Datasheet
Carbo 60

With Safety.

The Carbo 60 self-rescuer is a personal respiratory protective device with chemically bound oxygen and a closed breathing circuit, designed for escape from unbreathable atmospheres that pose an immediate danger to life and health (IDLH).
The starter is activated immediately upon opening the locking lever, allowing the user to begin breathing within a few seconds after activation.
It can be worn on a shoulder strap or at the waist. The Carbo 60 protects the respiratory system during escape in conditions of dense smoke caused by fires, high concentrations of toxic gases, or oxygen deficiency in the atmosphere. The Carbo 60 is intended for use in explosive atmospheres, including underground environments.
The Carbo 60 is ready for immediate use, has electrostatic properties, and is resistant to open flames. It is designed for daily carrying as well as for storage at changeover stations along escape routes.
The chemical oxygen self-rescuer is suitable for use in mines of various hazard categories, including those with a risk of sudden outbursts of coal and gas, aggressive environments with acidic mine water or water containing high concentrations of corrosive components such as chloride and sulfate ions, as well as mines exposed to sudden emissions of coal and gas, and other potentially explosive environments.
The Carbo 60 self-rescuer is not intended for use as a working breathing apparatu

Article-Number: 203420

Certification: Complies with PPE Regulation (EU) 2016/425 and EN 13794.

Technical data:

Parameter name	Parameter value
Rated duration [1] in accordance with EN 13794 and AS/NZS 1716 at lung ventilation, not less: – 10 l/min (waiting for help) – 35 l/min (normal walking)	 180 min 60 min
Breathing resistance (to inhalation or exhalation) during operation, max	0.75 kPa
Temperature of the inhaled gas, not more	50 °C
Volume of oxygen in the inhaled gas during the rated duration, not less	21%[2]
Maximum volume fraction of carbon dioxide in the inhaled gas, not more	3%
Average volume fraction of carbon dioxide in the inhaled gas during the rated duration, not more	1.5%
Volume of breathing bag, not less	6 L
Overall dimensions (without waist and shoulder straps or pouch), not more: – width – height – depth	 215 ± 2 mm 227 ± 2 mm 106 ± 2 mm
Weight	2.9 ± 0.1 kg
Operating temperature	from –5 to +60 °C
Relative humidity (at +35 °C) during operation and storage	up to 100%

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Notes:

1 Working duration may vary under escape conditions depending on physical activity and physiological peculiarities of the user.

2 Short-time decrease of oxygen volume fraction in the inhaled gas down to 17% is allowed during the first minutes after the self-rescuer activation.

Information about service life, shelf life, and warranty period is indicated on the label supplied with each self-rescuer.

Operating principle

When the locking lever of the Carbo 60 self-rescuer is opened, the starter is automatically activated, initiating the release of oxygen and heat. Afterwards, the upper and lower covers should be removed and set aside.

Oxygen fills the breathing bag, allowing the user to start breathing within the first few seconds after activation, before the reaction in the regeneration cartridge begins. The exhaled gas mixture, which contains CO_2 and moisture, triggers a chemical reaction in the regeneration cartridge, during which CO_2 is absorbed and O_2 is released.

The Carbo 60 self-rescuer operates on a pendulum breathing circuit. The exhaled gas flows through the mouthpiece, the heat and moisture exchanger, and the breathing hose into the regeneration cartridge. Inside the cartridge, the exhaled gas is purified from carbon dioxide and enriched with oxygen, then passes into the breathing bag. When the breathing bag is fully inflated, any excess gas is released through the overpressure valve.

During inhalation, the breathing gas flows in the opposite direction — from the breathing bag, through the regeneration cartridge, the breathing hose, the heat and moisture exchanger, and the mouthpiece, to the user's respiratory system.

The oxygen generation and carbon dioxide absorption processes inside the regeneration cartridge are accompanied by the release of heat.

Manufacturer: DEZEGA SP

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