



ST-1127-2008

## Effective, flexible NBC protection

Modular NBC protection systems Dräger AFU 100  
for all vehicle, container and shelter applications

## Your Dräger AFU 100 – Clean Air in Modular Sets

Personal safety is the number one priority at Dräger. For over 100 years, Dräger has developed system solutions. One of the newest solutions in NBC protection is the system Dräger AFU 100, which offers protection against nuclear, bacterial and chemical hazards. The Dräger NBC air filtration unit, Dräger AFU 100, is a modular CBRN 24V filter system for vehicles, containers and shelters of all kinds.

In the Dräger AFU 100, Dräger has managed to develop a versatile system. Particular focus was placed on low electricity consumption, price, low weight, a compact size, and an ability to cover various filter demands, in order to meet various vehicle and shelter requirements.

The filter system works with three separate, sequential filter levels:

- Coarse dust filter
- Particle filter for biological substances (bacteria, viruses and toxins) and contaminated particles. This filter also serves as a dust filter.
- Gas filter for chemical warfare agents and TICs (Toxic Industrial Chemicals).

This design and technical implementation allows Dräger to offer the most modern and unique NBC protection system in the world, which is very simple to integrate in all vehicle, container and shelter applications.

### Under 260 watts of power consumption in NBC action

It is important to keep power consumption to a minimum, particularly in smaller vehicles. With the Dräger AFU 100, we have done everything physically possible to reduce consumption. During peacetime with twice the volume flow, the power input is 450 watts.

### Basic system 26 kg

Every additional gram of weight in a vehicle must be moved, which increases the energy demand. At the same time, the Dräger systems must also be extremely robust, in order to guarantee NBC safety when used in applications such as tracked vehicles. This system combines the highest degree of robustness with minimal weight.



**Dräger AFU 100**  
Basic system



ST-1606-2008

**Effective protection for 5 to 12 persons**

The volumetric current in NBC mode is 105 cbm/h. Depending on the specification, this is sufficient for 5 to 12 persons. In fresh air mode, without the NBC filter, the system generates 200 cbm/h.

**Reliable pressure generation up to 15 mbar**

This ensures that a sufficient excess pressure can also be generated in areas that exhibit leakages.

**Coarse dust filter**

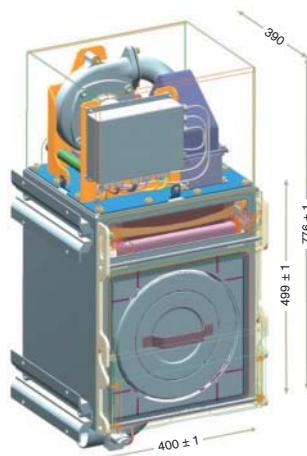
Up to 95 % of the dust is filtered out of the air using a specially developed separator. It is then directly ejected and does not burden the particle filter. This dramatically increases the particle filter's period of use and saves consumption costs.

**Versatile, thanks to modular structure**

In order to make it possible to integrate the system in small and jagged spaces, all the components have been kept as small as possible.

**Tested and certified**

The system, components and filters are certified in accordance with NATO specification STANAG 4634/AEP 54. The environmental and electromagnetic requirements of MIL STD 461D/462D and MIL STD 810D in a temperature range from -32 °C to +49 °C form the basis of these tests and certifications.



**Tailor-made solutions for good air conditioning**

# All accessories from one source



## Electronic control package

The electronic pressure monitoring system measures the relevant excess pressure in the protected interior space, and emits either a green or red signal depending on the results. The alarm also features a buzzer that can be disengaged. The limit values can be configured by or the plant. The starting function for the NBC system is integrated in the pressure monitoring system.

In order for users to recognise whether or not particle or gas filters are being used in an interior room, a filter recognition function is integrated in the system. The drop in pressure demonstrated by the particle filter is measured in order to identify when it is necessary to change the particle filter. When a limit is exceeded, a signal is emitted. Both signals are transferred to, and integrated in, the automatic pressure monitoring system.

In addition the volume flow at the system outlet is measured. This guarantees that the required quantity of air is always fed into the interior room. If the quantity falls below a lower limit, an alarm notification is shown in the display on the electronic pressure monitoring system.



Pressure relief valve with bypas

D-19316-2009



Control unit

D-19317-2009

ST-398-2009



### The pressure relief valve

The variable pressure relief valve can be configured to meet your individual requirements with regard to volume, flow and excess pressure. The setting is configured within the ranges 1 to 15 mbar and 50 to 250 cbm/h. The extremely flat design means the pressure relief valve is particularly suitable for assembly in small spaces. For operation in fresh air mode with increased volume flow, we offer an optional pressure relief valve with integrated bypass.

### Additional accessories

All other necessary components, such as non-return valves, hoses, connector clamps and fastening elements are also quickly and efficiently provided by Dräger on a project basis.

### Dräger AFU 100 in combination with air conditioning

NCB protection facilities mainly operate in combination with air conditioning. On request, we can work together with your air conditioning specialists to align the systems.

It goes without saying that Dräger also supplies all accessories and equipment options, for the Dräger AFU 100 NBC protection system. You can rely on Dräger to provide a complete service. Feel free to contact us if you have any further questions.



Container

ST-3064-2004



## The Dräger AFU 100 filter system

At the core of the Dräger AFU 100 is its filter system, which uses several filter levels to remove all hazardous substances from the breathing air. Alongside a coarse dust filter, the system also uses a particle filter for biological substances and a gas filter for hazardous chemical substances.

### The particle filter system

The filter medium used by the particle filter system is a type of paper developed specifically for this application. The filter system is a cost-effective expendable item, and fulfils two basic functions:

#### 1. Preliminary filter for residual dust

Particles that still pass through the cyclone separator are withheld by the particle filter.

#### 2. HEPA filter for biological substances and contaminated particles

Separating performance in accordance with STANAG 4634/AEP54 at volume flow of 205 cbm/h:

### Particle size

Particle size	Efficiency
0.1 to 0.5 $\mu\text{m}$	99.999%
0.5 to 1.0 $\mu\text{m}$	99.999%
1.0 $\mu\text{m}$	99.9999%
1.0 to 10.0 $\mu\text{m}$	99.9999%

### The gas filter system

The gas filter system uses a specially developed, chromium-free, activated charcoal as its filter medium. In order to protect against "asymmetric threat", the filter has been designed with a broadband effect against chemical warfare agents and toxic industrial gases (TICs). The gas filter system is certified in accordance with STANAG 4634/AEP54.

The gas filter weighs 10 kg.



Particle and pre-filter

ST-911-2008



Gas filter

ST-909-2008

## Booking information at a glance

### CONFIGURATION

#### AFU 100

STANAG 4634/AEP 54

#### Options

Protective cover

#### Electrical interior pressure monitoring with:

- display unit and 2 meters of cable
- Integrated system control (On / Off / Vent)
- filter recognition and pressure drop particulate filter
- airflow control
- Standard pre-adjustment 7 mbar

AFU 100  
BASIC VARIANT/6740000  
AFU 100  
ELECTRONIC VARIANT/6740003



### ORDER INFORMATION

For protective operation in a vehicle / shelter, the pressure relief valve with the pressure level required in the shelter is required, as well as the filter as a consumer part (particulate filter and gas filter, either NATO or Bundeswehr). We also recommend the mounting kit for safe assembly of the system.

#### Accessories

Pressure relief valve 2.5 mbar	67 40 230
Pressure relief valve 5.0 mbar	67 40 238
Pressure relief valve 7.0 mbar	67 40 239
Pressure relief valve 10.0 mbar	67 40 241
Pressure relief valve with bypass	67 40 245
Mounting kit	67 40 320
One way flap	67 40 300
Extension cable with 5 meters of cable	67 40 240
Data interface (Sub-d)	67 40 340
NBC hose 2 meters	67 40 084
Clamp	SP 02 422

#### Consumer parts

Particulate filter	67 40 190
Gas filter 100 cbm, in accordance with NATO AEP 54	67 40 180

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