



Chemical oxygen self-rescuers  
and compressed oxygen  
closed-circuit breathing apparatus



Escape and rescue solutions for self,  
mine and industrial rescue as well as tunnel  
and high-rise building operations

# SOLAS-certified

Applications in navy and merchant shipping

## Ready for immediate use

Easy handling – no special training required

## Compact and lightweight

Weight in use under 2 kg

## 100% certified

According to EN 13794:2002, complies with PPE regulation 2016/425



## EmSCAPE

### Emergency escape hood

**Portable respiratory protection device with hood for escape from contaminated atmosphere.**

Chemical self-rescuers (EmSCAPE, Carbo 30, Carbo 60) generate oxygen through a chemical reaction in an oxygen generator inside the device. Single-use escape devices are used only in emergencies to leave a hazardous area (e.g. in the presence of smoke, toxic gases, or oxygen deficiency). EmSCAPE and Carbo 30 provide 30 minutes escape time or up to 90 minutes while waiting for rescue.

EmSCAPE can be used by rescue personnel to rescue individuals when filtering escape hoods can no longer be utilised (oxygen deficiency and/or too high concentration of hazards). Escape devices operate on the principle of a closed circuit (regeneration device): when breathing through the inner mask via a breathing tube into the regeneration cartridge containing potassium hyperoxide the exhaled air is enriched with oxygen.

#### The devices EmSCAPE, Carbo 30 & Carbo 60 are suitable for:

- » Emergency evacuation, e.g. in oil and gas facilities
- » Escape from contaminated areas
- » Persons responsible for fire safety when organizing an evacuation
- » Rescue of patients

#### Specification of the escape devices EmSCAPE, Carbo 30 & Carbo 60:

- » Independent closed circuit breathing apparatus with chemically bound oxygen based on potassium hyperoxide  $KO_2$  completely isolates the user from the ambient atmosphere.
- » Breathing resistance below 10 mbar
- » Maximum reliability in hazardous situations
- » All devices are designed to meet international safety standards and are in use worldwide

## Carbo 30 and Carbo 60

### Autonomous chemical oxygen self-rescuers

- » **Carbo 30:** 30 minutes breathing air for active escape or about 90 minutes while waiting for rescue
- » **Carbo 60:** 60 minutes breathing air for active escape or about 180 minutes while waiting for rescue
- » Carbo 30 & Carbo 60 are independent closed circuit breathing apparatus with chemically bound oxygen based on potassium hyperoxide KO<sub>2</sub>, completely isolating the user from the ambient atmosphere.
- » With nose clip and anti-fog goggles
- » Ergonomic design for comfortable wearing
- » Comfortable breathing during evacuation



## 100% flexible

Can be carried on shoulder or waist belt

## Ready for use

Easy to don and activation of air supply within seconds

## 100% reliable

Maximum safety through excellent design





### Training devices (training self-rescuers):

Training devices provide confidence and routine for real-life use — allowing quick and stress-free donning of a self contained self recuer (SCSR) as well as efficient escape from a contaminated environment.

This training equipment is part of the training service or can be ordered separately.

### Applications for self-rescuers EmSCAPE, Carbo 30 and Carbo 60:

- » Underground mining (coal, ore, salt)
- » Petrochemical and other chemical industries
- » Wastewater management
- » Steel industry
- » Tunnel construction
- » Rescue services, emergency and disaster response
- » Confined space (silos, tanks)

Shoulder strap



Hip belt



Leak test device  
CARBOFit-400





## 100% independent

Completely independent of ambient air and unknown toxic gases

## Service- and maintenance-friendly

Tool-free servicing in daily use as well as easy maintenance and assembly without tools

## 100% certified

EN 145:1997/A1:2000 for Self-contained closed-circuit breathing apparatus compressed oxygen type  
and according to EU PPE regulation 2016/425



## Positive pressure closed-circuit apparatus P-70

**For mine and industrial rescue as well as high-rise building, tunnel and emergency operations**

Closed-circuit breathing apparatus developed for critical environments (smoke, gases, oxygen deficiency) and long operation times (up to 4 h). The P-70 self-contained closed-circuit breathing apparatus – compressed oxygen type – offers a high level of safety, breathing comfort and ergonomics. The positive pressure system supplies the wearer with breathing air for up to 4 hours in a closed breathing circuit.

### Features:

- » Lightest and most compact device in its class
- » Very long nominal working duration (four hours): significantly longer than standard compressed air breathing apparatus (SCBA's)
- » Efficient and ergonomic (Housing / carrying system, electronics)
- » Team monitoring
- » Personal ID card, data recording and transmission
- » High-quality electronic control with self-test and calculation of expected service time
- » ATEX certification
- » Ergonomically optimized – special fire-resistant, comfortable carrying system with swivelling and height-adjustable hip belt
- » External cooling elements replaceable during operation without removing the device, resulting in less interruption during use
- » Oxygen transfer connection for another user or optional use of an external breathing air source to extend the operating time

**Safety with every breath.**

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