, gas, chemical industry
- Pharmaceutical Industry & Laboratories
- Food industry
- Agriculture and Farming
- Machine and metal construction
- Automotive industry
- Welding operations
- Grinding & Spray Painting
- Metalworking industry



e-breathe e-Line CA Regulator Valve



Silencer:
The silencer installed directly at the air outlet of the e-Line valve keeps the noise level in the head section to a minimum.

Compressed Air Adapter:
The freely rotating DIN round thread hose connection prevents twisting of the breathing air hose and is compatible with all e-breathe and PM breathing air hoses.

Safety Coupling:
Two-way safety coupling for quick assembly and safe connection of the CA Regulator Valve CA adapter.

Airflow:
Adjustable control button to adjust the air flow from 170-300 l/min. The built-in safety mechanism prevents accidental adjustment of the air flow.

Design / Material:
Robust and solid PA6 housing protects the components inside. Smooth housing for easy cleaning.

Compressed Air Connection:
Easy to reach safety plug for quick assembly and disassembly of the compressed air hose.

Various breathing air safety plugs available.

Tool Connection:
Optional connection for compressed air tools/ paint spray guns, which are also supplied with compressed air.

e-breathe e-Line CA Regulator Valve



Maintenance (1-2-3):
Easy to operate and to maintain compressed air control valve.

All external parts can be easily replaced without opening the housing.

Carrying Device:
The e-Line regulator valve can be worn on the right or left side of the belt. The belt holder is compatible with all e-breathe belt systems.

Warning Whistle:
The integrated warning whistle sounds with a loud signal of 90 dB to warn the user when the minimum operating pressure or the minimum air volume is insufficient.

Adjustable for right and left handed users:
The connection side of the compressed air and tool connection can optionally be changed. This makes the e-Line system suitable for right-handed and left-handed users.

**Compatible e-breathes
Compressed Air Filter Station:**
The e-Line compressed air regulator valve requires breathable compressed air according to DIN EN 12021 for operation. The e-breathe compressed air filter station for 1-3 users for mobile or stationary use was developed for the preparation of technical compressed air.



e-breathe e-Line

Compressed Air Hose Devices



The starter pack is designed for owners of headboards that are approved with the e-breathe e-Line. Using the basic unit with the head piece, breathing air hose, compressed air hose and compressed air filter station, the starter pack provides all necessary components to put the system into operation.

Starter Packs: e-breathe e-Line		
Article Name:	Part Number	Image
e-breathe e-Line	322007100	
e-breathe e-Line Basic	322007000	

Accessory & Spare Parts: e-breathe e-Line		
Article Name:	Part Number	Image
e-breathe CRV Compressed Air Adapter V.1.0	100063794	
e-breathe CRV Silencer	100063990	
e-breathe Union Nut	322991005	
e-breathe CRV Quick Coupling (1/4 AG / for separate compressed air tool)	322007101	
e-breathe CRV Breathing Air Safety Plug (1/4 AG)	322007008	
e-breathe CRV Safety Coupling (1/4 AG / for CA Adapter)	322007009	
e-breathe CRV Blind Plug (1/4 AG / for tool connection)	322007011	

e-breathe e-Line

Compressed Air Hose Devices



Accessory & Spare Parts: e-breathe e-Line		
Article Name:	Part Number	Image
e-breathe Belt Pro (textile)	108062786	
Gurt Decon decontaminable	302062996	
e-breathe Comfort Belt Pro V.2 (textile)	322003003	
e-breathable Carrying Devices	see chapter Smartbelt / Carrying devices	
e-breathe e-Line Device Cover Limited-Use	116001043	
e-breathe Service Box M	119458610	
Storage Case	119458616	
PM Rescue Clean Disinfectant	129001000	
Basic spray head for Disinfectant (plastic)	129001001	
Detergents, Cleaning & Storage Accessories	see chapter Cleaning & Storage	
e-breathe e-Line Ready-Packs	see chapter Ready-Packs	
e-breathe Compressed Air Hoses	see chapter Compressed Air Hoses	
e-breathe Compressed Air Filter Station	see chapter Compressed Air Filter	

e-breathe DFS PRO

Compressed Air Filter Station



The e-breathe compressed air filter station was developed for the preparation of technical compressed air. The high performance filters installed in the respective stations separate solid particles, aerosols, oil vapours and odours from the compressed air flowing through and remove these. Depending on the application, a 2-stage or 3-stage filter system is used.

The compressed air flowing through the high-pressure network/compressor is converted into breathing air for externally supplied respiratory protection systems. The breathable air is then led via a compressed air regulator valve via a hose to the head piece / suit of the device carrier. The station can only be used if the compressed air from the system poses no risk of harmful concentrations of carbon dioxide (CO2) and carbon monoxide (CO).

Filter Function:

The M* / S* filter elements separate solids by impact and the inertia effect. Oil and water aerosols are removed by the coalescence effect. Due to the gravity effect, filtered liquid particles are collected in the lower filter container and are automatically discharged from there. The filter element CA* adsorbs oil vapours and odours which accumulate in the activated carbon.

*M = Microfilter, S = Submicrofilter & CA = Activated Carbon Filter

e-breathe DFS 3 & DFS 3WH

Consisting of 3 Filter elements (M / S / CA), Pressure Regulator with Pressure Gauge, Differential Pressure Gauge, integrated Wall Mount and one output for one user (Optionally expandable to up to 3 users). In addition, the station has a robust housing to protect the filter elements and ensure a mobile operation. The station can be wall-mounted with a housing. Alternatively, the filter elements can be removed from the housing and mounted on the wall. Thus a WH3 station can be converted into a mobile filter station by installing it into a housing.

e-breathe DFS 2 & DFS 2WH

Consisting of 2 Filter Elements (S / CA), Pressure Regulator with Manometer, integrated Wall Mount and one output for one user (Optionally expandable to up to 3 users). In addition, the station has a robust housing to protect the filter elements and ensure a mobile operation. The station can be wall-mounted with a housing. Alternatively, the filter elements can be removed from the housing and mounted on the wall. Thus a WH2 station can be converted into a mobile filter station by installing it into a housing. In addition, the e-breathe DFS 2 / 2WH can be upgraded to a DFS 3 / 3WH with an additional filter if the operating conditions change.

Technical Specifications DFS PRO V.1:

Approval Filter Performance:	ISO 8573-1 Class: 1 EN ISO 12500
Inlet pressure:	max. 16 Bar ü
Outlet pressure:	max. 10 bar with compressed air control valve according to EN14594 (*ind. observe manufacturer's specifications.)
Maximum air volume / flow rate:	1000 l/min
Inlet thread:	Rp 3/8" Female Thread
Outlet thread / Connection:	Rp 3/8" Female Thread / Safety Coupling 95KS
Operating temperature:	1,5 - 100 C°
Material:	Filter Housing Aluminum / Cover Steel
Weight DFS 3 / WH3:	12,4 kg / 5,0 kg
Weight DFS 2 / WH2:	9,0 kg / 3,7 kg
Dimensions DFS 3 / WH3:	40 x 44 x 20 cm / 30 x 34 x 10 cm
Dimensions DFS 2 / WH2:	40 x 44 x 20 cm / 30 x 25 x 10 cm

e-breathe DFS PRO

Compressed Air Filter Station



Product Characteristics:

- Transformation into breathable air
- Filtering of aerosols, solid particles, water, oil vapours and odours
- High-quality filter housing made of aluminium
- Quick and easy filter change without tools
- Low differential pressure of the filter elements saves energy costs
- Differential pressure indicator indicates economical filter replacement
- Maximum air output 1000 l/min / Maximum operating pressure 16 bar ü
- For up to 3 users
- Available as a stationary version for wall mounting
- Available as mobile version with housing
- Compatible with all compressed air regulator valves according to EN 14593 / EN 14594

Approvals:

- The quality of the processed and filtered compressed air complies with ISO 8573-1: Class 1.
- The compressed air filters are tested according to EN ISO 12500.
- The leak test was 100% fulfilled for every compressed air filter.

Fields of Application:

- Industrial applications
- Oil, gas, chemical industry
- Pharmaceutical industry
- Chemical industry
- Laboratory applications
- Paint spraying / Paint shops
- Dealing with fibres
- Application of pesticides / fungicides
- Welding applications
- Foundry



e-breathe DFS PRO

Compressed Air Filter Station



robust material:

Robust, stable and durable aluminium filter housing with a steel housing cover.

The surrounding frame on the housing cover provides protection of all elements in the event of overturning or falling.

Maintenance:

Easy to operate and maintain compressed air filter station. All components are available as spare parts.

Compatible CA Regulator Valves according to EN14594:

The e-breathe DFS can be used for all compressed air assisted breathing systems (according to EN 14593 and EN 14594) if the existing air volume and air/operating pressures are sufficient.



High-precision Pressure Regulators:

Pressure regulator with manometer for precise regulation of the outlet pressure from 0.5 to max. 16 bar.

Compressed Air Connection:

The easy-to-reach plugs and couplings ensure simple and quick assembly and disassembly of the compressed air hoses. Various breathing air safety plugs & safety couplings are available.

Filter Change:

The filter housings can be unscrewed from the station without tools and thus allow a simple exchange of the filter elements. The housing does not have to be dismantled.

Wall mounting:

The DFS 2/3 can also be mounted and fixed to the wall together with the housing thanks to the integrated wall bracket on the back.

e-breathe DFS PRO

Compressed Air Filter Station



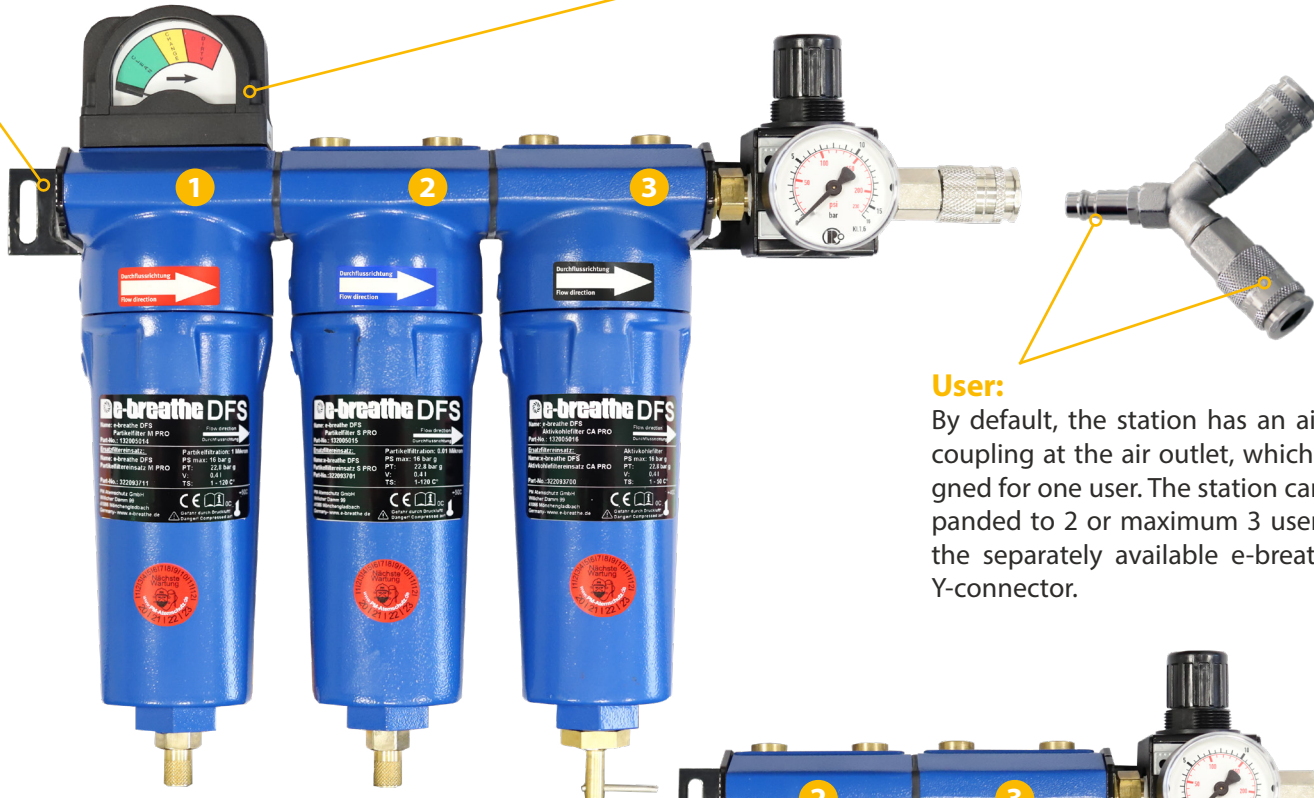
Wall Mounting:

The 2WH and 3WH stations have a side wall bracket for stationary mounting.

The DFS 2/3 and its housing can also be mounted and fastened to the wall thanks to the integrated wall bracket on the back.

Differential Pressure Indicator / Filter Saturation:

The first filter element is fitted with a differential pressure indicator. It provides information on the most economical and best timing for the filter replacement. (Can only be optionally extended with DFS 3/3WH PRO).



User:

By default, the station has an air safety coupling at the air outlet, which is designed for one user. The station can be expanded to 2 or maximum 3 users using the separately available e-breathe DFS Y-connector.

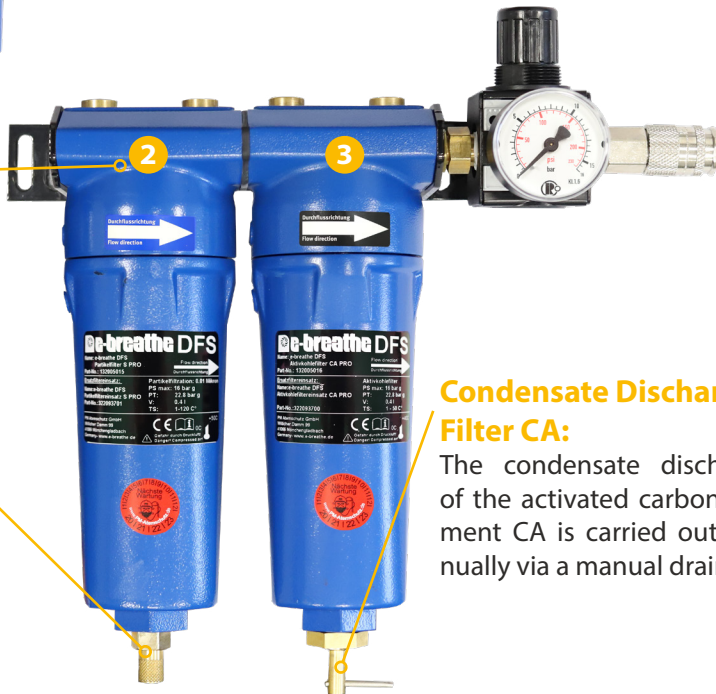
Modularity:

The e-breathe DFS 2 / DFS 2WH stations can be retrofitted to a 3 station.

The DFS 2WH & 3WH stations can be upgraded to retrofit into mobile stations.

Condensate Discharge Filter M/S:

The condensate discharge of the filter element S/M takes place automatically via a hose into a separation tank (not included in the scope of delivery).



Condensate Discharge Filter CA:

The condensate discharge of the activated carbon element CA is carried out manually via a manual drain.

Performance: Filter Element S / M / CA PRO									
Type	Particle filtration	Residual oil content	Operating Temperature [°C]		Differential Pressure [mbar]			ISO Class CA quality according to ISO 8573-1	
	[Micron]	[mg/m3]	maximum	recommended	new	wetted	Change	Particle	Oil
DFS Activated Carbon Filter CA PRO	-	0,003	50	25	100	-	semi-annually	-	1
DFS Particle Filter M PRO	1	0,5	120	50	55	85	annually	2	3
DFS Particle Filter S PRO	0,01	0,01	120	50	75	110	annually	1	1

e-breathe DFS PRO
Compressed Air Filter Station



Compressed Air Filter (DFS): e-breathe e-Line Compressed Air Filter PRO		
Article Name	Part No.	Image
e-breathe Compressed Air Filter Station - 2 PRO V.1 - 3 PRO V.1	322008xxx 201 301	
e-breathe Compressed Air Filter Station - 2 WH PRO V.1 - 3 WH PRO V.1 (WH = wall mount)	322008xxx 200 300	

Spare Parts & Accessories: e-breathe Compressed Air Filter Station		
Article Name	Part No.	Image
e-breathe DFS Particle filter cartridge S (compatible with e-breathe compressed air filter station) e-breathe DFS Particle filter cartridge S PRO [a] (compatible with e-breathe compressed air filter station PRO)	322093701	
e-breathe DFS Particle filter cartridge M (compatible with e-breathe compressed air filter station) e-breathe DFS Particle filter cartridge M PRO [b] (compatible with e-breathe compressed air filter station PRO)	322093711	
e-breathe DFS activated carbon filter cartridge CA (compatible with e-breathe compressed air filter station) e-breathe DFS activated carbon filter cartridge CA PRO [c] (compatible with e-breathe compressed air filter station PRO)	322093700	
e-breathe DFS Manometer	148001220	
e-breathe DFS Pressure Regulator with Manometer	148001210	
e-breathe DFS Differential Pressure Indicator (Compatible only with e-breathe DFS particle filters S/M) e-breathe DFS Differential Pressure Indicator PRO (Compatible only with e-breathe DFS particle filters S/M PRO)	132005016	
e-breathe DFS Filter Station Housing V.1	322008400	
e-breathe DFS Y-Connector 2 (d) e-breathe DFS Y-Connector 3 (e)	322008004 322008002	
e-breathe DFS Breathing Air Safety Coupling (1/4 AG) e-breathe DFS Breathing Air Safety Plug (3/8 AG)	115001005 On request	
e-breathe DFS Blind Plug (3/8 AG / for air inlet and air outlet)	114802304	

e-breathe Compressed Air Hoses

The compressed air hoses are designed for breathing air and are approved accordingly for respiratory protective devices. They are oil and chemical resistant and tested and certified according to EN 14594 / EN 14593. They are suitable for use with a compressed air regulator valve and compressed air filter station.

All hoses are equipped with a breathing air safety coupling and a breathing air safety plug and can be used at temperatures ranging from -10C° to +60C° and a maximum operating pressure of 10 bar. Please note: Do not connect or extend the available hose types and lengths. The maximum length is therefore 30m.

Compressed Air Hose				
Article Name:	Art.-No.	Material / Version	For use against	Image
e-breathe DFS CA Hose Black - 5m - 10m - 15m - 20m - 25m - 30m - 40m - 50m - 60m - 70m	3020611xx 05 10 15 20 25 30 40 50 60 70	EPDM / fixed length	e-breathe e-Line, e-breathe DFS	
e-breathe DFS CA Hose Blue - 5m - 15m - 20m - 30m - 40m	3020612xx 05 10 15 20 30 40	PU + PVC / fixed length	e-breathe e-Line, e-breathe DFS	
e-breathe DFS CA Hose Spiral - 2m - 4m - 6m - 8m	3020613xx 02 04 06 08	PU / flexible	e-breathe e-Line, e-breathe DFS	



Isolating Respiratory Protection

In this chapter you will find our compressed air devices. For more information, please refer to our separate product brochure.

74 Fresh Air Hose Devices

e-breathe Fresh Air Hose Devices



Fresh Air Pressure Hose Devices:

Consisting of: PAPR, particle filters, overpressure compensation valve, air supply hose, carrying device, breathing air hose and full mask.

Fresh Air Hose Devices are self-contained respiratory protective devices and are predominantly used in contaminated or low-oxygen working areas where the use of normal filter respiratory protection or compressed air respiratory protection is not possible. The required breathing air is led from an area outside the contaminated ambient atmosphere via an air supply hose to the breathing connection.

A distinction is made between two classes:

Class 1: Devices with light mechanical resistance

Class 2: Devices with heavy mechanical resistance

Components

Breathing Connection

Half mask or full face mask

Breathing Air Hose

fixed length, flexible length, EPDM (heat resistant)

Belt Unit

Leather belt with Quick release system

Hose Cover

Limited-Use
Reusable
Aluminized

Air Supply Hose

Different lengths
from 10m - 40m

Powered air-purifying respirator (PAPR)



e-breathe FDS Pro

Supplied Air Respirator (FDS)



Fresh Air Hose Devices are self-contained breathing apparatuses and are predominantly used in contaminated or low-oxygen working areas where the use of normal filter respiratory protection is not possible or where a supply of breathing air via compressed air cannot be established.

An example is in pits or silos due to contamination and/or low oxygen content. For these areas, fresh air hose devices are used, which can be divided into fresh air suction hose devices and fresh air pressure hose devices. Here, the required breathing air from an area outside the contaminated ambient atmosphere is conducted via supply hoses to the breathing connection.

Fresh Air Suction Hose Devices:

In fresh air suction hose units, the required breathing air is sucked through a hose by the lung force of the unit carrier. This creates a negative pressure in the entire system, into which pollutants can enter at possible leaks.

Fresh Air Pressure Hose Devices:

Fresh air pressure hose devices differ essentially from suction hose devices by the fact that the breathing air is supplied to the device under slight overpressure using a blower. This ensures a slight overpressure in the hose and in the downstream device system, which virtually excludes the penetration of pollutants at possible leaks.

Product Characteristics:

The e-breathe fresh air pressure hose device supports the breathing of the wearer using a powered air respiratory and thereby relieves the wearer.

The PAPR is positioned and fixed at the end of the hose in an area free of respiratory toxins. The blower leads the breathable air via the connected breathing tube into the full mask of the wearer. This ensures that the full face mask is constantly supplied with an overpressure of breathable air.



Technical Specifications:

Approvals: (CE certified according to)	e-breathe Supplied Air Respirator (FDS)	EN 138 Class 2
	- PAPR	EN 12941 / EN 12942
	- Particlefilter	EN 12941 / EN 12942 / EN 143 P3 R / PSL
	- Full Face Mask	EN 136 Class 3 / EN 12942
Protection Class / VgdW:	Class 2 / 1000	
Air Capacity (automatic readjustment):	Adjustable on the device in three stages: 120 - 140 - 160 l/min Full Mask System	
Airflow Warning:	< 120 l/min Full Mask System	
Battery Warning:	< 15 min remaining runtime	
Battery:	Lithium-Ion Battery: 14,4V / 3,4Ah / 49WH	
Operating Time:	approx. 6 to 10 hours (Depends on the concentration of pollutants and the adjusted airflow.)	
Battery Recharging Time:	2,5 hours (quick charge function enables rapid charging: 1 hours for 80%)	
Temperature Range:	-10°C to +40°C <70% RH	
Weight:	approx. 1100g (with battery / without filters / without belt)	
Alarm System:	optical alarm (Display of the alarm at the color display with corresponding error code.) acoustic alarm (≥ 75 dB) vibration alarm	

e-breathe FDS Pro

Supplied Air Respirator (FDS)



Product Characteristics:

Full Face Mask:

Different full masks are available according to the user's requirements.

Breathing Air Hose:

Breathing air hose with round thread connection according to EN148-1 at both ends for full-face masks with round thread connection. Depending on the area of application, the breathing air hose can be connected directly to the blower filter unit. Various hose covers are optionally available to protect the hose.

multifunctional application possibilities of the FDS system:

In areas of application where filtering respiratory protection can be used, it is also possible to use only the full-face mask with a respiratory protection filter as an alternative. For this purpose, the filter is screwed directly into the full-face mask. Alternatively, the full-face mask can be used with the enclosed e-Flow as a blower filter system. In this case, the breathing air hose is used to connect the blower directly to the full-face mask. With just one system, the user can thus switch between an environment-independent isolation device or an environment-dependent filtering respirator, depending on the area of application.

Pressure Relief Valve:

A pressure relief valve is attached to the blower to ensure a constant airflow to the carrier.

Belt unit:

Leather belt with improved and free rotating quick coupling from air supply hose to breathing air hose. Optional accessories: fabric belt and decon belt.

Air Supply Hose:

The robust and very flexible plastic spiral hose is available in four different lengths (10, 15, 20, 30 or 40m).

PAPR:

Operated by the powerful „e-breathe e-Flow“ respiratory protection blower with two e-breathe P3 R / PSL particle filters. With additional accessories (belt & breathing hose), the blower can also be used as a filter device for stall, plant protection or disinfection work.




Ground Anchor:

Robust ground anchor for safe fixation of the blower in a safe area.



e-breathe FDS Pro

Fresh Air Hose Devices

Starter-Pack e-breathe FDS		
Article Name:	Part Number	Image
e-breathe Fresh Air Hose Devices <u>Consists of:</u> e-flow with PAD box with battery and charger, breathing air hose, leather belt, coupling, overpressure compensation valve, e-flow cleaning kit and 4x e-breathe ecoPADs.	322011001	
Suitable air supply hoses in different lengths:		
e-breathe FDS Suction Hose 10m incl. coupling and ground anchor	302011010	
e-breathe FDS Suction Hose 15m incl. coupling and ground anchor	302011015	
e-breathe FDS Suction Hose 20m incl. coupling and ground anchor	302011020	
e-breathe FDS Suction Hose 30m incl. coupling and ground anchor	302011030	
e-breathe FDS Suction Hose 40m incl. coupling and ground anchor	302011040	
Plus Full Face Mask:		
PM Full Face Mask Panarea Pro	701007000	

Belt Unit & Breathing Air Hoses				
Article Name	Part No.	Material	For use with	Image
e-breathe FDS Belt Unit	322002232	Stainless steel	e-breathe FDS, e-breathe FDS Suction Hose	
Breathing Air Hoses for direct connection between e-Flow and Full Mask				
Breathing Air Hose e-breathe RG	302711100	PU - flexible	PM Full Mask Panarea Pro	
	302711103	PU - fixed length		
	302711108	EPDM		
Protective Cover for Hose	116001041	Limited-Use	compatible with all PM & e-breathe breathing air hoses	
	On request	Reusable		

e-breathe FDS Pro

Fresh Air Hose Devices

Accessory & Spare Parts: e-breathe FDS		
Article Name:	Part Number	Image
e-breathe FDS Pressure Relief Valve	900014815	
e-breathe FDS Leather Belt	190062790 108062787	
e-breathe Belt Pro (textile) e-breathe belt Pro (textile) - with metal buckle T9	108062786	
e-breathe Carrying Devices	refer to chapter Smartbelt/ carrying devices	
e-breathe FDS Ground Anchors	154014901	
e-breathe Service Box M	119458610	
PM Storage Case	119458616	
e-breathe FDS Storage Box + Lid for the entire FDS unit incl. suction hose (80cm l x 60cm b x 42cm h)	117000200	
Cleaning agents, Cleaning & Storage Accessories	see chapter Cleaning & Storage	
e-breathe Filter	see chapter Filter	
Optional Accessories Fall arrest harness & safety rope (optimal for securing when entering slurry pits and silos):		
Safety harness (Further fall protection on request)	140255902	
Safety harness with snap hook 20m 40m	140255920 140255921	

Which headboard do you need?

Various headpieces for individual applications and requirements.

Different work areas bear different requirements in terms of the selection of the right head protection. In addition to application-specific requirements, other factors such as comfort, personal preferences as well as configuration options play an important role in choosing the right head protection. Therefore, our program offers tailored solutions for you and your specific requirements.

Choose from limited-use hoods, reusable hoods, face shields or full-face masks to positive pressure protective suits. All headpieces can be used in combination with a respiratory protection blower as a filtering device or in combination with a compressed air control valve as an isolating device.

The following symbols provide guidance and indicate the protection offered by the headpiece and in which combination it can be used to meet application-specific requirements (for example, the need for head protection or hearing protection).



Hood



Mask



Eye /
Face Protection



Head
Protection



Hearing
Protection



Full Body
Protection

FACE SHIELDS P. 86

A face shield combines respiratory, eye and face protection in one and can be combined with hearing and/or head protection depending on the intended use and requirements. Thus, they protect against a wide range of hazards in the workplace and can be used in a wide range of applications. Their lightweight design is convincing and they offer special comfort due to the integrated ventilation.

A face shield is recommended in all areas where a high level of mechanical eye and head protection is required

The choice of different face seals, made of different materials, allows the headpiece to be optimally adapted to the individual needs and personal preferences of the user.



OVERPRESSURE HOODS P. 92

Overpressure hoods protect the eyes, face, head, shoulders and respiratory tract by the positive pressure generated by the air source. The lightweight positive pressure hoods are available with and without a head or helmet carrying frame and as a limited-use or reusable variant. A helmet carrying frame allows the hood to be combined with a helmet. The use of a hood is recommended in all areas where high mechanical eye protection is not required.

Limited-Use Hoods:

Can be used multiple times and are ideal for applications where the headpiece must be changed frequently and cleaning may not be economical.

Reusable / Premium Hood:

Consist of a reusable material and are suitable for multiple use. Cleaning and disinfection of the hood is possible. This saves money and protects the environment.



FULL FACE MASK P. 104

A face mask protects the eyes, face and respiratory tract.

They convince by their different application possibilities. A respiratory protection mask can be used as a negative pressure mask, where a respiratory protection filter is screwed directly onto the mask and the user independently sucks in the air through the filter using his lung power, or as a positive pressure mask. As a positive pressure mask, the mask is used in combination with an air source (blower or compressed air system). In this case, the filtered air is delivered directly into the mask by an air source without the use of the user's own lung power and without inhalation resistance, which significantly increases the wearing time and comfort.

The use of face masks is recommended in all areas where the mask must be worn for a short period of time (the wearing time limit of a mask is 105-150 minutes) and where the highest respiratory protection class is required due to the exposed hazardous substances.



OVERPRESSURE SUITS P. 110

A respiratory protective suit completely encloses the user's head and body. It supplies the wearer directly with filtered breathing air via an air source (blower or compressed air system). It thus provides protection of the respiratory tract and the entire body from pollutants and contaminants.

The use of a respirator suit is recommended in all areas where additional mechanical head and/or high eye protection is not required. They are used whenever the user's entire body, skin and respiratory tract need to be protected from infection and/or hazardous substances.

Depending on the application-specific field of use and purpose, respiratory protection suits have different material properties that affect the chemical resistance, as well as the mechanical properties.



Headboards, Masks & Overpressure Hoods

In this chapter you will find our head parts and hoods for use with PAPRs and compressed air control valves.

A more detailed overview and further information can be found in our separate product brochures.

- 
- 84** **Factors for the selection of respirators**
Selection Guide: Factors for Selection of Eye & Face Protection
Selection Guide: Factors for the Selection of Head Protection

 - 86** **Face Shield**
e-breathe Multimask / Pro
Spare Parts & Accessories

 - 92** **Overpressue Hoods**
e-breathe Short und Long Hood
e-breathe Multi-Hood
PM Lab Hood AV
PM Chemical Hood
Spare Parts & Accessories

 - 104** **Full Face Masks**
e-breathe Panarea Pro
Spare Parts & Accessories

 - 130** **Respiratory Accessories**
e-breathe Breathing Air Hoses

 - 140** **Cleaning & Storage**
Cleaning & storage kits for PAPR, breathing air tubes, full & half masks

 - 146** **Ready-Packs with PAPR**
 - 147** **Ready-Packs with Compressed Air**

Factors for the selection of Respirators

Selection guide



Protection factors are an important tool in selecting the correct respiratory protection class. The table listed below serves as a selection aid, taking into account the protection factors defined below.

The protective performance is determined by the total leakage of the respiratory protection equipment. The breathing connection, respiratory protection filter, respiratory protection hose and, if applicable, the corresponding air source (PAPR / compressed air control valve) contribute to the total leakage.

The decisive factor for the protective performance is the total leakage per class specified in the respective product standard.

LEAKAGE:

EN 13274-1 "Test method for the determination of total inward leakage" defines the way in which the leakage or protection class of respiratory protective equipment is determined. In this test method, a test person dons the respiratory protective equipment and enters a test chamber where a specific test atmosphere is generated. In the case of positive pressure equipment, the equipment is operated under minimum volume flow (= lowest volume flow).

The test person then performs various exercises on a treadmill at a walking speed of 6 km/h over a period of 10 minutes. During this time, the concentration inside and outside the breathing port is measured. The measured values must not exceed the specified limits according to the relevant product standard for achieving a particular protection class. The measured leakage values are laboratory values that may deviate from real values.

In our internal test laboratory at e-breathe Safety, we can perform this test procedure professionally.

APF (ASSIGNED PROTECTION FACTOR):

The APF (Assigned Protection Factor) is the assigned protection factor that realistically indicates the protection a specific respirator can provide to a wearer in a work environment. It assumes that the wearer has been properly instructed and is wearing a fully functional and correctly fitted respirator.

The APF value is based on measurements taken inside and outside the respirator under actual workplace conditions. This value is used in different countries and may vary according to national regulations.

MULTIPLES OF THE LIMIT VALUE

The multiple of the limit value indicates how much higher the current concentration of a substance is compared to the permissible limit value (e.g. workplace limit value). It helps to select the appropriate respirator to ensure adequate protection. More detailed information can be found in DGUV regulation 112-190.

NPF (NOMINELLER PROTECTION FACTOR)

The NPF (nominal protection factor) is based on the maximum allowable percentage of total inward leakage for a given class of respirator according to the corresponding EN standard. These leakage values were developed in laboratory testing using a small sample of trained individuals and may not represent the real conditions at a person's workplace under actual conditions of use. This value is used as a reference rather than a guide. For more information, see EN 529: Recommendation for selection, use and care of respiratory protective equipment.

SERVICE LIFE:

The service life represents a limitation for the user to protect him from overuse. The service life depends, among other things, on the type of respirator used, as factors such as weight, breathing resistance, temperature and humidity of the inhaled gas and the climate in a respiratory protective suit influence this value, as well as other work difficulties. Detailed information on the duration of use and recovery time is provided by DGUV regulation 112-190.

Device type	Image / Example	Device Class	Norm	Leakage	APF (D) VdGW	NPF	Usage (min)	
Filtering respiratory protection - depending on the ambient atmosphere								
Filtering devices - negative pressure: own lung power/non-breath assisted								
Filtering Half mask		FFP1 FFP2 FFP3	EN 149	22 % 8 % 2 %	4 10 30	4 12 50	75 - 150	without AV with AV
Half mask with respiratory filter / & breathing tube		P1-Filter P2-Filter P3-Filter Gas filter	EN 140 EN 12083	2 %	4 10 30 30	4 12 48 50	120 - 150	-
Full face mask with respiratory filter / & breathing tube		P1-Filter P2-Filter P3-Filter Gas filter	EN 136 EN 12083	0,05 %	4 15 400 400	5 16 1000 2000	105 - 135	-
Filtering devices with blower - positive pressure: respiratory support devices								
PAPR with half mask		TM1 TM2 TM3	EN 12942	5 % 0,5 % 0,05 %	10 100 500	20 200 2000	180 - 150	<3kg >3kg
PAPR with full face mask		TM1 TM2 TM3	EN 12942	5 % 0,5 % 0,05 %	10 100 500	20 200 2000	150 - 120	<3kg >3kg
PAPR with helmet / hood		TH1 TH2 TH3	EN 12941	10 % 2 % 0,2 %	5 20 100	10 50 500	- 180	<3kg >3kg
PAPR with PAPR Suit		TH1 TH2 TH3	EN 12941	10 % 2 % 0,2 %	10 50 500	10 50 500	150 120	<5kg >5kg
Isolating respiratory protection - independent of the ambient atmosphere								
Insulating devices with compressed air - positive pressure: breathing support devices								
Compressed air hose unit with half mask		1A / 1B 2A / 2B 3A / 3B	EN 14594	10 % 2 % 0,5 %	5 20 100	10 50 200	150	-
Compressed air hose unit with full face mask		4A / 4B	EN 14594	0,05 %	1000	2000	150	-
Compressed air hose unit with hood mask		1A / 1B 2A / 2B 3A / 3B 4A / 4B	EN 14594	10 % 2 % 0,5 % 0,05 %	5 20 100 500	10 50 200 2000	-	<3kg
Compressed air hose unit with respiratory protection suit		1A / 1B 2A / 2B 3A / 3B 4A 4A ²⁾	EN 14594	10 % 2 % 0,5 % 0,05 % 0,05 %	5 20 100 500 1000	10 50 200 2000 2000	180 150	<3kg >3kg
Compressed air hose unit with ventilated respiratory protection suit		Class 1 Class 2 Class 3 Class 4 Class 5	EN1073-1	0,05 % 0,02 % 0,01 % 0,005 % 0,002 %	1000	2000 5000 10000 20000 50000	- 210	<3kg >3kg
Isolation devices with fresh air - positive pressure: respiratory support devices								
Freshair-Pressurehoseunit with half mask		Class 1 Class 2	EN 138	2 %	100	50	150	-
Freshair-Pressurehoseunit with full face mask		Class 1 Class 2	EN 138	0,05 %	1000	2000	150	-
Freshair-Pressurehoseunit with helmet / hood		Class 1 Class 2	EN 269	0,5 %	50	200	-	<3kg

All information without guarantee. Please always consider currently valid legal requirements and guidelines in your decision.

Factors for the selection of head protection



Selection Guide

The use of respiratory protective equipment together with other personal protective equipment must not result in any mutual impairment of the respective protective effect (§2 Para. 3 "PPE Use Ordinance"). If additional protective equipment is required in conjunction with respiratory protection, the applicable standards must be met. The use of eye protection and face protection is governed, among other things, by the EN166 standard, which specifies requirements for safety goggles and safety shields.

In addition, the ergonomic, physical and psychological effects of the combined personal protective equipment must be considered in their entirety. If our products can be combined with other PPE or wherever such PPE is already an integral part of our products, this will be indicated by appropriate symbols, to provide guidance.

Integrated eye protection of a PPE:

In a large number of respiratory protection products, eye and face protection is already integrated and ensured by the built-in visor. In some respiratory protection standards, such as EN136 "Full Face Masks" or EN 12941 "PAPR with Hoods", mechanical strength is also tested according to Class S. In addition, to achieve higher mechanical strength, hoods and headpieces are also subjected to EN166 testing to achieve Class F or Class B. This offers the advantage that such PPE has been tested as one integrated product tested in combination, eliminating the need to use multiple separate products.

Combining different PPE:

If eye protection is combined with respiratory protection, i.e. two items of personal protective equipment are worn together, no mutual impairment of the respective protective effects may occur. Otherwise, interactions may occur, resulting in only partial protection or no protection at all. This must be checked before use.

Examples of possible interference with other PPE:

For example, in the case of hoods and headpieces which provide a seal on the face, wearing an additional pair of safety goggles can affect the seal and thus the protection provided by the goggle temples. For hoods or headpieces that seal on the neck, the goggle temples generally do not affect the tightness of the hood/headpiece.

Advantages of combining different PPE:

If a PPE is combinable or compatible with another PPE, it provides the advantage that increased mechanical eye protection (F/B/A) or additional eye protection with special filtering capabilities (UV / IR filters), can be worn under the respiratory protection headpiece if required. This allows flexible adaptation to individual requirements and increases the efficiency of the protective equipment.

Protection Class		EN 166: Eye Protection		
Optical classes:				
3	Without major requirements for visual performance		Not for long-term use	
2	average requirements for visual performance		Suitable for temporary wear	
1	particularly high demands on visual performance		Suitable for continuous long-term use	
Additional / Optional Marking:				
K	Resistance to surface damage from fine particles (scratch resistant).			
N	Resistance to fogging of the lens (anti-fog)			
T	Tested under extreme temperatures (-5 °C / +55 °C)			
Mechanical strength classes:			Product examples	
-	General mechanical basic strength	-	-	Goggles
S*	increased mechanical strength	5,1 m/s 1,3m	22mm Steel sphere 43g	Goggles, Hoods
F	low impact energy	45 m/s 162 km/h	6mm Steel sphere 0,86g	Goggles, Full vision goggles, visors, hoods, headpieces
B	medium impact energy	120 m/s 432 km/h	6mm Steel sphere 0,86g	Full Face Goggles, Full Face Screens, Head Pieces, Full Face Masks
A	high impact energy	190 m/s 684 km/h	6mm Steel sphere 0,86g	Protective Shields

* Class S represents the minimum requirement that respiratory fittings with a visor must meet.

Please note: This table provides an overview of the different types of products that can provide eye protection against certain risks. It is important to emphasize that not every product in this category might have all the required features. Therefore, it is critical to carefully review the performance characteristics and labeling of each product before selection or use.



Factors for the selection of head protection

Selection Guide

The use of respiratory protective equipment together with other personal protective equipment must not result in any mutual impairment of the respective protective effect. If additional protective equipment is required in conjunction with respiratory protection, the applicable standards must be met. For head protection, the standards EN812, EN397 and EN12492 apply, among others, which specify requirements for head protection.

If our products can be combined with other PPE or if these are already an integral part of our products, this is indicated by corresponding symbols, which are intended as a guide.

Durability / Service Life:

The service life of helmets and bump caps is defined by the manufacturer. Both the storage period and the actual period of use must be taken into account. The date of manufacture can be read on the helmet. As a rule, the recommended shelf life is five years. If the helmet is damaged during this time, immediate replacement is mandatory.

Integrated head protection of a PPE:

There are respiratory protection headpieces that already have head protection as an integral part of the product, meeting the requirements of a bump cap or industrial hard hat in addition to respiratory protection. This offers the advantage that this PPE has been tested as one integrated product that has been tested together, eliminating the need to use multiple separate products. A disadvantage of this solution may be that if the head protection is damaged or reaches the end of its shelf life, it may not be possible to replace the helmet shell at all, or only with considerable effort and expense.

Combining different PPE:

If head protection is combined with respiratory protection, i.e. two items of personal protective equipment are worn together, there must be no mutual impairment of the respective protective effects. Otherwise, interactions may occur, resulting in only partial protection or no protection at all. This must be checked before use.

Advantages of combining different PPE:

If a PPE can be combined or is compatible with another PPE, this offers the advantage that the head protection can be easily and inexpensively replaced with a new helmet or bump cap after damage or expiration of the shelf life, while the respiratory protection can continue to be used.

Our headpieces, such as the Multimask or Full Face Mask, can be combined with a safety helmet. Our Multi-Hood hood also offers a special helmet mount and can thus be attached to a standard industrial safety helmet, providing additional head protection.

Head protection			
Norm		Shock absorption test	Penetration test
EN 812 - Industrial bump caps	Bump caps protect against light impacts and scratches, but not against falling, heavy or sharp objects.	12,5 Joule 15,0 kN 5kg / 0,25m	2,5 Joule 0,5 kg / 0,5m
EN 397 - Industrial safety helmets	Industrial safety helmets protect the wearer from impacts and heavy, sharp falling objects.	49 Joule 5,0 kN 5 kg / 1m	29 Joule 3kg / 1m
EN 12492 - Climbing helmets	Climbing helmets provide protection against impact and shock injuries during climbing. Due to their protective effect, they are also used for working at heights.	100 Joule 10 kN 5kg / 2m	29 Joule 3kg / 1m

Note: In the shock absorption and penetration tests, various impact bodies with specified energy are dropped from different heights onto a helmet that is securely fixed on a test block.

Please note: This table provides an overview of the different types of products that can provide head protection against specific risks. It is essential to carefully review the performance characteristics and labeling of each product before selection or use.

e-breathe Multimask Pro Concept

Face Shield



The innovative concept of the e-breathe Multimask Pro is based on a modularly developed and ventilated face shield, which can be operated with an air source (blower filter unit or compressed air). Together with an air source, the Multimask Pro constitutes a respiratory protection system. The air source builds up a constant positive pressure in the headpiece, preventing harmful substances from reaching the user.

During development, optimization requests from users were taken up and integrated into a new concept for respiratory protection devices. The result is convincing in terms of functionality and maximum comfort.

The Multimask Pro is designed to serve a wide range of applications. A wide range of compatible accessories ensures high functionality and flexibility. The lightweight mask frame is the basic unit and is identical in every version. This means that the mask can be assembled for the respective target application, as in a modular system, and thus adapted precisely to the user's needs.

The Multimask's innovative design includes a lot more than the user can see at first glance:

The upper section of the frame is designed in such a way that the Multimask Pro can be easily combined with other personal protective equipment, such as a standard industrial helmet and / or hearing protectors.

The Multimask Pro is equipped with a double-sided anti-fog painted cellulose acetate visor, for a permanently clear view. The visor is characterized by a particularly wide all-round view. Depending on the area of application, different visors are available for the user: temperature-, heat- or chemical-resistant. The shape of the mask frame prevents the mask from being accidentally placed on the visor. This keeps the field of vision protected from unnecessary scratches. Additional visor protection films are available to extend durability.

The Multimask collects another plus point through its very simple handling. All components of the masks such as head-gear, visor and face seal can be replaced without tools. The mask can thus be quickly and easily disassembled, cleaned and serviced after use.

In terms of wearing comfort, the Multimask stands out as well. The face seals ensure a secure and comfortable fit. The new second-generation face seals feature an improved fit and a click-lock system for easier and faster assembly. A variety of face seals made of different materials are available and can be customized to meet the user's individual needs.

The Multimask Pro combines respiratory, face, hearing and head protection in one.

Multimask Pro - 2. Generation



Product Characteristics:

Face Seal:

- New click lock system for easier assembly
- New improved fit
- Easily replaceable and washable
- Materials: neoprene, silicone, foam, mesh

Head Strap:

- Eccentric screws for easy exchange
- Various replaceable head straps:
 - Elastic two-point head strap (polypropylene)
 - One-point head strap for helmet attachment
 - Elastic two-point head strap (TPE/rubber) with adjustable straps

Visor:

- Eccentric screws for easy exchange of visor
- Different materials for various requirements: cellulose acetate & polycarbonate
- tear-off visor protection films to protect against scratches

Exhalation Valve:

- Serves as a speaker membrane and eases communication
- Discharge of exhaust air

Breathing Air Hoses:

- To cover every field of application 3 different hose types are available:
 - PU - flexible, PU - fixed length, EPDM - fixed length.
 - disposable, reusable - flame resistant, aluminized - heat resistant

Compatibility:

- Compatible with: standard industrial helmet
- Compatible with: hearing protection

Made in Germany:

- Developed in Germany
- Produced in Germany
- Certified in Germany

Air Sources:

- **Approval with 3 different PAPRs:**
 - PM Proflow SC 160
 - PM Proflow EX 160
 - e-breathe e-Flow
- **Approval with Compressed Air Control Valve:**
 - e-breathe e-Line

Technical Specifications:

Combinations:	e-breathe e-Flow	PM Proflow 2 SC / EX 160	e-breathe e-Line
Approvals:	CE certified acc. to EN 12941	CE certified acc. to EN 12941	CE certified acc. to EN 14594
Protection Class / NPF:	TH3 / 100	TH3** / 100 & TH2 / 20	3B / 100
Airflow:	160 - 180 - 200 l/min	160 l/min	160 - 300 l/min
Hose Connection:	Vario & MM	Vario & MM	Vario & MM
Temperature Range:	-10°C to +40°C <70% RH	-10°C to +40°C <70% RH	-10°C to +40°C <70% RH
Eye Protection:	EN 166 Class 1B	EN 166 Class 1B	EN 166 Class 1B
Exhalation Resistance:	2,05 mbar	2,45 mbar	2,05 mbar
Weight Headpiece:	360g	360g	360g
Face Seal 1. Gen.:	Silicone, Neoprene	Silicone, Neoprene	Silicone, Neoprene
Face Seal 2. Gen.:	Klick Foam, Mesh, Silicone	Klick Foam, Mesh, Silicone	Klick Foam, Mesh, Silicone
Mask material:	PCABS	PCABS	PCABS



e-breathe Multimask Pro Concept

Face Shield



e-breathe Multimask Pro Concept

Face Shield

1 Eccentric Closure
The eccentric closure fixes the visor by means of a rotary movement and holds the headgear.
The rotary movement presses the visor against the visor seal and thus additionally seals the mask.
Headgear and visor can be easily & quickly replaced without tools.



2 Hose Connection
The breathing air hose is attached to the Multimask with a simple click using the patented click adapter.
This prevents the breathing air hose from twisting during assembly. The breathing air hoses are available in three different materials, depending on the intended use.



3 Air Control
Thanks to the patented click adapter, the user can determine for himself which path the filtered air takes.
The air channels arranged with extreme precision inside the mask frame offer the user the possibility to regulate the air supply himself via three positions entirely according to his needs.
By turning the click adapter, the user can determine whether the air should flow from below (1), from above (3) or from both directions (2) simultaneously.



4 Exhalation Valve
The exhalation valve offers the safest way to remove the exhaled air. This prevents a dangerous excess of CO2 and, incidentally, fogging of the visor.
It is positioned close to the mouth, thus facilitating communication.



5 Click Face Seal
The new second generation face seals feature an improved fit and a click-lock system for easier and faster installation. The frame of the click face seals is simply pressed into the mask frame for this purpose.
To customize the mask to the user's needs, the new seals are available in a universal size made of three different materials.









6 Compatibility
The design of the mask frame is designed to allow the Multimask Pro to be combined with other PPE such as industrial helmets, climbing helmets and hearing protectors.



e-breathe Multimask Pro



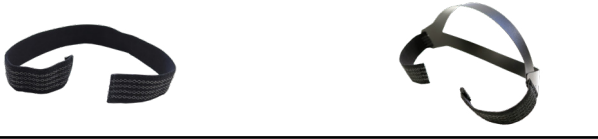
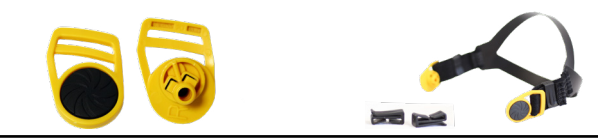






Face Shield

Head Piece: e-breathe Multimask		
Article name	Part Number	Image
2nd generation (from 2021)		
Multimask Pro Foam (with face seal click foam)	322003996	
Multimask Pro Mesh (with face seal click mesh)	322003995	
Multimask Pro Silicon (with face seal click silicone)	322003994	

Face Seal: e-breathe Multimask					
Article Name	Part Number		Size	Material	Image
Face Seals 2nd Generation (from 2021)					
Face Seal Click Foam - new with click in	322004039	2. Generation	Universal	Foam	
Face Seal Click Mesh - new with click in	322004044	2. Generation	Universal	Mesh	
Face Seal Click Silikon - new with click in	322004060	2. Generation	Universal	Silicone	

e-breathe Multimask Pro

Face Shield

Spare Parts & Accessories: e-breathe Multimask Pro		
Article name	Part Number	Image
Breathing Air Hoses for Multimask	see chapter Breathing Air Hoses	
Multimask Mask Frame e-breathe Silicone Valve Blade Multimask Visor Sealing	322004050 322004045 322004008	
Multimask Standard Headgear Multimask Comfort Headgear	322004020 322004028	
Multimask Headgear Buckle Set (Pro)	322004038	
Headgear Straps (Pair)	128076216	
Goggle Adapter for Multimask Goggle Frame (without lenses)	302001035 100012790	
Multimask Hood Pro - Disposable - Reusable - Heat protection	116001047 Upon request Upon request	
Visor Polycarbonate:		
Visor PC - Standard Visor PC - Scratch resistant Visor PC - Anti-Fog (coated) Visor PC Gold	322004009 322004010 322004011 322004049	
Visor Cellulose Acetate:		
Visor CA - Standard Visor CA 2.0 - Anti-Fog (coated)	322004014 322004043	
Multimask Protective Foil (PU 10)	101063094	
Cleaning and Care		
e-breathe Cleaning Bag	322002108	
PM Rescue Clean Disinfectant	129001000	
Detergents, Cleaning & Storage Accessories	see chapter Cleaning & Storage	

e-breathe Short & Long Hood

Respiratory Protection Hoods



The new overpressure lightweight hoods of the e-breathe Short & Long Hood series offer maximum comfort with the highest level of protection. They feature an attractive, ergonomic design and a soft-fitting face seal made of elastic material that adapts to different face sizes and shapes. The special design makes it possible to wear glasses under the hood without a noticeable, annoying draught.

An adjustable and fixed head support is located inside the hood, which enables immediate use. The hoods were designed for easy on and off. A loop at the front and back of the hood allows it to be adjusted and put down without touching the external material.

In combination with an air source (respiratory protection blower or compressed air control valve), a constant overpressure is built up inside the hood, preventing the penetration of harmful substances and achieving the highest protection class. The airflow passes inside the hood, along the visor, preventing any unpleasant drafts or noise. The excess and used air is exhausted by an exhalation valve positioned close to the mouth, minimizing CO2 concentration and significantly improving communication.

The hoods are available in two variants made of three different materials:

Short Hood: Short Hoods are lighter and provide protection for the face and head area. The ears remain free.

Long Hood: Long Hoods have an additional head & shoulder cover and thus protect the entire head, neck and shoulder area.

Limited-Use Hoods: Consist of a low-noise, durable, wrinkle- and lint-free material that is disposed of directly after contamination/end of use.

Premium (reusable) Hoods: Consist of a low-noise, robust, reusable and water-repellent material. After use, the hood can be cleaned and reused.

Chemical Hoods: Consist of a low-noise, rugged, wrinkle-resistant, anti-static and chemical-resistant material that is disposed of directly after contamination/end of use.



Product features:

- Certified respiratory protection according to EN 12941 protection class TH3
- Certified respiratory protection according to EN 14594 protection class 3A
- Eye and face protection EN 166: 15
- Breathing, face, neck and shoulder protection
- Headgear size S-XXL universally adjustable
- Distortion-free all-round vision
- Suitable for beard and spectacle wearers
- Extremely light weight
- No G26 medical checkup
- No wearing time limit
- Chemical resistant

e-breathe Short & Long Hood

Respiratory Protection Hoods



PRODUCT FEATURES:

Head holder

Thanks to the permanently installed, internal head holder, the hood is ready for immediate use. The lightweight head holder allows adjustment to different head sizes and ensures an optimum fit and maximum wearing comfort. The soft headband guarantees a comfortable fit and is replaceable.

New design

The newly developed hoods feature a wide and soft face seal. The soft, elastic material of the face seal optimally adapts to different face sizes and offers maximum wearing comfort and respiratory protection.

Variant: Short Hood - SH

The SH hoods have no additional shoulder cover and provide protection only for the face and head area. The ears remain free and allow a better perception of ambient noise.

Variant: Long Hood - LH

The LH hoods have an additional head & shoulder cover and provide protection of the entire head and neck area. The cover can be worn inside or outside the suit. Worn inside, the suit is supplied with excess air.

Airflow

The air distribution inside the hood has been designed to direct the airflow along the polycarbonate visor. This prevents permanent fogging of the visor and the user does not feel any unpleasant drafts. As a result, comfort is increased and noise is minimized.

Polycarbonate visor

The visor offers eye and face protection according to EN 166 F and is ergonomically shaped. It features an extra large, distortion-free field of vision. A visor protection film is available separately for the premium hoods.

Hood material

The hoods are made of low-noise, robust, wrinkle and lint-free material. Three different materials are available: Limited-Use, Chemical-Resistant and Reusable.

Exhalation valve with speech membrane

The exhalation valve provides the safest opportunity for direct exhaust of exhaled air and low CO2 concentration inside the hood. The speech membrane in the exhalation valve provides easier communication. The intelligently designed exhalation valve ensures minimal exhalation resistance and allows the hood to be used directly without a G26 medical check-up.

Hose connection

The breathing air hose is securely attached to the adapter of the headgear using the simple e-breathe click system.



e-breathe Multi-Hood (MH)

Respiratory Protection Hoods



The new Multi Hood: individual - comfortable - safe

The new and innovative concept of the Multi-Hood convinces through versatility and highest wearing comfort. e-breathe's lightweight respiratory protection overpressure hoods can be optimally adapted to any application and different requirements.

In combination with an air source (powered air-purifying respirator or compressed air regulator valve) a constant overpressure is built up in the hood, thus achieving the highest protection class for the user.

Due to the unique and innovative concept of the **Multi-Hood**, the protective equipment can be adjusted to your requirements and is available as a limited-use hood as well as a reusable hood. The hood is made of a low-noise, robust, crease- and lint-free material.

The hood cover is available in different versions depending on the application and fits onto different holders. The individually selectable carrying systems enable usage of the **Multi-Hood** with a **head holder** or **helmet holder**. Practical magnetic buttons make it easy to mount the hood cover on the respective holder. The helmet holder can be used with almost any standard industrial helmet.

The Multi-Hood sets new standards in terms of wearing comfort:

The visor is ergonomically shaped and features an extra large, distortion-free field of vision. A textile neck seal with an elastic cord closes the Multi-Hood perfectly at the neck. The shoulder cover can be worn inside or outside the protective suit. Worn inside, the suit is supplied with excess air.

Product Characteristics:

- Certified respiratory protection according to EN 12941*
- Certified compressed air respiratory protection according to EN 14594**
- Highest Protection Class TH3* / 3B**
- Eye and face protection
- Head protection according to EN 397
- Respiratory, head, face, neck and shoulder protection
- Suitable for beard and spectacle wearers
- Distortion-free panoramic view
- Extremely low weight
- no G26 medical check-up
- no limits on application time

Technical Specifications:

Combination:	e-breathe e-Line	e-breathe e-Flow	PM Proflow 2 SC PM Proflow 2 EX
Approvals:	CE / EN 14594	CE / EN 12941	CE / EN 12941
Protection Class/NPF:	3B* / 200	TH3 / 500	TH3 / 500
Airflow:	160 - 280 l/min	160 - 180 - 200 l/min	160 l/min
Hose Connection:	e-breathe Klick-System	e-breathe Klick-System	e-breathe Klick-System
Temperature Range:	-10°C to +50°C <70% RH	-10°C to +40°C <70% RH	-10°C to +40°C <70% RH
Exhalation Resistance:	0,40 mbar	0,35 mbar	0,37 mbar
Weight head piece:			
- with helmet holder	280 g	280 g	280 g
- with head holder	480 g	480 g	480 g
Material Limited-Use:	Polysafe Duoform	Polysafe Duoform	Polysafe Duoform
Reusable Material:	Bluesafe	Bluesafe	----

(*befindet sich noch in Zertifizierung)

e-breathe Multi-Hood (MH)

Respiratory Protection Hoods



Product Features:

Wearing Comfort

Both with helmet and head holder, the Multi-Hood offers maximum comfort thanks to its ergonomic design and light weight.

The helmet holder is compatible with nearly any industrial helmet. The innovative and lightweight head holder can be adjusted to any head size thanks to the adjustable system. It offers an optimum fit and maximum wearing comfort.

Hood Material

Die Haube besteht aus einem geräuscharmen, robusten, knitter- und fusselfreien Material. Der Haubenüberzug lässt sich einfach & schnell auswechseln und ist als Limited-Use und Mehrweg Variante verfügbar.

Exhalation valve with speech membrane

The exhalation valve ensures direct discharge of the exhaled air and, thanks to the speech membrane, ensures good communication and a clear speech connection.

The intelligently designed exhalation valve avoids heavy respiratory resistance during breathing and enables the Multi-Hood to be used directly without a G26 medical check-up.

Intelligent Airflow

The air distribution inside the hood has been designed in such a way that the air flow runs directly along the polycarbonate visor. This prevents permanent fogging of the visor and prevents the user from feeling an unpleasant air flow in the neck.

Hose Connection

The breathing air hose is securely attached to the hood adapter using the simple e-breathe click system.

Polycarbonate Visor

The visor offers eye and face protection and is ergonomically shaped. It features an extra large, distortion-free field of view. The hood is supplied flat and without unwanted creases.

Design

The textile neck seal with elastic band closes the Multi-Hood perfectly on the neck. The shoulder cover can be worn inside or outside the suit. Worn inside, the suit is supplied with excess air.



e-breathe Multi-Hood System (MH)

Respiratory Protection Hoods



Depending on the application and requirements, the hood cover of the Multi-Hood is available as a limited-use hood or reusable hood and is available separately.



Limited-Use-Hood:

Limited-use hoods can be used multiple times and are ideal for applications where the head piece needs to be changed frequently and cleaning may not be economical.



Material

Consists of a low-noise, robust, crease- and lint-free material.

standard white



chemicalresistant yellow

Material

Consists of a low-noise, robust, crease-resistant, antistatic and chemical-resistant material.

For details of the application time for use with chemicals, please refer to the permeation data sheet.



Reusable Hood:

The premium reusable hood version consists of a reusable, water-repellent material and is suitable for multiple use. Cleaning and disinfection of the hood is possible. In this way, money is saved and the environment is protected.



Material

Consists of a low-noise, robust, reusable, water-repellent material.

Premium blue

e-breathe Multi-Hood System (MH)

Respiratory Protection Hoods



The individual carrying systems adapt to all requirements and working environments.



Head Holder:

The classic head holder is designed for use without a helmet. Thanks to the adjustable head holder, the carrying system adapts to any head shape and offers an optimal fit and highest wearing comfort.

adjustable head holder for an optimal fit & highest wearing comfort

ergonomic & user-friendly adjustment buttons: enable quick & easy adjustment and thus optimal fit



fast & secure attachment of the hood to the carrying system due to extra strong industrial magnetic buttons

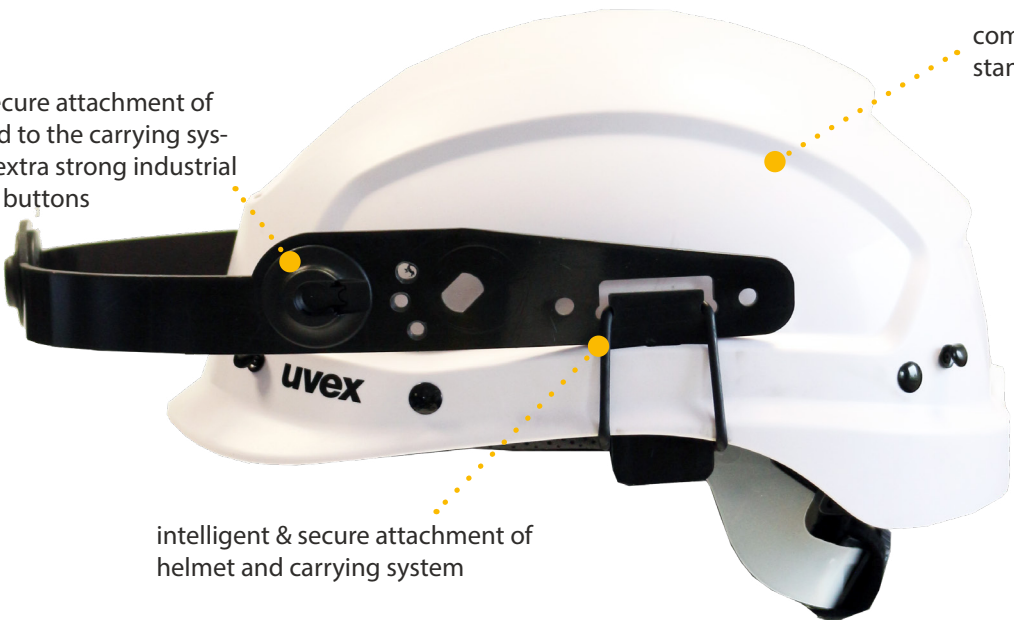
breathable, replaceable and washable comfort headband



Helmet Holder:

The innovative and lightweight helmet holder is compatible with almost any standard industrial helmet and is quick and easy to install.

fast & secure attachment of the hood to the carrying system by extra strong industrial magnet buttons



compatible with most standard safety helmets

intelligent & secure attachment of helmet and carrying system

PM Laborhaube AV (LH)

Respiratory Protection Hoods



The PM Lab Hood AV provides the user with high comfort and effective protection. It provides eye and face protection against liquid splashes, dust and low energy flying particles. The complete hood is made of a particle-proof, low-noise, lint-free material and features integrated eye protection and a shoulder cover. The seams of the hood are precisely welded.

In combination with an air source (PAPR or compressed air control valve), a constant positive pressure is built up in the hood enabling it to function in a self-supporting manner without any head frame.

The built-up overpressure ensures that the highest protection class is achieved without the airflow reaching the wearer's face in an uncomfortable manner. The airflow runs inside the hood along the inside of the generous PC visor.

The headgear can be universally adjusted to fit any head. The bib can be worn outside or inside a protective suit. Worn inside, the escaping air helps to equalize heat within the suit.

In addition, there is no wear time limit for the use of the hood and no G26 screening is required because the hood has no breathing resistance for the user.

The use of the hoods is recommended in all areas where no additional mechanical head and eye protection is required.



Limited-Use-Hoods:

Limited-use hoods can be used multiple times and are ideal for applications where the headpiece must be changed frequently and cleaning may not be economical.

Reusable Hood:

The premium reusable hood variant is made of a reusable, water-repellent material and is suitable for multiple use. Cleaning and disinfection of the hood is possible. As a result, it saves money and protects the environment.

PRODUCT FEATURES:

- Certified respiratory protection according to EN 12941 Protection Class TH3
- Certified respiratory protection according to EN 14594 Protection Class 3A
- breathing, face, neck and shoulder protection
- Headband universal adjustable from size S-XXL
- distortion free panoramic view
- suitable for beard and spectacle wearers
- Extremely low weight
- no G26 medical check-up
- no limits on application time
- sterile version available with product protection exhalation valve

PM Laborhaube AV (LH)

Respiratory Protection Hoods



Product Features:

Headband

External headband allows individual adjustment to any head size.

Forehead Band

Fixes the hood and shapes the visor. The soft headband provides a high wearing comfort.

Hood Material

The hood is made of a low-noise, robust, crease- and lint-free material. The cover can be easily and quickly put on and is available as Limited-Use and Reusable Version.

Polycarbonate Visor

Comes flat, without unwanted creases and without reflection. Ergonomically shaped for a 320° distortion-free all-round view.

Exhalation Valve with Speech Membrane

The exhalation valve ensures direct discharge of the exhaled air and, thanks to the speech membrane, ensures good communication and a clear speech connection.

The intelligently designed exhalation valve avoids heavy breathing resistance and allows a direct use of the hood without a G26 medical check-up.

Design

Due to the textile neck seal with an elastic band, the PM Lab Hood AV fits perfectly to the neck. The shoulder cover can be worn inside or outside the protective suit. Inside, the suit is supplied with excess air.

Airflow

The airflow runs inside the hood on the inside of the PC visor. This prevents permanent fogging of the screen and prevents the user from feeling any unpleasant draught in the neck.

Hose Connection

The breathing air hose is securely attached to the hood adapter using the simple e-breathe click system.



PM Chemical Hood (LH)

Respiratory Protection Hoods



The PM Chemical Hood offers the user high wearing comfort and effective protection. The hood provides complete protection for the head, face and neck area and is suitable for spectacle wearers and beard wearers.

The complete hood is made of anti-static, low noise and chemical resistant material with integrated eye protection and shoulder cover. (Please see the permeation data sheet for details of the period of use).

The hood is designed for higher risk work environments, which include operations involving hazardous and toxic materials. The shoulder cover of the hood has been specially designed for these applications to allow it to be worn inside or outside a protective suit. The optimal fit ensures a stable and comfortable fit even during movements and prevents the wearer from coming into contact with the skin-friendly inner material.

Together with an air source (PAPR or compressed air control valve), a constant overpressure is built up in the hood, allowing it to function as a self-supporting hood without any headgear. The built-up overpressure in the hood achieves the highest protection class. Together with an e-breathe PAPR e-breathe, it meets the highest protection level TH3 and, in combination with the e-Line compressed air hose unit, device class 3A.

The air runs inside the hood and along the inside of the large PC visor. The intelligent air flow prevents the air from blowing unpleasantly into the wearer's face. A localized feeling of cold can thus be avoided.

Since the hood has no breathing resistance for the user, it has no wearing time limit and no G26 precautionary examination is required.

The use of the hoods is recommended in all areas where no additional mechanical head and eye protection is required.

Limited-Use-Hoods:

Limited-use hoods can be used multiple times and are ideal for applications where the headpiece must be changed frequently and cleaning may not be economical.

PRODUCT FEATURES:

- Certified respiratory protection according to EN 12941 Protection Class TH3
- Certified respiratory protection according to EN 14594 Protection Class 3A
- Eye and face protection EN 166: 1S
- Breathing, face, neck and shoulder protection
- Headgear size S-XXL universally adjustable
- Distortion-free all-round vision
- Suitable for beard and glasses wearers
- Extremely light weight
- No G26 screening
- No wearing time limit
- Chemical resistant



PM Chemical Hood (LH)

Respiratory Protection Hoods



Product Features:

Headband

Internal headband allows individual adjustment to any head size. Fixes the hood and shapes the visor. The soft headband provides a high wearing comfort.

Hood Material

Comes flat, without unwanted creases and without reflection. Ergonomically shaped for a 320° distortion-free all-round view.

Polycarbonate Visor

Flach geliefert, ohne ungewollte Knicke und ohne Spiegelung. Ergonomisch geformt, für eine 320° verzerrungsfreie Rundumsicht.

Exhalation Valve with Speech Membrane

The exhalation valve ensures direct discharge of the exhaled air and, thanks to the speech membrane, ensures good communication and a clear speech connection.

The intelligently designed exhalation valve avoids heavy breathing resistance and allows a direct use of the hood without a G26 medical check-up.

Design

Due to the textile neck seal with an elastic band, the PM Chemical Hood fits perfectly to the neck. The shoulder cover can be worn inside or outside the protective suit. Inside, the suit is supplied with excess air.

Airflow

The airflow runs inside the hood on the inside of the PC visor. This prevents permanent fogging of the screen and prevents the user from feeling any unpleasant draught in the neck.

Hose Connection

The breathing air hose is securely attached to the hood adapter using the simple e-breathe click system.



Respiratory Protection Hoods

Order Information

Respiratory Protection Hoods:		
Article name	Part Number	Image
e-breathe Short Hood (SH)		
e-breathe SH1 - Limited-Use e-breathe SH2 - Premium	322000101 322000102	
e-breathe Long Hood (LH)		
e-breathe LH1 - Limited-Use e-breathe LH2 - Premium	322000111 322000112	
e-breathe LH3 - Chemical resistant	322000121	
Lab Hood AV (LH)		
PM Lab Hood AV Limited-Use PM Lab Hood AV Limited-Use - Steril	700001008 Upon request	
PM Lab Hood AV Premium (Reusable hood)	322015603	
Chemical Hood (LH)		
PM Chemical Hood - Chemical resistant	700000066	
e-breathe Multi-Hood (MH)		
e-breathe Multi-Hood Limited-Use (white) with helmet holder Limited-Use (yellow) with helmet holder Premium with helmet holder	322015501 322015401 322015601	
e-breathe Multi-Hood Limited-Use (white) with head holder Limited-Use (yellow) with head holder Premium with head holder	322015502 322015402 322015602	

Respiratory Protection Hoods

Order Information

Spare Parts & Accessories: e-breathe Multi-Hood		
Article Name	Part No.	Image
e-breathe Short Hood (SH) / Long Hood (LH)		
e-breathe sweat / forehead replacement strap (for SH2 & LH2)	Coming Soon	
e-breathe Multi-Hood (MH)		
e-breathe Multi-Hood Head holder adapter	322095501	
e-breathe Multi-Hood Helmet holder adapter (without helmet)	322095502	
O-Ring Helmet holder	14200201	
Multi-Hood Hood cover Limited-Use (white) Hood Cover Limited-Use (yellow) Hood Cover Premium	322095503 322095500 322095504	
Respiratory Protection Hoods		
e-breathe Klick Click Adapter Rings	402010002	
e-breathe Exhalation Valve e-breathe Flutter Valve	23010300 322004045	
e-breathe Exhalation Valve Product Protection e-breathe Product Protection Fleece (PU 50)	230103009 101052692	
e-breathe Hoods Visor Protection Film (PU 10)	Coming Soon	
Breathing Air Hoses for Overpressure Hoods	see chapter Breathing Air Hoses	
Detergents, Cleaning & Storage Accessories	see chapter Cleaning & Storage	

Head Parts:

Full Face Masks / Half Masks

In this chapter you will find our Half Masks and Full Face Masks for use with respiratory filters, respiratory filters with breathing air hose as negative pressure devices or as positive pressure devices in connection with a PAPR or a compressed air control valve.

82 Factors for the selection of respirators

Selection guide

84 Vollmasken

e-breathe Panarea Pro

Spare Parts & Accessories

109 Testing Device for Respiratory Masks

e-breathe MPG 101

Spare Parts & Accessories

52 Respiratory Protection Filters: PAPR & Half / Full Face Masks

e-breathe Particle Filter , Gas Filter and Combination Filter

e-breathe Filterzubehör

130 Breathing Protection Accessories

e-breathe Breathing Air Hose

140 Cleaning & Storage

Cleaning & Storage Kits for PAPR, breathing air hoses, full & half masks

146 Ready-Packs with PAPR

147 Ready-Packs with Compressed Air Device



Respiratory
Masks

Half Masks - EN 140

A half mask encloses the mouth, nose and chin and protects the user's respiratory tract through the mounted respiratory filter. The mounted filter must not exceed a weight of 300g, otherwise the filter weight can cause the half mask to be pulled down from the face and the tightness requirements are no longer sufficiently met. If heavier filters must be used, a filter/hose system or positive pressure system with an air source must be used. A smooth shave of the face is necessary to ensure the tightness and specified protection class.

With a half mask, the air is sucked in through the mounted filter by the user's own lung power (negative pressure principle). The exhaled air is released into the environment through the exhalation valves. A half mask can also be combined with an air source that draws in the air (positive pressure principle) and delivers it into the half mask. This means that the user does not feel any breathing resistance and that the wearing comfort and the duration of use are increased. In addition, the use of a positive pressure system increases the protection class.

Full Face Masks - EN 140

A Full Face Mask encloses the entire face and protects the user's eyes and airways. The mounted filter must not exceed a weight of 500g, otherwise the filter weight may affect the tightness. If heavier filters must be used, a filter/hose system or positive pressure system with an air source must be used. In order to ensure the tightness and specified Protection class, a smooth shave of the face is necessary.

With a Full Face Mask, air is drawn in through the mounted filter by the user's own lung power (negative pressure principle), which then flows into the mask and passes through the control valves into the inner mask. The exhaled air is then released into the environment through the exhalation valves. A Full Face Mask can also be combined with an air source that draws in air (positive pressure principle) and delivers it into the Full Face Mask. As a result, the user does not feel any breathing resistance and the wearing comfort and service life are increased. In addition, the use of a positive pressure system increases the protection class.

Filter with breathing air hose - EN 12083

A filter can be used in conjunction with a breathing air hose in combination with a Full Face Mask or a Half Mask. In this case, the breathing air hose is attached to the mask and to the filter. The filter itself is worn on a holder on a belt. The user breathes air through the filter and the hose using his or her own lung power (negative pressure principle). Such systems are used when a filter exceeds the prescribed maximum weight or when several filters must be used - for example, for filters weighing more than 300g for a Half Mask or more than 500g for a Full Face Mask. In this case, the filter does not have to be worn directly on the mask in order to reduce the weight worn on the head and increase comfort.

Such configurations are suitable, for instance, when a half mask needs to be worn under a face shield or a welding shield. The filter assembly reduces the weight worn on the head, allowing greater freedom of movement and increasing wearing comfort.

Norm	Type	Class	Main application
EN136	Negative pressure: Own lung power / not breathing assisted.	1	Full Face Masks for light duty applications with low exposure
		2	Full Face Masks for normal / general operations
		3	Full Face Masks for special applications with highest stress (e.g. fire department)
EN140		-	Half masks are not divided into classes and are suitable for light and general use.
EN12083		-	Filters with breathing air tubing can be combined with Half Masks or Full Face Masks. The same protective classes apply.
EN12941	Positive pressure: Respiratory assisted devices	TM1 - TM3	Half Masks and Full Face Masks in combination with PAPR for longer periods of use and higher protection class
EN14594		1A/B - 4A/B	Half Masks and Full Face Masks in Combination with Compressed Air Control Valves for longer Operating Times and Higher Protection Class

e-breathe Panarea Full Mask Pro

Full Face Mask



The Panarea Full Face Mask is ideally suited for all applications that require respiratory protection with a full face mask. The mask body is made of silicone and offers maximum wearing comfort. Due to the soft and skin-friendly silicone rubber, the mask combines pleasant wearing characteristics with a long durability.

The curved Anti-Fog panoramic visor made of polycarbonate offers an unlimited field of vision without restrictions. A scratch-resistant anti-fog screen is fitted as standard.

Due to the special fit, one universal size covers all sizes. The five-point banding enables easy and quick application and a very good sealing fit.

Filter Connection:

The single filter mask is equipped with a DIN standard 40mm round thread (RD40). Thus, all approved filters with a DIN round thread connection according to EN148-1 and a weight below 500g can be used. As a result, a large number of different filter types are available for specific applications.

Advantages of using e-breathable respiratory filters: Depending on the application, you can use the same filters for the mask and for the blower filter unit.

Respiratory support from different air sources:

The full face mask is approved with different air sources and can therefore also be used for overpressure operation with a PAPR or with a compressed air regulator valve.

The air source builds up a constant overpressure in the mask and supplies the user with breathable air. The breathing support extends the prescribed wearing time limit and significantly eases the user's work when wearing the equipment.

Important: In combination with a PAPR, the system offers maximum safety even in the event of a blower being switched off or in the unusual event of a blower failure. The system provides sufficient protection even when the blower is switched off, since breathing through the filters and the blower is still possible.

Technical Specifications

Combinations:	Full Face Mask	e-breathe Smartblower Full Mask-System	e-breathe e-Flow
Approvals:	CE / EN 136	CE / EN 12942	CE / EN 12942
Protection Class / NPF:	Class 3 / 1000	TM2 & TM3* / 200 & 2000*	TM3 / 2000
Airflow:	-	140 l/min	120 - 140 - 160 l/min
Airflow warning:	-	no	< 120 l/min
Battery warning:	-	< 15 min	< 15 min
Battery runtime:	-	ca. 6-8h (Lio-Ion 11,25 V/2,95 Ah)	ca. 6-8h (Lio-Ion 14,4V / 3,4Ah)
Filter / Hose connection:	DIN-round thread	DIN-round thread	DIN-round thread
Number of filters:	1 x Filter	1 x Particle Filter	2 x Filter
Operating temperature:	-20°C / +50°C <70% RH	-10°C / +40°C <70% RH	-10°C / +40°C <70% RH
Storage temperature:	0°C / +30°C <70% RH	0°C / +30°C <70% RH	0°C / +30°C <70% RH
Inhalation resistance:	0,6 mbar (95 l/min)	-	-
Exhalation resistance:	2,5 mbar	3,0 mbar	3,0 mbar
Weight of head piece:	700 g	700 g	700 g
Mask material:	Silicone	Silicone	Silicone



e-breathe Panarea Full Mask Pro

Full Face Mask



Product Characteristics:

- Clear view: visually perfect, distortion-free visor with unrestricted field of view (98 %)
- High wearing comfort due to soft and skin-friendly silicone rubber of the full mask
- Low operating costs / low acquisition costs
- Highest full face masks protection class: class 3
- Extension of the maximum wearing time, by respiratory support with an additional air source
- Easy decontamination and cleaning: all components are washable
- Reliable working material: durable and high-quality equipment

Fields of Application:

- Removal of asbestos
- Demolition & maintenance work
- Nuclear industry
- Pharmaceutical Industry & Laboratories
- Oil, gas, chemical industry
- Sanding & Spray Painting
- Agriculture and Farming
- Authorities / Public Security / Police / Military
- Fire brigade
- Relief and rescue organisations
- Pest control
- Steel industry

Air Sources:

- PAPR e-breathe Smartblower Full Mask Mode
- PAPR e-breathe e-Flow


Approvals:

- EN 136: Class 3
- EN 12941: TH3 with PAPR



e-breathe Panarea Full Face Mask Pro

Full Face Mask

Full Face Mask: Panarea Full Mask		
Article name:	Part Number	Image
PM Panarea Pro	701007000	

Spare Parts & Accessories: Full Face Mask		
Article name:	Part Number	Image
Protective foils (PU 10)	101063094	
Panarea Headband	701007001	
Panarea Visor	701007002	
Panarea exhalation valve	701002004	
Panarea inhalation valve	701002006	
PM Rescue Clean Disinfectant	129001000	
e-breathe Cleaning Bag (Wash bag for full face masks and multimask)	322002108	
Detergents, Cleaning & Storage Accessories	see chapter Cleaning & Storage	
e-breathe Filter	see chapter Filter	
Breathing Air Hoses for Full Face Masks & Half Masks	see chapter Breathing Air Hoses	


e-breathe MPG100

Testing Device for Respiratory Masks

The e-breathe MPG (Testing Device for Respiratory Masks) is an efficient and powerful tool designed for testing full-face masks for functionality and leak tightness. With modern technology, we guarantee accurate and reliable test results to ensure the safety of your equipment. The compact design allows the model to be easily integrated into any respiratory protection service department.

The e-breathe MPG's software performs tests automatically, allowing equipment to be conveniently read in via the keypad, barcode/QR code scanner or transponder reader. Predefined test sequences can be performed automatically or individual tests can be defined and performed according to the user's own requirements and parameters. All parameters are fully customizable.

Test results are clearly shown on the display and stored in a test report. Spare parts can be added to the report by scanning or manual insertion. The test head is interchangeable and designed to simulate the fitting of the mask as realistically as possible.



KEY FEATURES AND BENEFITS

Accurate test results at a glance:
Results are clearly presented on the integrated display and a complete report is generated. This ensures that every mask is thoroughly tested.

Versatile operation:
Easily operate the device using the keypad or scan equipment via barcode, QR code or RFID technology. Our intuitive interface allows you to run pre-configured test sequences automatically or set up custom tests according to your needs.

Automatic test reports:
All test results are automatically stored in a test report. Retrieve and manage these reports on the device itself or on a PC via a WLAN connection.

Flexibility in test execution:
Use pre-programmed test procedures or create your own configurations for specific requirements. Quick tests are also available to optimize the work process.


Easy handling and maintenance:
Our Testing Device for Respiratory Masks uses negative and positive pressure test procedures without the need for compressed air. Automatic and manual depressurization of the pumps enable smooth operation. An independent self-test of the tester ensures consistent test results.

Robust design for daily use:
The e-breathe MPG is compact and designed to be robust to withstand the daily demands in the workplace.

TEST PROCEDURE SEQUENCE:

- 1. Close the air inlet:**
Securely close the air inlet of the mask to start the test procedure.
- 2. Place the mask on the head:**
Place the mask firmly on the specially fitted test head.
- 3. Run test:**
Start the test program and create a negative pressure in the mask.
- 4. Read results:**
The results are clearly displayed: Pass or Fail. More precise values are shown in detail on the display and are also shown in a clear graph.

Rely on the e-breathe MPG for accurate and reliable mask testing. Contact us to learn more about our innovative technology and how it can make your work environment safer.

Testing Device for Respiratory Masks		
Article name:	Part Number	Image
e-breathe MPG100	Auf Anfrage	

Respiratory Protection Suit

In this chapter you will find our respiratory protection suits for use with a PAPR or compressed air control valve.

A more detailed overview and further information can be found in our separate product brochure. The data on material properties can be found in our protective clothing database.

112 Respiratory Protection Suit

- e-breathe MicroMax
- e-breathe ChemMax1
- e-breathe ChemMax3
- e-breathe Chemical Grey
- e-breathe Chemical White
- e-breathe Splash
- Spare Parts & Accessories

130 Breathing Accessories

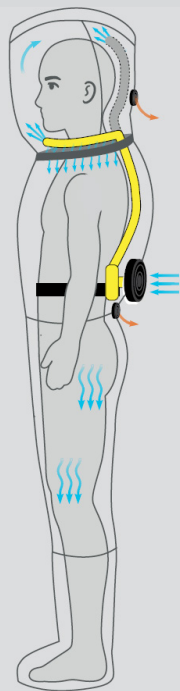
- e-breathe Protect-Clip Glove Adapter System
- e-breathe Breathing Air Hose

Respiratory Protection Suit:

A respiratory protection suit is a suit that completely encloses the head and body and supplies the wearer directly with breathing air via a breathing air supply. It thus represents the breathing connection. The suit provides protection of the respiratory system and the entire body against contamination. The breathing air supply (PAPR or compressed air hose device) creates an overpressure inside the suit, and a high volume flow with optimized airflow can reduce heat buildup inside the suit. The exhaled and excess air exits the suit through one or more exhalation valves into the ambient air.

If these respiratory protective suits are intended to meet other requirements, e.g. protection against gases and vapors, liquids, radioactive contamination by solid particles or infectious agents, additional requirements / standards for chemical protective clothing must be met (please refer to the table).

Regular protective suits / coveralls are PPE that protect the body from hazards but do not have a respiratory protection function. They are used in combination with respirators and do not form as a breathing connection.



Types of Respiratory Protective Suits:

Different positive pressure suits for individual applications and requirements. Choose between limited-use suits and reusable suits. All positive pressure suits can be used as a filtering device with a PAPR or as an isolating device with a compressed air control valve.

The following symbols serve as a guide and show the protection offered by the headpiece and the equipment it can be combined with to extend the requirements with, for example, head protection or hearing protection.



Respiratory Hood



Respiratory Mask



Eye- / Face Protection



Head Protection



Hearing Protection



Full Body Protection

European Standards for Chemical Protective Clothing

Norm	Description	Symbol
Kat. III	Protective clothing for high risks Protective suits designed to protect against high hazards and lethal hazards. The user must be able to rely on the PPE because of the hazard.	
Type 1 EN 943-1 EN 943-2	Gas-tight chemical protective suits Protective suits against liquid and gaseous chemicals, aerosols and solid particles.	
Type 2 EN 943-1	Non-gas-tight chemical protective suits Protective suits that maintain a constant positive pressure to prevent the ingress of dusts, liquids and gases.	
Type 3 EN 14605	Liquid-tight protective suits Protective suits that protect against strong and directed jets of liquid chemicals.	
Type 4 EN 14605	Spray-tight suits Protective suits that protect against saturation with liquid chemicals.	
Type 5 EN ISO 13982-1	Particle-tight protective suits Protective suits that protect the entire body against airborne solid particles. Maximum allowed inward leakage 15%.	
Type 6 EN 13034	Conditionally spray-tight suits Suits providing limited protection against light spray and liquid chemicals. chemicals.	
EN 1073-1 EN 1073-2	Protective clothing against radioactive particles / contamination Ventilated protective suits against contamination by radioactive solid particles. Protective suits against contamination by radioactive solid particles.	
B EN 14126	Protective Suits against infectious agents Addition of the letter "B" to the type designation (e.g. Type 3B / 4B / 5B / 6B) indicates conformity with this European Standard.	
EN 1149-5	Antistatic Protective suits with antistatic properties.	
TH3 EN 12941	Respiratory Protective Suits - Protective suits with integrated respiratory connection. Respiratory Protective Suit with PAPR: protection of the respiratory tract against solid and liquid aerosols and gases. Maximum allowed inward leakage 0.2%.	
4A EN 14594	Respiratory Protective Suit with Compressed Air Regulating Valve: respiratory protection against solid and liquid aerosols and gases. Maximum allowed inward leakage 0.05%.	

The various respiratory and eye protection classes can be found in a separate table in the chapter Headpieces, Half Masks, Full Face Masks & Positive Pressure Hoods.

e-breathe PAPR-Suits

Respiratory Protection Suit



The new overpressure protective suit series from e-breathe consists of three different materials to meet the requirements for different purposes and operating conditions.

The one-piece overpressure respiratory protection suits provide the highest level of protection against gases, vapors, liquid chemicals, radioactive contamination, as well as solid and liquid aerosols, particles and biological infectious agents. The suits are used in combination with an approved respiratory protection blower (e-breathe e-Flow with DIN round thread connection), which supplies the suit with breathable air under a constant positive pressure.

Inside Suits: Internal respiratory protection blower

The air supply, the respirator blower, is worn inside the suit (only the filters are outside) to avoid a contamination of the blower. The blower supplies a constant, adjustable airflow of 160-180-200 l/min, via the breathing air hose into the air duct of the integrated hood. In this way, the user is supplied reliably with sufficient breathable air. The overpressure created in the suit ensures the removal of the used and exhaled moist and warm air from the suit via the four exhaust valves.

New design for high safety and more flexibility

The suit is equipped with a large panoramic visor for a complete and distortion-free all-round view with extra good downward visibility. This also provides quick identification of the user.

The tapered sleeves enable a fluid-tight connection between the glove and the suit, which can be achieved either by taping or by using the e-breathe glove adapter system. This provides the possibility to safely use a variety of different gloves for the respective application and to adapt the correct glove size to the user.

The suit is optionally equipped with booties with or without outsole and boot cover, for use with safety boots or with hard-wearing, non-slip outsole.

Maximum comfort thanks to new T & Y cut

The suit is made in a combination of T- & Y-cut, allowing the user maximum freedom of movement. The special cut allows the user to reach inside the suit at any time e.g. for drinking, scratching or gripping the emergency hose. In order to ensure good decontaminability, great care was taken in the design of the cut to ensure little to no wrinkling. This cut allows for easy discarding after use and prevents the wearer from coming into contact with the outer suit material.

Adjustable neck seal

The air-permeable and adjustable neck seal with drawcord not only provides optimal airflow in the headgear, but also allows excess air to escape into the body area of the suit, providing indirect cooling and improved air circulation. Donning the suit is made much easier by opening the neck collar and prevents other accessories, such as headsets or goggles, from getting lost or slipping out of place.

Emergency function with emergency hose

In the exceptional circumstance of a blower failure or if the danger zone cannot be left in time, the user can supply himself with breathable air using the breathing air hose attached to the front of the suit. A mouthpiece is attached to the end of the breathing air hose for this purpose. In an emergency, the user can use his own lung power to draw in breathable and filtered air through the breathing air hose and the fan connected to it and safely leave the danger zone.



STORAGE & STORAGE LIFE:

Stored in the original unopened packaging and between -10 °C to 50 °C without UV light, the expected shelf life is 10 years.

e-breathe PAPR-Suits

Respiratory Protection Suit



Product Features:

- Panoramic visor with distortion-free field of view
- Emergency exit: quick removal in emergency situations
- Optimal balance between protection and comfort with sufficient distribution of outflowing air in the suit
- Maximum protection against gases, vapors, solid and liquid chemicals, and radioactive contamination
- Integrated footies with or without outsole
- High quality materials with high durability and good wearing comfort

Fields of application:

- Industrial applications/cleaning
- Oil, gas, chemical industry
- Pharmaceutical industry & laboratories
- Sanding & spray painting
- Authorities / public safety
- Police / Military / Hospitals
- Fire department (ABC department, Decon)
- Relief and rescue organizations
- Agriculture

e-breathe PAPR Suit MicroMax NS - B



e-breathe PAPR Suit ChemMax 1 - ABC



e-breathe PAPR Suit ChemMax 3 - CBRN



CERTIFIED ACCORDING TO EN STANDARDS:

- EN 12941: TH3 with PAPR
- EN 14126: Protection against infectious agents
- EN 13034: Type 6 conditionally spray-tight suits
- EN 14605: Type 4 spray-tight protective suits
- EN 1149-5: antistatic properties

CHEMMAX 1 UND CHEMMAX 3 ADDITIONALLY ACCORDING TO:

- EN 14605: Type 3 liquid-tight protective suits

Mechanical		Micro- Max	Chem- Max 1	Chem- Max 3
Properties				
Norm		Class 1 - 6		
EN 530	Abrasion resistance	2	2	6
ISO 7854	Flexural strength	4	1	4
ISO 9073	Tear resistance	2	3	4
EN ISO 13934	Tensile strength	1	2	3
EN 863	Puncture resistance	1	2	2
EN ISO 13935-2	Seam strength	3	4	4
EN 13274-4	Flame Resistant	self extinguishing		

e-breathe Chemical Suits

Respiratory Protection Suit



Panoramic visor

The visor provides the user with a large and distortion-free all-round view with a wide field of view downwards and good visibility of the user. Steady airflow in the hood prevents fogging of the visor.

Neck seal

Adjustable, air-permeable neck collar for adequate airflow inside the head cover. Allows excess air, for cooling, to flow into the body area for a comfortable climate. Opening of the neck collar allows easier removal of the suit.

e-breathe Glove adapter system

The e-breathe glove adapter system allows the use with a wide range of gloves. Thanks to the Protect Clip adapter, any glove can be connected to the suit in a fluid-tight manner.

Integrated booties + Boot cover

The integrated booties without outsole are worn inside the boot/shoe.

The boot cover is worn over the boot and prevents liquid from penetrating the boot/shoe.

Emergency supply / Breathing air hose

The flexible breathing air hose can be attached above the hood or directly in front of the mouth. Optionally, a replaceable mouthpiece can be mounted on the breathing air hose for emergency situations.

Emergency exit

Designed for quick release in emergency situations or in the event of unexpected shortness of breath.

Entry / Front zipper

Horizontal front entry with double self-adhesive zipper cover.

Integrated footies + Outsole

The integrated booties are made with a durable, non-slip outsole without a boot cover. This allows the wearing of safety shoes in the bootie.

e-breathe Chemical Suits

Respiratory Protection Suit



Exit

Suit can be taken off alone (not recommended). Easy removal possible by cutting open the back of the suit.

Inside variant: Inside blower

The blower is worn inside the suit and delivers air at 160-180-200 l/min into the suit via a breathing hose.

Display window inside the suit showing filter status, current remaining run time in h/min, and current flow rate.

PAPR:

- DIN round thread filter connection
- has 3 warning devices
- low noise level
- exchangeable battery
- optional with filter shower caps

2

1

3

4

Four exhalation valves on the suit (1-4).

Two valves on the head area and two on the legs regulate the air pressure and ensure a low CO2 concentration. They also facilitate and allow full freedom of movement without creating strong pressure fluctuations. Additional splash cover made of suit material.

e-breathe Chemical Suits

Respiratory Protection Suit

Respiratory Protection Suit:					
Item name:					Part no.
Model: Internal blower e-Flow, Tapered sleeve, booties with boot coverlet					
e-breathe PAPR-Suit MicroMax NS	Size S	Body height: 164-170cm	Chest width: 84-92cm	Waist width: 82-88cm	322000001
e-breathe PAPR-Suit ChemMax 1					322000021
e-breathe PAPR-Suit ChemMax 3					322000041
e-breathe PAPR-Suit MicroMax NS	Size M	Body height: 170-176cm	Chest width: 92-100cm	Waist width: 88-94cm	322000002
e-breathe PAPR-Suit ChemMax 1					322000022
e-breathe PAPR-Suit ChemMax 3					322000042
e-breathe PAPR-Suit MicroMax NS	SizeL	Body height: 176-182cm	Chest width: 100-108cm	Waist width: 94-100cm	322000003
e-breathe PAPR-Suit ChemMax 1					322000023
e-breathe PAPR-Suit ChemMax 3					322000043
e-breathe PAPR-Suit MicroMax NS	Size XL	Body height: 182-188cm	Chest width: 108-116cm	Waist width: 100-106cm	322000004
e-breathe PAPR-Suit ChemMax 1					322000024
e-breathe PAPR-Suit ChemMax 3					322000044
e-breathe PAPR-Suit MicroMax NS	Size XXL	Body height: 189-188cm	Chest width: 116-124cm	Waist width: 106-112cm	322000005
e-breathe PAPR-Suit ChemMax 1					322000025
e-breathe PAPR-Suit ChemMax 3					322000045
Model: Internal blower e-Flow, Conical sleeve, Footies with outsole					
e-breathe PAPR-Suit MicroMax NS	Size S	Body height: 164-170cm	Chest width: 84-92cm	Waist width: 82-88cm	322000011
e-breathe PAPR-Suit ChemMax 1					322000031
e-breathe PAPR-Suit ChemMax 3					322000051
e-breathe PAPR-Suit MicroMax NS	Size M	Body height: 170-176cm	Chest width: 92-100cm	Waist width: 88-94cm	322000012
e-breathe PAPR-Suit ChemMax 1					322000032
e-breathe PAPR-Suit ChemMax 3					322000052
e-breathe PAPR-Suit MicroMax NS	Size L	Body height: 176-182cm	Chest width: 100-108cm	Waist width: 94-100cm	322000013
e-breathe PAPR-Suit ChemMax 1					322000033
e-breathe PAPR-Suit ChemMax 3					322000053
e-breathe PAPR-Suit MicroMax NS	Size XL	Body height: 182-188cm	Chest width: 108-116cm	Waist width: 100-106cm	322000014
e-breathe PAPR-Suit ChemMax 1					322000034
e-breathe PAPR-Suit ChemMax 3					322000054
e-breathe PAPR-Suit MicroMax NS	Size XXL	Body height: 189-188cm	Chest width: 116-124cm	Waist width: 106-112cm	322000015
e-breathe PAPR-Suit ChemMax 1					322000035
e-breathe PAPR-Suit ChemMax 3					322000055
Model: Training version					
e-breathe PAPR-Suit Inside Training / Exercise Suit			On request		On request
For training and practice purposes, a special trainer version with Velcro closure is offered so that the suit can be opened again. It is for training and education purposes only.					

e-breathe Chemical Suits

Respiratory Protection Suit



e-breathe Chemical Suits

Respiratory Protection Suit



The e-breathe Chemical Suit series consists of three different materials to meet the requirements for different purposes and operating conditions.

The one-piece overpressure respiratory protection suits provide the highest level of protection against gases, vapors, liquid chemicals, radioactive contamination, and protection against solid and liquid aerosols and particulates. The suits are used in combination with an approved respiratory protection blower or compressed air control valve. They are available in two versions each, with internal blower or external air source.

Inside model: Internal respiratory blower

The respiratory protection blower is worn inside the suit (only the filters are outside) to avoid contamination of the blower. The associated respiratory protection blower supplies a constant (adjustable) fresh air flow of 160-180-200 liters per minute, via the breathing air hose into the air duct of the integrated hood. This reliably supplies the user with sufficient breathable air. The exhaled air is led out of the suit via four exhaust valves.

Outside model: External respiratory protection blower or compressed air control valve

The air supply is worn outside the suit. This option is required for rapid change (disaster response) of the air sources and is therefore suitable for a variety of other air sources. The suit can be dressed and undressed easily & quickly. The system can be changed without removing the suit. The air source delivers a (adjustable) fresh air flow of 160-180-200 liters per minute, the associated compressed air control valve delivers a constant (adjustable) fresh air flow of 160-300 liters per minute, via the breathing air hose into the air duct of the integrated hood.

High safety and flexibility

Equipped with a visor, booties and tapered sleeve, it provides high safety and flexibility. The suit has booties with boot covers and can be used with all suitable boots. The tapered sleeve allows for a fluid-tight connection between the glove and the suit, either by taping with chemical-resistant tape or by using the e-breathe glove adapter system.

Maximum comfort

The suit is made in a Y-cut, allowing the user maximum freedom of movement. The special cut allows the user to reach inside the suit at any time (e.g. to drink) and easily take it off without coming into contact with the outer suit material. The air-permeable neck seal not only ensures optimal airflow inside the headgear, but also allows excess air to escape into the body area of the suit, providing indirect cooling and improved air circulation.

Grey: CBRN protective suit for the toughest conditions

The grey Tessaform material consists of a high-quality, special laminate. Due to the resulting durability and mechanical strength, the suit finds versatile applications in all fields. The laminate provides protection against chemical warfare agents (such as sarin, mustard gas).

White: Suit material (sterile version)

The white Puntiform material is low-noise, robust, crease- and lint-free, and has high durability and mechanical strength. The material is permeable to air and water vapor ("breathable") to minimize the risk of heat stress in the suit and thus increase wearer comfort. The suit is available in a sterile version with product protection exhalation valve if required. Due to its material properties, the suit has versatile application possibilities in different areas.

Optional training version:

For exercise and training purposes, a trainer version with Velcro fastener on the cover is available. It is used exclusively for training purposes. It is available in different colours and materials to prevent a confusion.

STORAGE & STORAGE LIFE:
Stored in the original unopened packaging and between -10 °C to 50 °C without UV light, the expected shelf life is 5 years.

e-breathe Chemical Suits

Respiratory Protection Suit



Product Features:

- Panoramic visor with distortion-free field of view.
- Emergency exit: quick removal in emergency situations
- Optimal balance between protection and comfort with sufficient distribution of outflowing air inside the suit
- Maximum protection against gases, vapors, solid and liquid chemicals, and radioactive contamination
- Integrated footies with or without outsole

Fields of application:

- Industrial applications / cleaning
- Oil, gas, chemical industry
- Pharmaceutical industry,
- Sanding & spray painting
- Authorities / Public Safety
- Police / Military
- Fire department
- Relief and rescue organizations
- Agriculture
- Nuclear power industry

e-breathe Chemical White - B



PM Chemical Grey - CBRN



Zulassungen:

- EN 12941: TH3 mit PAPR
- EN 14605: Typ 3 flüssigkeitsdichte Schutzanzüge
- EN 14605: Typ 4 sprühdichte Schutzanzüge
- EN 13982: Typ 5 partikeldichte Schutzanzüge
- EN 13034: Typ 6 bedingte sprühdichte Schutzanzüge
- EN 1073-2: Schutz vor festen radioaktiven Partikeln
- EN 14126: Typ 3B / 4B Schutz vor Infektionserregern
- EN 1149-1: antistatische Eigenschaften
- EN 13688: Schutzkleidung Allgemeine Anforderungen

Mechanische Eigenschaften:		Grey	White
Norm		Classn 1 - 6	
EN 530	Abriebfestigkeit	6	3
ISO 7854	Biegerissfestigkeit	4	6
ISO 9073-4	Weiterreißfestigkeit	5	3
EN ISO 13938-1	Berstfestigkeit	2	3
EN ISO 13934-1	Zugfestigkeit	3	3
EN 863	Durchstichfestigkeit	2	2
EN ISO 13935-2	Nahtfestigkeit	4	4
EN 13274-4	Flammenbeständ.	selbstlöschend	

e-breathe Chemical Suits

Respiratory Protection Suit



Panoramic visor

The visor provides the user with a large, distortion-free field of view. Steady air-flow in the hood prevents fogging of the visor.

Emergency exit

Designed for quick release in emergency situations or in the event of unexpected shortness of breath.

e-breathe Glove adapter system

The e-breathe glove adapter system allows the use with a wide range of gloves. Thanks to the Protect Clip adapter, any glove can be connected to the suit in a fluid-tight manner.

Integrated booties + Boot cover

The integrated booties with durable outsole are worn inside the boot/shoe.

The boot cover is worn over the boot and prevents liquid from penetrating the boot/shoe.



Neck seal

Adjustable, air-permeable neck collar for adequate airflow inside the head cover. Allows excess air, for cooling, to flow into the body area for a comfortable climate. Opening of the neck collar allows easier removal of the suit.

Entry / Front zipper

Horizontal front entry with double self-adhesive zipper cover.

Exit

Suit can be taken off alone (not recommended). Easy removal possible by cutting open the back of the suit.

Optional with outsole

On request the suit can be made with a hard-wearing, non-slip outsole without boot cover. It is possible to wear safety shoes in the footling.



e-breathe Chemical Suits

Respiratory Protection Suit



External Variant:

External air source

The air source (blower or compressed air control valve) is worn outside the suit and delivers air at 160-300 l/min into the suit via a breathing hose.

Hose connection

Der flexible Atemluftschlauch wird oberhalb der Haube am Adapter über das einfache **e-breathe Klick-System** sicher befestigt.

Inside variant:

Internal blower

The blower is worn inside the suit and delivers air at 160-200 l/min into the suit via a breathing hose.

Display window inside the suit showing the filter status, the current remaining run time and the current volume flow.

Hose connection / Breathing air hose

Inside, the flexible breathing air hose can be attached above the hood or directly in front of the mouth.

Optionally, a replaceable mouthpiece can be mounted on the breathing air hose for emergency situations.



Four exhalation valves on the suit (1-4).

Two valves on the head area and two on the legs regulate the air pressure and ensure a low CO2 concentration. They also facilitate and allow full freedom of movement without creating strong pressure fluctuations. Additional splash cover made of suit material.



e-breathe Chemical Suits

Respiratory Protection Suit

Respiratory Protection Suit: Chemical Inside				
Article name:			Part Number	Part Number
Inside with PAPR e-breathe e-Flow				
e-breathe Chemical Inside Size S	Body height: 164-170cm	Chest width: 84-92cm	Grey	White
Model: Internal blower e-Flow, Tapered sleeve, Boot cover booties			322009121	322009141
Model: Internal blower e-Flow, Conical sleeve, Footies with outsole			On request	On request
e-breathe Chemical Inside Size M	Body height: 170-176cm	Chest width: 82-100cm		
Model: Internal blower e-Flow, Tapered sleeve, Boot cover booties			322009122	322009142
Model: Internal blower e-Flow, Conical sleeve, Footies with outsole			On request	On request
e-breathe Chemical Inside Gr. L	Body height: 176-182cm	Chest: 100-108cm		
Model: Internal blower e-Flow, Tapered sleeve, Boot cover booties			322009123	322009143
Model: Internal blower e-Flow, Conical sleeve, Footies with outsole			On request	On request
e-breathe Chemical Inside Size XL	Body height: 182-188cm	Chest: 108-122cm		
Model: Internal blower e-Flow, Tapered sleeve, Boot cover booties			322009124	322009144
Model: Internal blower e-Flow, Conical sleeve, Footies with outsole			On request	On request
e-breathe Chemical Inside Size XXL	Body height: 188-203cm	Chest: 122-135cm		
Model: Internal blower e-Flow, Tapered sleeve, Boot cover booties			322009125	322009145
Model: Internal blower e-Flow, Conical sleeve, Footies with outsole			On request	On request
PM Chemical Inside Training / Exercise Suit For training and practice purposes, a special trainer version with Velcro closure is offered so that the suit can be opened again. It is for training and education purposes only.			On request	On request
Inside with PAPR PM Proflow				
PM Chemical Grey Inside Size S	Body height: 164-170cm	Chest: 84-92cm	Grey	
Model: Internal blower Proflow, Tapered sleeve, booties with boot covers			700009121	-
Model: Internal blower Proflow, Conical sleeve, Footies with outsole			On request	-
PM Chemical Grey Inside Size M	Body height: 170-176cm	Chest: 82-100cm		
Model: Internal blower Proflow, Tapered sleeve, booties with boot covers			700009122	-
Model: Internal blower Proflow, Conical sleeve, Footies with outsole			On request	-
PM Chemical Grey Inside Size L	Body height: 176-182cm	Chest: 100-108cm		
Model: Internal blower Proflow, Tapered sleeve, booties with boot covers			700009123	-
Model: Internal blower Proflow, Conical sleeve, Footies with outsole			On request	-
PM Chemical Grey Inside Size XL	Body height: 182-188cm	Chest: 108-122cm		
Model: Internal blower Proflow, Tapered sleeve, booties with boot covers			700009124	-
Model: Internal blower Proflow, Conical sleeve, Footies with outsole			On request	-
PM Chemical Grey Inside Size XXL	Body height: 188-203cm	Chest: 122-135cm		
Model: Internal blower Proflow, Tapered sleeve, booties with boot covers			700009125	-
Model: Internal blower Proflow, Conical sleeve, Footies with outsole			On request	-
PM Chemical Grey Inside Training / Exercise Suit For training and practice purposes, a special trainer version with Velcro closure is offered so that the suit can be opened again. It is for training and education purposes only.			On request	

e-breathe Chemical Suits

Respiratory Protection Suit

Respiratory Protection Suit: PM / e-breathe Chemical Outside				
Article name:			Part Number	Part Number
Outside with PAPR e-breathe e-Flow & PM Proflow				
Chemical Outside Size S	Body height: 164-170cm	Chest: 84-92cm	Grey	White
Model: External air source, Tapered sleeve, Boot cover booties			700009211	322009131
Model: External air source, Tapered sleeve, Footies with outsole			On request	On request
Chemical Outside Size M	Body height: 170-176cm	Chest: 82-100cm		
Model: External air source, Tapered sleeve, Boot cover booties			700009212	322009132
Model: External air source, Tapered sleeve, Footies with outsole			On request	On request
Chemical Outside Size L	Body height: 176-182cm	Chest: 100-108cm		
Model: External air source, Tapered sleeve, Boot cover booties			700009213	322009133
Model: External air source, Tapered sleeve, Footies with outsole			On request	On request
Chemical Outside Size XL	Body height: 182-188cm	Chest: 108-122cm		
Model: External air source, Tapered sleeve, Boot cover booties			700009214	322009134
Model: External air source, Tapered sleeve, Footies with outsole			On request	On request
Chemical Outside Size XXL	Body height: 188-203cm	Chest: 122-135cm		
Model: External air source, Tapered sleeve, Boot cover booties			700009215	322009135
Model: External air source, Tapered sleeve, Footies with outsole			On request	On request
Chemical Outside Training / Exercise Suit For training and practice purposes, a special trainer version with Velcro closure is offered so that the suit can be opened again. It is for training and education purposes only.			Auf Anfrage	Auf Anfrage

e-breathe Splash Inside

Overpressure Suit



The e-breathe Splash is a one-piece overpressure respiratory protection suit that provides the highest level of protection against solid and liquid chemicals as well as radioactive contamination. The suit is used in combination with an approved air source: e-breathe e-flow PAPR

Inside: Internal PAPR

The blower is worn inside the suit (only the filters are outside) to avoid a contamination of the blower. The associated PAPR provides a constant (adjustable) fresh air flow of 160-200 litres per minute, via the breathing hose into the air duct of the integrated hood. This ensures that the user is reliably supplied with sufficient breathable air. The exhaled air exits the suit via four exhaust valves.

Protective Suit for hardest conditions

The material of the e-breathe Splash consists of a high-quality elastomer fabric with a special foil laminate. Due to the resulting durability and mechanical resilience, the suit can be used in a wide range of applications.

high safety and flexibility

Equipped with a visor, booties and conical sleeves, it offers high safety and flexibility. The suit is equipped with booties and can be used with all suitable boots. The conical sleeve enables a liquid-tight connection between glove and suit either by taping with chemical-resistant tape or by using the e-breathe glove adapter system.

Emergency function with emergency hose (not suitable for compressed air)

In the exceptional event of a blower failure or if the danger zone cannot be left in time, the user can supply himself with breathable air by using an emergency hose. For this purpose, a mouthpiece is attached to the end of the breathing air hose. In an emergency, the user can use his own lung power to suck in breathable and filtered air through the breathing air hose and the connected blower.

maximum comfort

The suit is manufactured in a Y-cut and allows the user maximum freedom of movement. The particular shape allows the user to reach inside the suit at any time. The air-permeable neck seal with drawstring not only ensures an optimum air flow inside the hood, it also allows the excess air to flow into the body area of the suit, thereby providing indirect cooling and improved air circulation.

Optional add-ons and individual customization:

The equipment can optionally be provided with individual marking on arm, back and chest in black lettering on customer request. A special and more economical trainer version is available for exercise and training purposes. It is made of a non-chemical-resistant PVC coating on polyester fabric and is used exclusively for training purposes.

Made in Germany

In order to guarantee a high quality of the products the production of the suit takes place in Germany. Also the complete service, maintenance and repair of the suits is carried out in Germany. In this way, downtimes due to long transport routes and/or poor availability of spare parts are minimised and the rapid re-use of a defective suit is guaranteed.

e-breathe Splash Inside

Overpressure Suit



Product Features:

- made in Germany
- high chemical & mechanical resistance
- maximum protection and comfort
- clear PC visor offers a large all-round view
- exchangeable gloves and booties for use with different boots and gloves
- suitable for beard and spectacle wearers

Application areas:

- Fire Department
- Emergency and Rescue Organisations
- Industrial Applications
- Oil, gas, chemical industry
- Sewage industry
- Authorities / Public Safety
- Police / Military

Approvals:

- EN 12941: TH3 with blower filter unit
- EN 14605: Type 3B liquid-tight protective suits
- EN 14605 type 4B spray-tight protective suits
- EN 1073-2: protection against solid radioactive particles
- EN 14126: Type 3B / 4B protection against infectious agents
- EN 13688: Protective clothing General requirements

Mechanical properties		Vautex Elite
Norm		Class
EN 530	Abrasion resistance	6
ISO 7854	Flex cracking resistance	5
ISO 7854	Flex cracking resistance at low Temperatures (-30 °C)	2
ISO 9073-4	Trapezoidal tear resistance	5
EN ISO 13938	Burst strength	6
EN ISO 13934-1	Tensile strength	6
EN 863	Puncture resistance	3
EN 13274-4	Ignition resistance	3
EN ISO 13935-2	Seam strength resistance	6



e-breathe Splash Overpressure Suit



Panoramic Visor

The Anti-Fog visor offers a large field of vision.

Neck Collar

Adjustable, air-permeable neck collar for sufficient airflow in the hood. Allows excess air to flow into the body area for cooling.

Liquid-tight Zipper

Access at the front with flexible and liquid-tight zipper.

Reinforcements at Knees & Elbows

Reinforced arms and legs for toughest working conditions.

Integrated booties + boot cover (optional)

The booties are worn in boots or shoes.

Optionally, the suit can be made with a boot cover. The covers prevent liquid from running into the boots.



Compressed Air Supply (optional)

In an emergency, the user can be supplied with compressed air via the emergency valve using a compressed air adapter.

e-breathe Glove Adapter System

The e-breathe glove adapter system enables the use with different gloves. Thanks to the Protect Clip Adapter, each glove can be connected liquid-tight to the suit.

Inner Chest Pocket (optional)

The suit optionally has a breast pocket inside the suit, e.g. for walkie-talkie.

Attached Boots (optional)

The boot can be manufactured optionally with attached safety boots.

Material

- High chemical resistance
 - Strong mechanical strength
- Elastomer-coated film/fabric carrier; polyamide carrier fabric; butyl inner layer; welded seams

e-breathe Splash Overpressure Suit



Inside Suit:

Hose Connection / Breathing Air Hose

The flexible breathing air hose can be attached above the hood or directly in front of the mouth. Optionally, a replaceable mouthpiece can be attached to the breathing air hose for emergency situations.

Inside Suit:

Internal PAPR

The blower is worn inside the suit and supplies fresh air at a rate of 160-200 l/min into the suit via a breathing tube.

Display window inside the suit indicating the filter status, the current remaining operation time and the current volume flow.

- 3 warning devices
- low noise level
- exchangeable battery
- optionally with filter shower caps

Four Exhalation Valves (1-4)

Two valves at the head and two at the legs regulate the air pressure and ensure a low CO2 concentration. In addition, they allow full freedom of movement.



e-breathe Splash Inside

Respiratory Protection Suit







Respiratory Protection Suit: e-breathe Splash Inside				
Item name:				Item no.
Inside with PAPR e-breathe e-Flow				
e-breathe Splash Inside Size S	Body height: 150-165cm	Chest: 84-114cm	Waist: 74-106cm	
Model: Internal PAPR, Footies, Conical sleeve				On request
Model: Internal PAPR, Conical sleeve, attached Boots (specify size)				322008131
e-breathe Splash Inside Size M	Body height: 160-175cm	Chest: 84-114cm	Waist: 74-106cm	
Model: Internal PAPR, Footies, Conical sleeve				On request
Model: Internal PAPR, Conical sleeve, attached Boots (specify size)				322008132
e-breathe Splash Inside Size L	Body height: 170-185cm	Chest: 84-114cm	Waist: 74-106cm	
Model: Internal PAPR, Footies, Conical sleeve				322008143
Model: Internal PAPR, Conical sleeve, attached Boots (specify size)				322008133
e-breathe Splash Inside Size XL	Body height: 180-205cm	Chest: 104-124cm	Waist: 96-112cm	
Model: Internal PAPR, Footies, Conical sleeve				322008144
Model: Internal PAPR, Conical sleeve, attached Boots (specify size)				322008134
e-breathe Splash Inside Gr.XXL	Body height: 200-215cm	Chest: 104-124cm	Waist: 96-112cm	
Model: Internal PAPR, Footies, Conical sleeve				On request
Model: Internal PAPR, Conical sleeve, attached Boots (specify size)				322008135
e-breathe Splash Training / Exercise Suit				On request
A special and more economical trainer version is offered for exercise and training purposes. It is made of a non-chemical resistant PVC coating on polyester fabric and is for training and education purposes only.				

Individual Suit Extras: e-breathe Splash	
Article name:	Part Number
e-breathe Splash Chest Pocket Inside Size 1 = 70 x 35 x 95 / Size 2 = 80 x 50 x 190 / Size = 90 x 65 x 220 / Size = 90 x 40 x 300	On request
e-breathe Splash Labelling Outside max. height of letters 100 mm / max. length 500 mm	On request

e-breathe Chemical Suits / Splash

Spare Parts & Accessories

Spare Parts & Accessories: e-breathe Chemical Suits / Splash		
Article Name:	Part No.	Image
e-breathe Exhalation Valve	23010300	
e-breathe Flutter Valve	322004045	
e-breathe Exhalation Valve Product Protection e-breathe Product Protection Fleece (PU 50)	230103009 101052692	  
e-breathe Exhalation Valve Closure Caps	230103010	 
e-breathe GSA Adapter V.2	116010806	 
e-breathe Adapter Emergency Ventilation	322004051	 
e-breathe ESA Sealing Plug	322004052	
e-breathe ESA Adapter	322004053	
e-breathe ESA Emergency CA Adapter	322004058	
Breathing Air Hoses for Overpressure Protective Suits	see chapter Breathing air hose	  

Accessories: e-breathe Chemical Suits / Splash		
Article name:	Part Number	Image
Protective Boots Suitable protective boots are available on request, depending on requirements.	On request	
Protective Gloves Suitable protective gloves are available on request, depending on requirements.	On request	   
Undergarment Moisture-absorbing garments for more comfort when working with protective suits.	70001260x Size M-XL	

Breathing Protection Accessories

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Breathing Protection Accessories

e-breathe Protect-Clip Glove Adapter System
e-breathe Smartbelt Backbelt System
e-breathe Carrying Devices
e-breathe Breathing Air Hoses

Protective Covers for Breathing Hoses

- Limited-Use
- Reusable
- Aluminized

Device Cover

- Limited-Use
- Reusable
- Aluminized

Glove Adapter System

Discover our diverse range of respiratory protection accessories that perfectly complement your protective equipment. We offer a wide range of high quality products that will ensure your safety in any application. Our range includes:

Glove Adapters: The e-breathe Glove Adapter System allows the liquid-tight connection of gloves to a protective suit.

Carrying Devices: A variety of carrying devices such as harnesses, shoulder straps or back carrying plates for our blower systems, designed to meet the different requirements of various applications.

Breathing Air Hoses: Our breathing air hoses are of the highest quality and ensure a reliable supply of breathing air. They are available in various lengths and designs to meet individual needs.

Protective Covers: Our hose and device covers are designed to protect against contamination from splashes, sprays or heavy soiling. They provide protection against heat and are flame resistant (depending on the version).

Carrying Devices

Smartbelt Back Belt System
Belts
Comfort Belts
Shoulder Straps
Back Straps

Breathing Air Hose

Fixed length
Flexible length
EPDM (heat resistant)

Pre-filter & Pre-filter holder

e-breathe Glove Adapter System

Respiratory Accessories



The e-breathe glove adapter system enables a liquid-tight connection of elastomer gloves with all protective suits of class III type 3, 4, 5 or 6.

The black sealing ring ensures a firm connection between suit and glove. Depending on the selected glove and the thickness of the suit material, the sealing ring can be attached or removed.

The ring is attached to the white adapter ring and snaps firmly into the front groove of the ring. The adapter ring is completely clamped into the glove with the sealing ring in the front groove. The prepared glove is then inserted into the sleeve of the suit until the adapter ring reaches the sleeve hem.

Finally, the yellow Protect clip is clicked from the outside over the sleeve onto the adapter ring. The clip on the Protect-Clip is used to loosen the glove adapter after use. A glove adapter that has not been damaged by use can be used again and again.



Adapter Ring



Distance Ring



Protect-Clip



1



2



3



4



5



6



7



8



e-breathe Glove Adapter System

Respiratory Accessories



e-breathe Lock-Tool (Assembly Tool)
The e-breathe Lock Tool is available as an optional tool. It is designed to assist with the assembly/preparation of suits and to speed up work processes.

It is particularly suitable for locations where users need to prepare many suits for operation (e.g. fire brigades, hospitals and laboratories) and simplifies the workflow.

e-breathe Opener (Unlocking Tool)
The e-breathe Opener is available as an optional unlocking tool. It is designed to facilitate and accelerate the disassembly of the glove adapter.

Especially for very thick gloves or larger applications, for users who have to disassemble many suits after use (e.g. fire brigades or hospitals), the Opener simplifies workflows.



Spare Parts & Accessories: e-breathe Glove Adapter System		
Article Name	Part No.	Image
e-breathe Glove Adapter System (PU 2)	302001115	
e-breathe Protect-Clip (PU 2)	230002002	
e-breathe Protect-Clip without clip(PU 2)	2300002004	
e-breathe Distance Ring (PU 2)	142002005	
e-breathe Adapter Ring (PU2)	230002001	
e-breathe Opener Optional unlocking tool	322002116	
e-breathe Lock-Tool V 2.0 Optional assembly tool	322002115	

e-breathe Smartbelt Backbelt System

Respiratory Accessories

Individual adaptation thanks to modular design

The Smartbelt is a back carrying system which can be optimally adapted to the individual needs of the user. The system is characterized by a modular design. This ensures the highest possible flexibility for the user. The modules can be combined with each other depending on the intended use and thus enable five different carrying options.

The safety push buttons allow the modules to be assembled without additional tools. This simplifies assembly for the user and saves time.

Ergonomics & Comfort

The core of the carrying system forms the so-called wings in connection with the innovative e-breathe Banjoonett-closure. The locking system has a double function as a swivel joint for the wings and at the same time as a connecting element for the Y-connector. Due to the central and symmetrical position in every combination, the swivel joint always ensures a balanced weight distribution.

The contour of the back padding and the breathable functional foam ensure constant ventilation of the back. As a result, warm air and moisture are better removed. The honeycomb structure ensures a secure hold and comfortable wearing comfort even during longer periods of use.

Product Characteristics:

- Quick mounting of the Smartblower
- High wearing comfort
- Optimum weight distribution
- Five different carrying combinations
- Simple, fast & tool-free assembly/disassembly
- Maximum freedom of movement

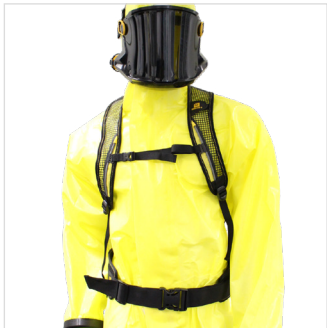


e-breathe Smartbelt Backbelt System

Respiratory Accessories

Backpack Harness

The straps are made of an air-permeable material and are adjustable in size.



Bayonet Closure

Adapter for the Y-connector and the swivel joint, in order to adjust the smartbelt.



Back Cushion

For a small contact surface and maximum air circulation.



Y-Connector

Used for 2-filter operation of the Smartblower.

SVE Strap

Mounting bracket for the SVE:
- Horizontal: hip position
- Vertical: Backpack position

Safety Buttons

Safety buttons to adjust the different carrying positions.



Blower Mount

Quick and safe mounting for blower units.



e-breathe Smartbelt Backbelt System

Respiratory Accessories








Spare Parts & Accessories:e-breathe Smartbelt		
Article name	Part Number	Image
Smartbelt Backbelt System Consists of: Backpack harness, wings, buckle strap, blower belt & storage bag	322003002	
Smartbelt Backbelt Consists of: Backpack harness & wings	322003008	
Smartbelt Hipbelt Consists of: Buckle strap & wings	322003009	
Components:		
e-breathe Comfort belt Pro V.2.1 (textile) For use with: BeltClip & Smartbelt Backpack	322003003	
Smartbelt Backpack Harness	322003004	
Smartbelt Wings	322003005	
Smartbelt Buckle Strap	322003006	
Smartbelt Belt Extension	322003010	
Smartbelt Storage Bag	322003013	

Carrying Devices

OUR PRODUCT RANGE

- Hip belts
- Shoulder straps
- Back carrying harnesses



Respiratory Accessories: Carrying Devices			
Article Name	Part No.	For use with	Image
e-breathe Comfort Belt Pro <ul style="list-style-type: none">• High wearing comfort• Back cushion with small contact surface and max. air circulation• Optimum weight distribution	322003003	e-breathe e-Flow, PM Proflow SC	
e-breathe Shoulder Strap Pro <ul style="list-style-type: none">• High wearing comfort for long-term use• Free choice of blower position by adjusting the back straps• Hose penetration	302063596	e-breathe e-Flow, PM Proflow SC	
Shoulder Strap Dekon <ul style="list-style-type: none">• Easy and quick cleaning• Free choice of blower position by adjusting the back straps• Good weight distribution	302001012	e-breathe e-Flow, PM Proflow SC	
e-breathe Back Carrying Plate Pro <ul style="list-style-type: none">• High wearing comfort for long-term use• Back cushion with small contact surface and air circulation• Optimum weight distribution• Quick and safe mounting of the blower unit	322001057	e-breathe e-Flow, PM Proflow SC	
e-breathe Belt Pro	108062786	e-breathe e-Flow, PM Proflow SC, e-breathe e-Line, e-breathe FDS	
e-breathe Belt Pro (+ Metal buckle) <ul style="list-style-type: none">• Easily adjustable size• Belt textile woven• Belt buckle made of plastic or metal	108062787		
e-breathe Back Support Plate Reflective <ul style="list-style-type: none">- High wearing comfort for long-term use- Padded shoulder straps with reflectors- Loops for secure attachment of the air tube- Fast and secure attachment of the blower unit	upon request	e-breathe e-Flow	
e-breathe Belt Dekon <ul style="list-style-type: none">• Easy and quick cleaning• PVC belt	302062996	e-breathe e-Flow, PM Proflow SC, e-breathe e-Line	

e-breathe Breathing Air Hoses

Respiratory Accessories

Breathing Air Hose Vario:

The hose is attached to the multimask via a simple click connection. By rotating the Vario connection, it is possible to regulate the air flow over three positions completely according to your own requirements via the air ducts arranged inside the mask frame.

Breathing Air Hose MM:

The hose is attached to the multimask via a simple click connection. The blade and arresting point of the MM connection have been removed. This results in a constant flow of air into the mask. By removing the arresting point, the hose rotates better, thus preventing the hose from twisting.



Breathing Air Hoses: e-breathe Multimask				
Article name	Part No.	Material	For use with	Image
Air Hose Vario Connection with air control	322000996	PU- flexible	e-breathe Multimask / e-breathe Multimask Pro	
	302711105	PU - fixed length		
	302711107	EPDM		
Breathing Air Hose MM free-rotating connection	322000997	PU- flexible	e-breathe Multimask / e-breathe Multimask Pro	
	302711104	PU - fixed length		
	302711106	EPDM		

Breathing Air Hose Round Thread:

The breathing air hose is equipped with a DIN standard 40 mm round thread (RD40).

The breathing air hose can be used with full masks and half masks with a DIN round thread connection according to EN148-1.



Breathing Air Hoses: with DIN connection				
Article name	Part No.	Material	For use with	Image
Breathing Air Hose e-breathe RG	302711100	PU- flexible	Full Masks & Half Masks with DIN round thread- connection	
	302711103	PU - fixed length		
	302711108	EPDM		

Breathing Air Hose Click:

The breathing air hose can be securely attached using the simple e-breathe Click System. Two adapter rings are attached to the outside of the head caps of the overpressure hoods and overpressure suits for this purpose. The adapter rings are screwed from the inside and outside between the hood material. The connection can rotate freely in the adapter rings so that twisting of the breathing air hose is prevented.



Breathing Air Hoses: e-breathe Overpressure Hoods / e-breathe Suits Outside				
Article name	Part No.	Material	For use with	Image
Breathing Air Hose e-breathe Click	302001109	PU - flexible	e-breathe Multi-Hood, PM Lab Hood AV, PM Chemical Hood, Chemical Outside, Splash Outside	
	302011109	PU - fixed length		

e-breathe Breathing Air Hoses

Respiratory Accessories



Breathing Air Hose Inside:

The flexible breathing hose can be placed at the top of the hood of the Inside suit or directly in front of the mouth.

Breathing Air Hose ESA:

Optionally, a replaceable mouthpiece can be attached to the breathing air hose for emergency situations. In the exceptional event of a blower failure or if the danger zone cannot be left in time, the user can supply himself with breathable air using the emergency hose.

Breathing Air Hoses: e-breathe Respiratory protective suits Inside				
Article name	Part Number	Material	For use with	Image
Breathing Air Hose ESA without Mouthpiece	322004055	PU- flexible	Chemical Inside, e-breathe Splash Inside	
	322004056	PU - fixed length		
	322004054	ESA Mouthpiece		
Breathing Air Hose e-breathe Inside	302001110	PU - flexible	Chemical Inside, e-breathe Splash Inside	
	302001111	PU - fixed length		

Breathing Air Hoses: Accessories & Spare Parts				
Article name	Part Number	Material	For use with	Image
Protective cover for breathing air hoses	116001041	Limited-Use	compatible with all e-breathe breathing air hoses	
	500700062	Reusable		
	223100403	Aluminized		
Safety Rubber for Hose (PU 4)	322000995	EPDM	compatible with Multimask & Click Breathing Air Tubes	
Hose adapter - Female thread - External thread	23010100	PA GF	compatible with DIN round thread- connections	
	402010200	PA GF		
Hose Adapter with Suspension Eyelet	on Request	ABS	compatible with Multimask breathing air tubes	
(The hose adapter seals the inside of the hose airtight and watertight to prevent contamination during storage and cleaning; with hose eyelet for hanging the hose during the drying process)				

Cleaning & Storage

In this chapter you will find products for the cleaning and storage of respiratory protection equipment.

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- Cleaning & Storage

Cleaning & Storage Kits for PAPR

Cleaning & Storage Kits for PAPR, Breathing Air Tubing, Full & Half Masks

Cleaning accessories

Storage boxes

Care & Maintenance Periods:
Protective equipment that is in daily use is exposed to many environmental hazards, such as dust, heat, fumes, moisture, and general wear and tear. To ensure the safety and prolong the life of the equipment, it should be properly stored, regularly cleaned and professionally maintained according to the prescribed intervals.

For professional cleaning and storage, our company has created special cleaning and storage kits.

Our cleaning kits and detergents protect the equipment and prevent damage during cleaning.

Our storage boxes and service box are used for proper storage of your equipment and protect it from external influences. In addition, the service box allows you to easily send your equipment to your authorized service partner for annual maintenance.

System components	Tasks	Maintenance intervals					
		Before use	After use	Quarterly	Semi-annual	Annually	If required
Breathing connection	Visual, leak and function test	x			x		
	Functional test / check by the user	x					
	Cleaning and disinfection		x			x	x
	Have maintenance carried out by e-breathe Service					x	x
Face seal	to be replaced depending on condition			x			x
Visor seal	to be replaced depending on condition, every six months at the latest				x		x
Breathing air hose	Visual, leak and function test	x			x		
	Functional test / check by the user	x					
	Cleaning and disinfection		x			x	x
	Have maintenance carried out by e-breathe Service					x	x
Breathing air hose	Visual, leak and function test	x					
	Functional test / check by the user	x					
	Cleaning and disinfection	x					x
	Have maintenance carried out by e-breathe Service						
Blower unit (incl. battery and charger)	Visual inspection by user	x					
	Check battery charge level	x					
	Recharge battery	x	x		x		x
	Battery replacement						x
	Filter replacement				x		x
	Check volume flow and warning devices	x					x
	Replacing the seals					x	
	Cleaning and disinfection		x			x	x
	Have maintenance carried out by e-breathe Service					x	

Important notice:
Please note that the stated replacement intervals are recommendations. If necessary, the equipment components must be replaced at shorter intervals.
*To perform the leak test, you will need our mask testing device.

e-breathe Cleaning & Storage

Respirator maintenance

Cleaning & Storage Kits

The sealing cap closes the air inlets (filter connections) and the air outlet (hose connection) of the respirator blower. This prevents water and detergent from entering the interior of the unit during cleaning, protecting the unit from possible damage. During storage, the caps prevent moisture or contaminants from entering the inside of the device. The caps provide optimal protection for your device against external influences and increase the service life of your device and ensure that it can be used quickly.



Accessories: Cleaning & Storage		
Article name:	Part Number	Image
Cleaning & Storage Kits for Respirator Blowers:		
e-breathe Smartblower Cleaning / Storage Kit	500510046	
Proflow Cleaning / Storage Kit	500510046	
e-breathe e-flow Cleaning / Storage Kit - Filter-Box	500510048	
e-breathe e-flow Cleaning / Storage Kit - PAD-Box	500510049	

Reinigungskappen

The caps allow the sealing of round thread connections according to EN 148-1. This allows the filter connection of filters to be sealed, which protects the filter from moisture and dust and increases its service life. They can also be used to close the airway of a breathing air hose, full face mask or half mask.



Accessories: Cleaning & Storage		
Article name:	Part Number	Image
Cleaning & Storage Kits for Respirator Blowers, Breathing Air Hoses, Full & Half Face Masks:		
e-breathe Cleaning cap RG external thread (EN148-1) e-breathe Cleaning cap RG female thread (EN148-1)	322002223 500510047	
Hose Adapter with Suspension Eyelet (Seals the inside of the hose airtight and watertight to prevent contamination during storage and cleaning; with hose eyelet for hanging the hose during the drying process)	Upon request	
e-breathe Cover Cap for e-Flow PAD Box / Filter Cover	322002225	

e-breathe Cleaning & Storage

Respiratory Accessories

Cleaning Bag:

The quick dry wash bag features a simple drawstring for quick and easy opening and closing and can be used for cleaning full face masks, half masks and face shields in a washing machine. The bag allows cleaning of the head parts in the washing machine without a previous disassembly of the individual parts and prevents damage or scratching of the visor and mask during cleaning in a washing machine.



Detergent

Liquid disinfectant concentrate for the disinfection of respiratory protection equipment. For manual cleaning with a cloth and sponge or for disinfection in an immersion bath.

Accessories: Cleaning & Storage		
Article name:	Part Number	Image
Cleaning Accessories		
e-breathe Cleaning Bag (Washing bag for full face masks and multimask for cleaning in a washing machine).	322002108	
PM PSA Rapid Disinfectant	129001000	
PM RescueClean P3 1-Liter	129001003	

Service Box:

The service box allows proper storage of your entire respiratory protection system (blower unit, headpiece & breathing air hose). The handle makes the service box easy to transport. In addition, your respiratory protection equipment can be easily sent in for annual maintenance with the service box.



Accessories: Cleaning & Storage		
Article name:	Part Number	Image
Storage boxes		
e-breathe Service Box M - 40cm long x 30cm wide x 22cm height	119458610	
e-breathe Service Box L - 40cm long x 30cm wide x 33cm height	119458611	
PM Storage case - 42cm long x 32cm wide x 17cm height	119458616	

Ready-Packs

In this chapter you will find our Ready Packs.

146 Ready-Packs with PAPR

Ready-Packs e-breathe e-Flow + head piece

Ready-Packs e-breathe Smartblower + head piece

Ready-Packs PM Proflow + head piece

146 Ready-Packs with Compressed Air Unit

Ready-Packs e-breathe e-Line + head piece

Ready-Packs consisting of:

If you don't already have respiratory protection equipment, our Ready Packs are a convenient all-in-one solution. They consist of a complete air source* with belt, headpiece, matching breathing air hose and a storage box.

* Blower unit incl. battery, charging station, belt, cleaning kit, pre-filter holder & pre-filter.

1 pair of ecoPad P3 particle filters, headpiece, breathing air hose, protective cover for unit and hose

* Compressed air control valve incl. adapter and belt

(Compressed air filter station / hoses must be ordered separately)

NEW: Best protection for your system.

All our Ready Packs are equipped with our practical service boxes. They protect your equipment from external influences during storage and are ideal for shipping your equipment for annual maintenance.



Ready-Packs

Order information

Ready-Packs: PAPR e-breathe e-Flow		
Article name	Part Number	Image
Set consists of: Blower unit, PAD box, rechargeable battery, charging station, Comfort belt, cleaning kit, 2x e-breathe pre-filter holders, 20x e-breathe pre-filters, breathing air hose + head section, ecoPad P3 filter, protective cover for blower and breathing air hose and e-breathe service box.		
e-breathe Ready-Pack e-Flow with Multimask Pro Foam	322005240	
e-breathe Ready-Pack e-Flow with Multimask Pro Mesh	322005250	
e-breathe Ready-Pack e-Flow with Multimask Pro Silicon	322005260	
e-breathe Ready-Pack e-Flow with SH1 Limited Use with SH2 Premium	3220061xx 00 50	
e-breathe Ready-Pack e-Flow with LH1 Limited Use with LH2 Premium	3220062xx 00 50	
e-breathe Ready-Pack e-Flow with Multi-Hood Premium & Head or Helmet Holder	3220056xx Helmet h. =00 Head h. = 10	
e-breathe Ready-Pack e-Flow with PM Lab Hood Limited-Use with PM Lab Hood Premium	3220053xx 00 01	
e-breathe Ready-Pack e-Flow with PM Panarea Pro	322005900	

Ready-Packs: PAPR PM Proflow SC		
Article name	Part Number	Image
Set consists of: Blower unit, battery, charger, comfort belt, breathing air hose with hose cover + head part & service box		
PM Proflow 2-SC 160 l/min. Set with Multimask Pro Foam with Multimask Pro Mesh with Multimask Pro Klick	322064xxx 304 305 401	
PM Proflow 2-SC Set with PM Lab Hood Limited-Use with PM Lab Hood Premium	3020010xx 21 32	

Ready-Packs

Order information

Ready-Packs: PAPR e-breathe Smartblower		
Article name	Part Number	Image
Set consists of: Motor, SVE hood operation (battery), charging station, belt blower, belt clip, SVE spiral cable 2.0 DV, cleaning kit, 1x e-breathe particle filter P3, 1x pre-filter holder, 20x pre-filters, breathing air hose with protective cover + hood & service box.		
Ready Pack Single Filter System with PM Chemical Hood with PM Laborhaube AV	322002120 322002119	
Das Ready-Pack besteht aus: Motor, SVE Vollmasken-Betrieb (Akku), Ladestation, Gurt Gebläse, SVE Spiralkabel 2.0 DV, Reinigungs-Kit, 1x e-breathe Partikelfilter P3, 1x Vorfilterhalter, 20x Vorfilter, Vollmaske Panarea Pro & Service Box		
Ready Pack Full Face Mask with Full Face Mask Panarea Pro	322002133	
Das Ready-Pack besteht aus: Motor, SVE Hauben / Einfilter-Betrieb (Akku), Ladestation, SVE Spiralkabel 2.0 DV, Smartbelt Hüftgurt, Y-Connector, Reinigungs-Kit, 2x e-breathe Partikelfilter P3, 2x Vorfilterhalter, 20x Vorfilter, Atemluftschlauch + Haube & e-breathe Service Box		
Ready-Pack Two-filter system with PM Chemical Hood with PM Lab Hood AV	322002127 322002126	

Ready-Packs: Compressed air control valve e-breathe e-Line		
Article name	Part Number	Image
The Ready Pack consists of: Motor, SVE hood/single filter operation (rechargeable battery), charging station, SVE spiral cable 2.0 DV, Smartbelt waist belt, Y-connector, cleaning kit, 2x e-breathe particle filter P3, 2x pre-filter holder, 20x pre-filters, breathing air hose + hood & e-breathe service box.		
Ready-Pack e-breathe e-Line with Multimask Pro Foam	322007110	
Ready-Pack e-breathe e-Line with Multimask Pro Mesh	322007120	
Ready-Pack e-breathe e-Line with Multimask Pro Silicone	322007130	
Ready-Pack e-breathe e-Line with PM Lan hood AV Premium	322007140	
Ready-Pack e-breathe e-Line with Multi-Hood Premium & Head or Helmet Holder	3220071 Helmet h. =50 Head h. = 60	

Recommendations for the selection of Filters

Please note that for many gases and vapors there may be more than one suitable filter type. Therefore, always include an up-to-date substance database with this recommendation (e.g. Gestis substance database available at: <https://gestis.dguv.de/>). Please do not hesitate to contact us if you have any questions regarding application and filter selection.

1. Use combination filter (combination of particle and gas filter)

2. P3 filter: only use once against radioactive substances & microorganisms

3. AX filters may only be used for one working shift

4. Substance is carcinogenic

5. Substance is absorbed through the skin: use overpressure protective suit

6. Substance may be considered as a sensitiser

7. Mercury filter: maximum application time 50 hours

Substance	CAS-Nr	Filter	Komm.	Substance	CAS-Nr	Filter	Komm.
acetaldehyde	75-07-0	AX	3 / 4	chlorine dioxide	10049-04-4	B	
acetamide	60-35-5	A+P3	1 / 4	chloroform	67-66-3	AX	3 / 4
acetone	67-64-1	AX	3	hydrogen chloride	7647-01-0	B	
acetylene	74-86-2	Insulating device		Chromic acid and chromates	1333-82-0	P3	4 / 6
acetyl chloride	75-36-5	B		Cobalt & anorg. verb. Dust & Smoke	7440-48-4	P3	6
acrolein	107-02-8	AX	3	cumene	98-82-8	A	5
acrylamide	79-06-1	A+P3	1 / 4 / 5	Cyanides (CN)	57-12-5	B+P3	1
acrylonitrile	107-13-1	A	4	cyclohexanol	108-93-0	A+P3	1
acrylic acid	79-10-7	B		cyclohexanone	108-94-1	A	
adipic acid	124-04-9	P3		cyclopropane	-	Insulating device	
Aliphat. KW solution	8052-41-3	A		diacetone alcohol	123-42-2	A	
allyl alcohol	107-18-6	A		dichloroacetylene	-	Insulating device	
allylamine	107-11-9	K	5	dichlorofluoromethane	-	Insulating device	
allyl chloride	107-05-1	AX	3 / 5	diphenyl	92-52-4	A+P3	1
aluminium chloride	7446-70-0	B+P3	1	Diglycid ether (DGE)	2238-07-5	A	6
aluminium oxide	1344-28-1	P3		1,2-dichloroethane	107-06-2	A	
formic acid	64-18-6	E		dimethylformamide	68-12-2	A	4 / 5
ammonia	7664-41-7	K		dimethyl sulfate	77-78-1	A	4 / 5
amyl acetate	628-63-7	A		dioxane	123-91-1	A	4 / 5
aniline	62-53-3	K	4 / 5	Nitrous oxide (laughing gas)	-	Insulating device	
Antimony and Oxides	7440-36-0	P3		EDTA	60-00-4	P3	
antimony hydrogen	7803-52-3	B		ferric chloride	-	B+E+P3	1
argon	-	Insulating device		Iron oxide (smoke)	1309-37-1	P3	
hydrogen arsenide	7784-42-1	B	4	epichlorohydrin	106-89-8	A	4 / 5 / 6
arsine	7784-42-1	B		acetic acid	64-19-7	B	
asbestos	-	P3	2	acetic anhydride	108-24-7	B	
barium	7440-39-3	P3		Ethanol (ethyl alcohol)	64-17-5	A	
benzaldehyde	100-52-7	A		ethyl acetate	141-78-6	A	
benzene	71-43-2	A	4	ethyl acrylate	140-88-5	A	4 / 5 / 6
gas	86290-81-5	AX	3	ethyl bromide	74-96-4	AX	3
benzotriazole	95-14-7	A+P3	1	ethyl chloride	75-00-3	AX	4
benzoyl chloride	98-88-4	B		ethylenediamine	107-15-3	K	6
benzyl alcohol	100-51-6	A		ethylene glycol	107-21-1	A	
benzyl chloride	100-44-7	B	4	ethylene oxide	75-21-8	AX	3 / 4 / 5
beryllium	7440-41-7	P3	4 / 6	ethyl ester	60-29-7	AX	3
prussic acid	74-90-8	B	5	fluorine	7782-41-4	B	
Lead (inorg. verb., smoke & dust)	7439-92-1	P3		Fluorides (F)	-	P3	
bromine	7726-95-6	B		fluorosilicic acid	16961-83-4	B+P3	1
butyl acetate	123-86-4	A		hydrogen fluoride	7664-39-3	B	
Butanol (butyl alcohol)	71-36-3	A		formaldehyde	50-00-0	B	4 / 5 / 6
butyraldehydes	123-72-8	A		Freon 113	76-13-1	Insulating device	
Cadmium and inorganic compounds	7440-43-9	P3	4	furfural	98-01-1	A	
calcium oxide	1305-78-8	P3		glutaraldehyde	111-30-8	A	6
chlorine	7782-50-5	B		glycol monobutyl ether	111-76-2	A	5
				glycol monometylether	109-86-4	A	5

If the possibility exists, isolating devices can be used instead of the filters. If the gas concentration exceeds 0.5 vol% / 5000 ppm, isolation devices must be used. However, compressed air hose equipment must not be used in environments where the concentration of contaminants is so high that life and limb are in immediate danger.

Substance	CAS-Nr	Filter	Komm.	Substance	CAS-Nr	Filter	Komm.
Hydrazine	302-01-2	K	4 / 5 / 6	p-Phenylenediamine	106-50-3	P3	6
Hydrogen (hydrogen gas)	1333-74-0	Insulating device		Phosphine (hydrogen phosphide)	7803-51-2	B	
Hydroquinone	123-31-9	A+P3	4 / 6	Phosphoric acid (vapors)	7664-38-2	B+E+P3	1
Isophorone	78-59-1	A		Phosgene (carbonyl chloride)	75-44-5	B	
Iodine	7553-56-2	P3		Phthalic anhydride	85-44-9	P3	6
Potassium hydroxide	1310-58-3	P3		Piperazine	110-85-0	K+P3	1 / 6
Potassium permanganate	7722-64-7	P3		Piperidine	110-89-4	K	
Carbon disulfide	124-38-9	Insulating device		2-propanol	67-63-0	A	
Carbon disulfide	75-15-0	AX	3 / 5	Propanoic acid	79-09-4	B	
Carbon monoxide	630-08-0	Insulating device		Pyridine	110-86-1	A	
Cresol	-	A+P3	1	Quartz	14808-60-7	P3	4
Crystobalite	14464-46-1	P3	4	Mercury (vapors)	7439-97-6	HG+P3	5 / 6 / 7
Copper	7440-50-8	P3		Mercury (alkyl comp.)	7439-97-6	HG+P3	5 / 6 / 7
Maleic anhydride	108-31-6	B+P3	1 6	Mercury (other than alkyl) (Hg)	7439-97-6	HG+P3	5 / 6 / 7
Manganese and anorganic compounds (mn)	7439-96-5	P3		Nitric acid	7697-37-2	B	
Melamine	108-78-1	Insulating device		Sulfur dioxide	7446-09-5	E	
Methanol	67-56-1	AX	3 / 5	Sulfuric acid (vapors)	7664-93-9	E+P3	1
Methylamine	74-89-5	K		Hydrogen sulfide	7783-06-4	B	
Methyl acrylate	96-33-3	A	5 / 6	Selenium sulfide	7782-49-2	P3	4
Methyl bromide	74-83-9	AX	3 / 5	Hydrogen selenide	7783-07-5	B	3
Methylene bisphenyl isocyanate (MDI)	101-68-8	B+P3	1 6	Silver nitrate	7761-88-8	P3	
Methylene chloride	75-09-2	AX	4	Dust, inert	-	P3	
Methyl ethyl ketone (MEK)	78-93-3	A	5	Nitrogen oxydul (laughing gas)	10024-97-2	Insulating device	
Methyl isobutyl ketone (MIBK)	108-10-1	A	5	Nitrogen dioxide	10102-44-0	Insulating device	
Methyl iodide	74-88-4	AX	3 / 4 / 5	Nitric oxide	10102-43-9	Insulating device	
Methyl chloride	74-87-3	AX	3 / 4	Styrene	100-42-5	A	5
Methyl chloroform	71-55-6	A		Sulfamic acid	5329-14-6	B+P3	1
Methyl metacrylate	80-62-6	A	5 / 6	Turpentine (oil)	8006-64-2	A	5 / 6
Monomethylamine	74-89-5	K		Turpentine substitute	8052-41-3	A	
Morpholine	110-91-8	A	5	Tetraethyl lead (Pb)	78-00-2	A+P3	1 / 5
Sodium fluoride	7681-49-4	P3		Tetrahydrofuran	109-99-9	A	
Sodium hydroxide	1310-73-2	P3		Tetramethyl lead (Pb)	75-74-1	A+P3	1 / 5
Sodium hypochlorite	7681-52-9	B+P3	1	Tetrachloromethane	56-23-5	A	4
Sodium perborate	10486-00-7	P3		Tetrachloroethylene	127-18-4	A	5 / 6
Sodium carbonate	497-19-8	P3		Toluene	108-88-3	A	5
Sodium silicate	6834-92-0	P3		toluene diisocyanate (TDI)	91-08-7	Insulating device	4 / 6
Nickel, metal	7440-02-0	P3	4 / 6	Tributyl phosphate	126-73-8	A	
Nickel carbonyl	13463-39-3	Insulating device	4 / 5	Tridymite	15468-32-3	P3	
Nitrobenzene	98-95-3	A	5	Trichloroethane	71-55-6	A	
Nitrogen (nitrogen gas)	7727-37-9	Insulating device		Trichloroethylene	79-01-6	A	4
				Trimethylbenzene	526-73-8	A	
Nitroglycerin (glycerol trinitrate)	55-63-0	A	5	Trisodium phosphate	7601-54-9	P3	
Nitroglycol	628-96-6	A	5	Vanadium oxide dust	1314-62-1	P3	
2-Nitropropane	79-46-9	A	4	Vinyl acetate	Vinylacetat	A	
Nitrous gases	-	Insulating device		Vinylidene chloride	75-35-4	AX	3
Octanes	111-65-9	A		Vinyl chloride	75-01-4	AX	3 / 4 / 5
Organic peroxides	-	A+P3	1	Vinyl toluene	25013-15-4	A	
Oxalic acid	144-62-7	P3		Hydrogen fluoride	7664-39-3	B+P3	1
Ozone	10028-15-6	B		Hydrogen peroxide	7722-84-1	Insulating device	
PCBs (polychlorinated bi-phenyls)	-	A+P3	1 / 4 / 5	Xylene	1330-20-7	A	5
Pentachlorophenol	87-86-5	P3	4 / 5	Zinc chloride, smoke	7646-85-7	P3	
Perchloroethylene (tetrachloroethylene)	127-18-4	A	4 / 5	Zinc oxide, smoke	1314-13-2	P3	
Perchloric acid	7601-90-3	B+E		Zinc stearate	-	P3	

Lined area for notes on page 150.

Lined area for notes on page 151.



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Status 09/2023, errors and omissions excepted.
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ENGLISH VERSION