

Good news amidst the nationwide Oxygen shortage

New Delhi, 22 April (India Science Wire) The nation is reeling under an unprecedented wave of COVID-19 infections. India's number of COVID infections reported in a single day has surpassed the previous highest one-day rise in the world reported by the United States in January 2021. COVID-19 affects different people in different ways. Most infected people develop mild to moderate illness and recover without hospitalization. Severe illness caused by coronavirus calls for oxygen therapy.

Currently, there is a massive short supply of medical-grade oxygen across the country. CSIR-CMERI (Council of scientific and industrial research- Central mechanical engineering research institute) has developed a new Oxygen enrichment technology that may help meet the demand for medical Oxygen and minimize the supply chain hassles of transportation and storage risks related to the handling of its cylinders. The technology has been virtually transferred to M/s Apollo Computing Laboratories (P) Ltd., Hyderabad, for industrial production, today.

Speaking on the occasion, Professor Harish Hirani, Director, CSIR-CMERI, has said that the new technology requires easily available oil-free reciprocating compressors, Oxygen grade zeolite sieves, and pneumatic components. It is capable of delivering medical air in the range of up to 15 LPM with Oxygen purity of over 90%. "If required this unit can deliver up to 70 LPM with a purity of around 30% and can safely be placed in the isolation ward of the hospital for patients who are in dire need of Oxygen", says Professor Hirani.

The technology will help improve the accessibility of Oxygen in the remotest places and widest points of need. The outreach factor of Oxygen will be multiplied through the adoption of this in-situ and decentralized generation of Oxygen. Professor Hirani also mentioned ongoing research to develop a pulse dose mode, capable of sensing the breathing pattern of a patient and then deliver during the inhalation itself. "This mode is supposed to reduce the Oxygen demand by around 50% when compared with the current version of continuous mode", Hirani expressed confidence.

CSIR-CMERI has already invited expression of interest from Indian companies/manufacturing agencies/ MSMEs/ Startups, for manufacturing Oxygen enrichment units, through technology transfer. Speaking on the occasion of the technology transfer event, Mr Jaypal Reddy of M/s Apollo Computing Laboratories expressed confidence about developing the first prototype within 10 days and starting the production from the second week of May '21. They presently have a manufacturing capacity of 300 units per day which can be further augmented on demand. (India Science Wire)

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