


1 For your safety


1.1 General safety statements


- Before using this product, carefully read the Instructions for Use.
- Strictly follow the Instructions for Use. The user must fully understand and strictly observe the instructions. Use the product only for the purposes specified in the Intended Use section of this document.
- Do not dispose of the Instructions for Use. Ensure that they are retained and appropriately used by the product user.
- Only fully trained and competent users are permitted to use this product.
- Comply with all local and national rules and regulations associated with this product.
- Only trained and competent personnel are permitted to inspect, repair and service the product. Dräger recommends a Dräger service contract for all maintenance activities and that all repairs are carried out by Dräger.
- Properly trained service personnel must inspect and service this product as detailed in the maintenance section of this document.
- Use only genuine Dräger spare parts and accessories, or the proper functioning of the product may be impaired.
- Do not use a faulty or incomplete product, and do not modify the product.
- Notify Dräger in the event of any component fault or failure.

1.2 Definitions of alert icons

Alert icons are used in this document to provide and highlight text that requires a greater awareness by the user. A definition of the meaning of each icon is as follows:

 **WARNING**
Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

 **CAUTION**
Indicates a potentially hazardous situation which, if not avoided, could result in physical injury or damage to the product or environment. It may also be used to alert against unsafe practices.

 **NOTICE**
Indicates additional information on how to use the product.

2 Description

2.1 Product overview

The Dräger **saver CF** (constant-flow) is an emergency escape breathing apparatus that provides respiratory protection to escape from a contaminated or oxygen-deficient environment to a safe breathing environment.

The main features of the product are:

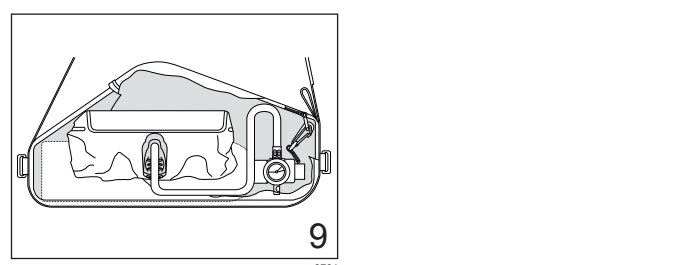
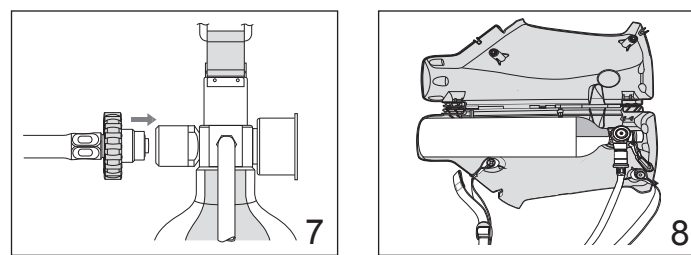
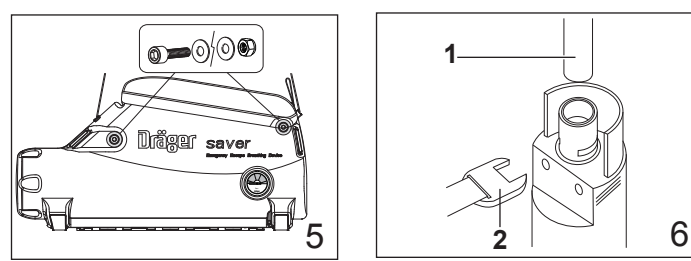
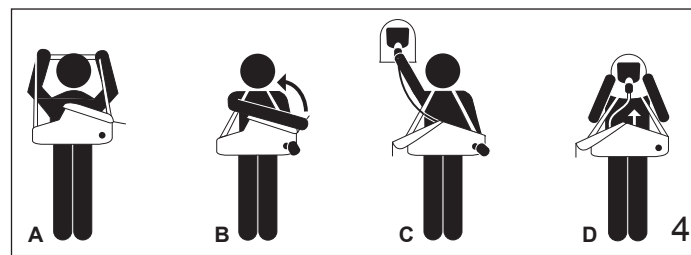
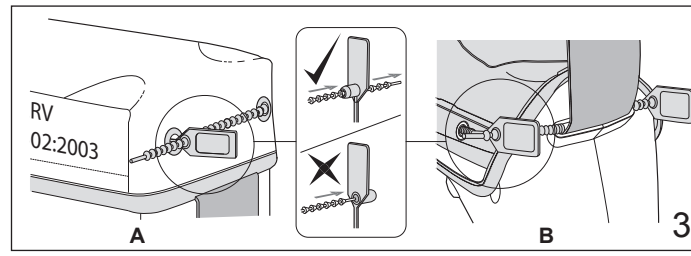
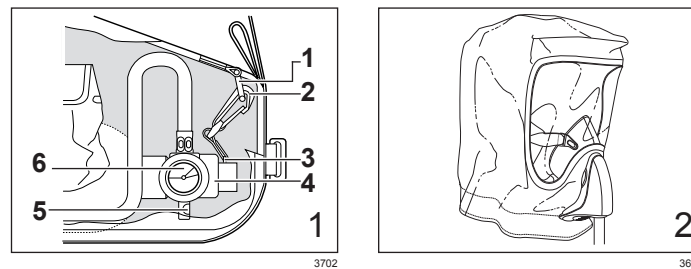
- The respiratory protection equipment is contained in a carrying bag that has a soft or hard case. If the bag is black it indicates that the bag material has anti-static properties. The bag has a neck strap to carry the product.
- The air cylinder is fitted inside the carrying bag but has a pressure gauge (Fig 1, Item 6) that is visible outside the bag. When the cylinder is full it provides a nominal duration of 10 or 15 minutes (see Section 2.1.1).
- The cylinder valve/reducer (Fig 1, Item 4) has an automatic activation device that is operated by removing a two-pronged locking clip (Fig 1, Item 3). The locking clip is connected by a strap to a sprung-gate clip (Fig 1, Item 2) that is in turn connected to a D-ring (Fig 1, Item 1) on the inside of the lid. This arrangement automatically removes the locking clip as the carrying bag is opened. When the valve/reducer is activated, it reduces the cylinder pressure to a medium pressure, and a preset nozzle inside the valve/reducer provides a constant flow of breathing air to the escape hood.
- A whistle (Fig 1, Item 5) on the valve/reducer emits a warning when the cylinder pressure falls to 10 bar to indicate the end of the rated duration.
- The escape hood (Fig 2) has a rubber ring that seals around the neck, and an internal nose cup that fits over the nose and mouth to supply air to the wearer.
- There is an anti-tamper tag (or tags) (Fig 3) fitted on the lid of the carrying bag to allow an inspector to quickly identify that the bag has not been opened. The soft-case bag has a single anti-tamper tag (Fig 3, A), and the hard-case bag has two anti-tamper tags (Fig 3, B).


2.1.1 Air cylinders

The **saver CF10** version has a 2 litre aluminium cylinder – nominal duration of 10 minutes.
The **saver CF15** version has a 3 litre steel cylinder – nominal duration of 15 minutes.
The **saver CF15 CC** version has a 3 litre carbon-composite cylinder – nominal duration of 15 minutes.

2.2 Intended use

When this product is used with an approved air cylinder it provides the wearer with respiratory protection for escaping from contaminated or oxygen-deficient conditions. The air cylinder used with this product must be a certified Dräger cylinder; otherwise the operation of the product may be impaired. Contact Dräger for further information.



The product version marked with the  symbol is recommended where the product is stored in, or regularly exposed to, atmospheres where airborne hydrocarbons or chemical, fuel or oil vapours may be present.

Operating temperature range: -15 °C to 60 °C.

2.3 Limitations on use

The **saver CF15** version (with 3 litre steel cylinder) exceeds 5 kg. This is considered to be unsuitable (as defined in EN 1146) to be carried by the wearer for more than 8 hours.

2.4 Approvals

The **saver CF** Series of emergency escape breathing apparatus conforms to EN 1146:2005, ISO 23269-1:2008 and ISO 23269-4:2010, and meets the requirement of EC Council Directives PPE (89/686/EEC), PED (97/23/EC) and MED (96/98/EC).

PPE - ECType examiner: DEKRAEXAM GmbH, Dinnendahlstrasse 9, 44809 Bochum, Germany. Notified Body No. 0158.

PPE (89/686/EEC) – 11B examiner: Lloyd's Register Quality Assurance (LRQA), 1 Trinity Park, Bickenhill Lane, Birmingham, B37 7ES, United Kingdom. Notified Body No. 0088.

MED (96/98/EC)/PED (97/23/EC) - Lloyd's Register Verification (LRV), 71 Fenchurch Street, London EC3M 4BS. United Kingdom. Notified Body No. 0038.

Use in potentially explosive atmospheres


Do not charge the cylinder in a potentially explosive atmosphere.

saver CF Series combinations that are supplied in a black soft-case bag or hard-case bag have anti-static properties and are type tested as suitable for use in potentially explosive atmospheres. The combinations are suitable for use in hazardous areas up to and including zone 0 and zone 20. The combinations can be used in atmospheres containing gases of the gas explosion group IIC.


saver CF Series combinations that are supplied in an orange soft-case bag are not suitable for use in potentially explosive atmospheres.

2.5 Explanation of markings and symbols


The date of manufacture of the product is shown on the carrying bag in the form MM/YYYY.

 is the MED mark of conformity.

3 Use

 **WARNING**
The time required to allow the wearer to escape to a safe area must be within capacity of the equipment. When selecting the type and duration of escape equipment it is essential to consider potential hazards, storage location and escape routes.

3.1 Preparation for use

 **WARNING**
On receipt of the **saver CF** from Dräger, the product is not configured for immediate operational use. The cylinder automatic activation device is not connected, and the air cylinder may be discharged. Carry out the following procedure to prepare the product for use.


Immediately following removal of the equipment from its packaging:


- If the air cylinder is supplied discharged, see Section 4.2.2 for cylinder charging instructions.
- If the air cylinder is supplied fully charged, carry out the following to connect the cylinder automatic activation device:
 - a. Grip the loop on the lid of the carrying bag and pull up to open the bag.
 - b. Seal the lid along the Velcro fastening strip leaving sufficient opening to insert a hand and, taking care not to detach the locking clip from the cylinder valve, connect the sprung-gate clip (Fig 1, Item 2) to the D-ring (Fig 1, Item 1).
 - c. Fit the anti-tamper tag(s) and close the lid (Fig 3).

3.2 Putting on the carrying bag (ready position)


1. Check that the pointer of the cylinder pressure gauge is inside the green area, and the anti-tamper device on the lid of the carrying bag is intact (Fig 3).
2. Place the neck strap over the head (Fig 4, A) and adjust the strap until the equipment sits in the centre of the chest.
3. If fitted with a waist belt (optional accessory), loop the waist belt around the waist and then fasten the buckle. Pull the free end of the belt until the equipment is secure and comfortable.


3.3 Putting on the hood and escape procedure

 **WARNING**
The duration begins from the automatic activation of the cylinder valve and not from time of putting on the hood.

 **NOTICE**
The wearer **must** be able to reach the required area before the whistle sounds to indicate the end of the rated duration.

1. Grip the loop on the lid of the carrying bag and pull firmly upward to break the anti-tamper tag(s) and open the lid of the bag (Fig 4, B). This action removes the locking clip, automatically activating the cylinder valve and the air supply to the hood.
2. Remove the hood from the carrying bag (Fig 4, C).
3. Place both hands inside the neck seal and carefully stretch the hood over the head (Fig 4, D).
 - Wearers with spectacles – take care when stretching the neck seal over the spectacles.
 - Wearers with long hair – tuck the hair inside the hood.
4. Position the nose cup over the nose and mouth and breathe normally.
5. Immediately leave the hazardous area by the shortest and safest escape route.

 **WARNING**
Do not remove the equipment until in a safe area and clear of the hazard.

 **CAUTION**
Do not drop or throw down equipment as damage could occur.

6. Once in a safe breathing environment remove the hood. Place both hands inside the neck seal and carefully stretch the hood over the head.

3.4 After use

After any use, the product must be checked and then returned to the ready-for-use condition. The after use maintenance tasks (see Section 4.1.2) must be carried out by trained service personnel or Dräger to prepare the product for use.

4 Preparing and maintaining the saver CF

The tasks in this section must be carried out to prepare and maintain the **saver CF** in a ready-for-use condition.

4.1 Maintenance periods

4.1.1 Daily checks

It is essential that escape apparatus is ready for use at all times, and Dräger therefore recommend a daily check. If the customer's on-site risk assessment concludes that less regular checks are acceptable, this can be extended to a maximum of one month. It is the customer's responsibility to ensure that the equipment is ready for use at all times.

- Check that the pointer of the cylinder pressure gauge is inside the green area.
- Check the anti-tamper tag(s) on the lid of the bag (Fig 3).

If the pressure gauge is in the red area or if an anti-tamper tag is broken, inform trained service personnel or Dräger immediately.

4.1.2 Maintenance table

Service and test the breathing apparatus, including out-of-use apparatus, in accordance with the maintenance table. Record all service details and testing.

Additional inspection and testing may be required in the country of use to ensure compliance with national regulations.

Component/System	Task	After use	Every year	Every 10 years
Complete equipment	Visual inspection (see Section 4.2.1)	○		
	Clean and disinfect (see Section 4.3)	○		
	Functional tests (see Note 1)		○	
Cylinder valve/reducer	Basic overhaul. Contact Dräger for the Repair Exchange Service (REX)			○
Cylinder	Charge to correct pressure (see Section 4.2.2)	○		
	Cylinder pressure test and recertification; check the test date on the cylinder		Carry out in line with national regulations	

Notes

○ Dräger recommendations

- 1 These maintenance tasks may only be carried out by Dräger or trained service personnel. Details of the tasks are contained in the technical manual which is issued to service personnel that have attended a relevant Dräger maintenance course.

4.2 Maintenance tasks

4.2.1 Visual inspection

Carry out a visual inspection, checking the full breathing apparatus including all component parts and accessories. Check that the equipment is clean and undamaged, paying particular attention to pneumatic components, hoses and connectors. Typical signs of damage that may affect the operation of the breathing apparatus include impact, abrasion, cutting, corrosion and discoloration. Report dirty or damaged equipment to trained service personnel or Dräger, and do not use until faults are rectified and the product is cleaned.

4.2.2 Air cylinder charging

NOTICE
The charging procedure in this section describes recharging a cylinder that has been fully discharged during use of the **saver CF**. If during a check the cylinder pressure gauge is found to be in the red area, do not use this procedure and inform trained service personnel or Dräger immediately.

WARNING
Air quality for compressed-air cylinders shall meet the requirements for breathing air according to EN12021.

- The charging connector is a G5/8 connector as per EN 144-2.
- Refer also to the instructions supplied with the cylinder and the charging unit for recharging the cylinder.
- Only charge compressed-air cylinders which:
 - Conform to national standards.
 - Feature the original manufacturer's test date and test mark.
 - Have not exceeded the test date indicated on the cylinder by the last testing station.
 - Are not damaged.
- Dräger recommend a charge rate of 27 bar/minute (rapid charging will increase the temperature resulting in an incomplete charge).
- To prevent overcharging of the cylinder, Dräger recommend using a pressure-limiting device on the charging compressor.

1. If the carrying bag is closed, open the lid and remove the hood from the bag.
2. Remove the air cylinder as follows:
 - Soft-case carrying bag: release the Velcro strap and carefully remove the cylinder.
 - Hard-case carrying bag: remove the screws from the carrying bag body (Fig 5) (5 mm hexagon key and a 10 mm socket required), fully open the carrying bag body and then carefully remove the cylinder. Remove the lid from the slot on the bag.

3. Using the probe (Fig 6, Item 1) (Dräger part no. 3310488), press the plunger down and insert the locking clip (Fig 6, Item 2).
4. Remove the protection cap from the charging port and connect the charging adaptor (Fig 7).
5. Recharge to the rated working pressure of the cylinder (200 bar).

NOTICE
Compression of cylinder air can cause a small temperature increase during refilling, resulting in an incomplete charge. If necessary, top-up the cylinder when it cools.

As charging commences, the whistle will sound briefly until the cylinder pressure reaches approximately 10 bar.

6. When the cylinder is fully charged, vent pressure from the charging hose and then remove the charging adaptor from the valve.
7. Refit the air cylinder as follows:
 - Soft-case carrying bag:
 - i. Fully insert the cylinder into the carrying bag.
 - ii. Fit the pressure gauge shroud into the cut-out section in the side of the bag.
 - iii. Connect the Velcro strap around the cylinder.
 - Hard-case carrying bag:
 - i. Place the cylinder on the fully open case (Fig 8) and fit the neck strap as shown.
 - ii. Close the carrying bag body, ensuring that the pressure gauge shroud remains in its holder.
 - iii. Fit the securing screws (5 mm hexagon key and a 10 mm socket required). Dräger recommend a torque of 2 Nm (1.5 lbf ft). The nylon in the locknut must exhibit an interference with screw threads – if interference is not felt, replace with a new M6 self-locking nut.
 - iv. Refit the lid into the slot on the bag.

NOTICE
Route the rubber hose in such a way that the bend radius is not too acute and the hose is not stretched, compressed or twisted.

8. Carefully roll up the escape hood, ensuring that the visor is not creased or folded, and fit the hood into the carrying bag (Fig 9).
9. Seal the lid along the Velcro fastening strip leaving sufficient opening to insert a hand and, taking care not to detach the locking clip from the cylinder valve, connect the sprung-gate clip (Fig 1, Item 2) to the D-ring (Fig 1, Item 1).
10. Fit the anti-tamper tag(s) and close the lid (Fig 3).

4.3 Cleaning and disinfecting



CAUTION

Cleaning agents and disinfectants listed below are not manufactured by Dräger and have been reviewed only for compatibility when used to clean or disinfect the subject Dräger product(s). Read and comply with all safety precautions provided by the manufacturers of such agents and disinfectants.

Do not exceed 30 °C for washing, disinfecting and rinsing solutions. Do not exceed 60 °C for drying, and remove components from the drying facility immediately when dry. Drying time in a heated dryer must not exceed 30 minutes.

Do not immerse pneumatic or electronic components in cleaning solutions or water.

If water is trapped and then freezes inside the pneumatic system of the breathing apparatus operation will be impaired. Prevent any liquid from entering, and thoroughly dry the breathing apparatus after cleaning to prevent this from occurring.

Recommended cleaning and disinfecting materials:

- Cleaning agents – Sekusept (concentration: 0.5 % – 1 %) or Safetywash (concentration: 0.7 %)
- Disinfecting agents – Incidin Rapid (concentration: 1.5 %) or Safetywash (concentration: 20 %; meets the requirements of EN 13727:2012 as a bacterial disinfectant)
- Use only or clean lint-free cloths.

1. Prepare cleaning solution as per manufacturer's instructions. Clean the breathing apparatus manually using a cloth moistened with cleaning solution to remove excess dirt.
2. Prepare disinfecting solution as per manufacturer's instructions. Apply to all internal and external surfaces, ensuring that all surfaces remain visibly wet for 15 minutes.
3. Rinse all components thoroughly with clean water to remove all cleaning and disinfecting agents.
4. Dry all components using a dry cloth, in a heated dryer or in air.
5. Contact service personnel or Dräger if disassembly of pneumatic or electronic components is required.

5 Troubleshooting

There is no user troubleshooting on the **saver CF**. Contact trained service personnel or Dräger to report any issues with the product.

6 Storage

Store the equipment between -15 °C and +25 °C. Ensure that the environment is dry, free from dust and dirt, and does not subject the equipment to wear or damage due to abrasion. Do not store the equipment in direct sunlight. Note also the following:

- Extend the neck strap and, if fitted, the waist belt. On the hard-case carrying bag, the neck strap can be fed into the bag at the front and rear slots to tidy the strap.
- Fix the apparatus securely to any raised mounting point to prevent it from falling.
- Contact Dräger for suitable storage cabinets and wall mounting kits.

7 Disposal

When required, dispose of the **saver CF** in accordance with national or local regulations for waste disposal.

8 Order list

Description	Quantity	Order code
Sekusept cleaner	4 x 2 litres	7904071
Safetywash	1 litre with dispenser	3380164
	1 litre	3380165
	5 litres with dispenser	3380166
Incidin Rapid	5 litres	3380167
	6 litres	R61880
	Other sizes on request	
Anti-tamper tags	5	3350388
Waist belt	1	3350396
Self-locking nut (M6 with nylon insert)	50	1333062