

firesafe™ nozzle

making oxygen therapy safer for everyone

Rapidly developing structural fires are an unfortunate and all too common problem associated with oxygen therapy.

Firesafe™ devices reduce this risk by isolating the oxygen flow and extinguishing a fire tracking back along the oxygen delivery tubing.

Firesafe™ Nozzles are intended for installation at the interface between oxygen delivery tubing and the oxygen supply source. As an active risk reduction measure they provide the following potential benefits:

- Reduce the rate at which the fire spreads and the potential impact on other residents, patients or healthcare workers
- Prevent the fire propagating through to the oxygen supply source
- Minimise the size of the fire and the cost of restoration
- Buy valuable time to evacuate people from the scene

Compliance & Safety

EN ISO 8359:2009/AMD1 concerning oxygen concentrators requires '*...a means to stop the flow of gas towards the patient in the case that the accessory becomes ignited.*' It also requires '*...a means to prevent the propagation of fire back through the oxygen concentrator.*' Firesafe™ devices satisfy these requirements perfectly.

The UK Department of Health requires 'firebreaks' to be supplied as part of NHS home oxygen contracts and in Germany, BfArM's recommendations mirror those given in the amendment to EN ISO 8359.



Technical Description

The Firesafe™ Nozzle is essentially a thermal fuse, comprising a spring loaded valve held open by a T-bar. The T-bar is situated downstream of the valve and supported by a fusible ledge of material.

The valve is actuated when the fusible ledge softens as a result of heat from an approaching fire in the oxygen delivery tubing. Upon actuation the valve probe moves forward and an o-ring seals the valve, thereby isolating the oxygen supply from the fire.

It is recommended that two Firesafe™ devices are fitted to each oxygen tubing set. The first, normally a Firesafe™ Nozzle, should be positioned at the interface with the oxygen supply source. A Firesafe™ Cannula Valve should then be fitted close to the point of oxygen delivery, normally adjacent to the patient's sternum.

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SPECIFICATION

Gas Compatibility	Oxygen and oxygen enriched air
Maximum Operating Pressure ⁽¹⁾	1,000 kPa
Flow Rate ⁽²⁾	0.7 - 25 l/min
	≤ 1 kPa at 2 l/min
Resistance to Flow	≤ 2 kPa at 5 l/min
	≤ 16 kPa at 15 l/min
Intended Life	8 years after date of manufacture (engraved on device)
Application	Reusable, non-sterile
Packaging	10 units per pack
Inlet Connection ⁽³⁾	REF 827-0031 - Female DISS, 9/16" UNF
	REF 827-0021 - Male 1/2" BSF with lock nut
	REF 827-0011 - Bayonet ⁽⁴⁾
Outlet Connection	EN 13544-2, 6 mm nominal tubing connection nominal
Environmental Transport and Storage Limits	Temperature: -20 °C (-4 °F) to +60 °C (140 °F) Humidity: 0 to 100 % RH
Environmental Limits for Operation	Temperature: 0 °C (32 °F) to 50 °C (122 °F) Humidity: 0 to 100 % RH
Regulatory	EC: MDD Class IIa Medical Device USA: FDA Class 1 Medical Device; 510(k) exempt Canada: Health Canada licence ref. 78173 Japan: PMDA Class 1 Medical Device Australia: Class IIa, ARTG Identifier 177167 GMDN Code and Term: 60391 - Fire safety valve

⁽¹⁾ Maximum static pressure delivered by the gas supply source.

⁽²⁾ The Firesafe™ Nozzle can be safely used at lower flow rates but may not meet the internal leak rate of 10 ml/min when activated in the event of a fire.

⁽³⁾ Specific connections are tailored to suit the exact needs of oxygen supply device manufacturers, such as oxygen concentrators, flowmeters, liquid oxygen systems, oxygen conserving devices and integrated valve pressure regulators.

⁽⁴⁾ Designed to fit certain models of Therapy Equipment Ltd. flowmeters only.