PM CARES Fund approves procurement of 1.5 lakh units of SpO2 based oxygen supply system developed by DRDO

PM CARES Fund has accorded sanction for procurement of 1,50,000 units of ‘Oxycare’ system developed by Defence Research and Development Organisation (DRDO) at a cost of Rs 322.5 crore. Oxycare is a SpO2 based Oxygen Supply System which regulates the oxygen being administered to patients based on the sensed SpO2 levels. Under this sanction, 1,00,000 manual and 50,000 automatic Oxycare systems along with non-rebreather masks are being procured.

The Oxycare system delivers supplemental oxygen based on the SpO2 levels and prevents the person from sinking into a state of hypoxia which can be fatal. This system was developed by Defence Bio-Engineering & Electro Medical Laboratory (DEBEL), Bengaluru of DRDO for soldiers posted at extreme high-altitude areas. The system is indigenously developed for operation in field conditions and is robust. It can be effectively used to treat COVID-19 patients.

Two variants of the system have been configured. The basic version consists of a 10-litre oxygen cylinder, a pressure regulator cum flow controller, a humidifier and a nasal cannula. The oxygen flow is regulated manually based on the SpO2 readings. In the second configuration, the oxygen cylinder is equipped with electronic controls which automatically regulates the oxygen flow through a low-pressure regulator and a SpO2 probe.

The SpO2 Based Oxygen Supply System optimises the consumption of oxygen based on the SpO2 reading of the patient and effectively increases the endurance of portable oxygen cylinder. The threshold SpO2 value for initiating flow from the system can be adjusted by the health staff. A display is provided for continuously monitoring the SpO2 levels. Work load and exposure of healthcare providers is considerably reduced by eliminating the need of routine measurements and manual adjustments of oxygen flow.

The automatic system also provides suitable audio warning for various failure scenarios including low SpO2 values and probe disconnections. The non-rebreather masks are integrated with the Oxycare Systems for efficient use of oxygen which results in saving of Oxygen by 30-40%. The non-rebreather masks need to be changed for every patient. These Oxycare systems can be used at Homes, Quarantine Centres, COVID Care Centres and Hospitals.

The DRDO has transferred the technology to multiple industries in India which will be producing the Oxycare systems.
Medical Grade Cylinder Model No: ACE-10L-152

Oxygen Regulator

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