Technical DaTa sheeT

EO2-30

NSN 4240-99-176-7914

Chemical oxygen generator providing 3000 litres of breathable oxygen

molecular

applications

Safe supply of oxygen for critical life support and revitalisation in the following applications:

- Submarines
- Safe havens

Dimensions with antipollution wrap

Depth x width (mm)	140 - 142mm (width)
Height (mm)	408mm (height)
Weight (kg)	15kg
Storage volume (litre)	7.8 litres

Properties

The oxygen producing chemical is sodium chlorate.

- EO2-30 oxygen generators require no maintenance during storage
- The unit is started with a phosphorous match, which is supplied separately
- The unit is enclosed in anti-pollution wrap
- Based on a proven design it produces 3000 litres (minimum) of breathable oxygen @ NTP over approximately 35 minutes
- Associated with a high degree of safety due to the absence of pressurised gases
- Short time from stowage to operation
- Approx. 2.9 MJ of energy released per generator

how it works

Oxygen is produced by the thermal decomposition of sodium chlorate. This decomposition requires a significant amount of energy input to drive the chlorate decomposition. The source of this energy is the oxidation of iron powder (formulated with the sodium chlorate as a fuel). The initial energy input from the interaction between chlorate and ignition source is generated by the initiation mechanism, in this case a brass starter.

$$2Fe + 3O_2 \xrightarrow{HEat} 2Fe_2O_3$$

$$NaClO \xrightarrow{HEat} 3/2O_2 + NaCl$$

EO2-30

specifications

Depth x width (mm)	140 – 142 mm
Height (mm)	408 mm
Weight (kg)	<15kg
Storage volume (litre)	7.8 litres
Oxygen generation (litre)	>3000 @ NTP
Delivery duration (minutes)	25 - 45
Purity of oxygen (%)	>98
Carbon monoxide (max. ppm)	<100 peak <25 average
Carbon dioxide (max. ppm)	<10,000 peak <5000 average
Chlorine (max. ppm)	<10 peak <0.1 average
Sodium chloride - salt (max. mg/l)	<10
Starter mechanism (not interchangeable)	Brass starter supplied separately

additional information

Packaging, transportation and disposal

Generators are packed with 25 generators in each stillage. The units are not shipped with the brass starter mechanism. Dimensions 80 x 80 x 70 cm, gross weight 440kg. Oxygen generators are classified as hazardous UN 1479, oxidising solid NOS, class 5.1 oxidiser, packing group II, and are packed in accordance with IATA regulations for airfreight (not passenger aircraft) or IMDG regulations for seafreight (special rules apply in the USA).

Contact local specialist waste contractors for guidance on disposal of used, part-used or damaged oxygen generators. Part-used or damaged oxygen generators are still classified as Oxidizers 5.1 hazardous material

Quality

Molecular Products Ltd's aim is to manufacture chemical products which satisfy completely the needs of our customers. All products are rigorously tested to ensure conformance to the specification. Our activities comply to the requirements of ISO 9001.

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