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Regulator approves indigenous non-invasive ventilator for COVID-19 patients

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The ventilator has gone through stringent tests for electrical safety, performance and bio-compatibility at NABL accredited agency.



***SwasthVayu*BiPAP machine in Auto Test mode with Test Lung**

CSIR-NAL (National Aerospace Laboratories) scientists, along with medical professionals from CSIR-IGIB (Institute of Genomics and Integrative Biology) came forward to address the shortages of ventilators in the beginning of the COVID-19 pandemic and indigenously designed and developed the non-invasive bilevel positive airway pressure ventilator–SwasthVayu, with additional features to treat COVID-19 patients.

The performance of the device has been evaluated by the expert committee constituted by Director General of Health Services, Ministry of Health & Family Welfare, Government of India. The expert committee, after careful evaluation, has concluded that SwasthVayu may be used on COVID-19 patients who require oxygen supplementation up to 35 per cent.

SwasthVayu developed by CSIR-NAL is a microcontroller based precise closed-loop adaptive control system with a built-in biocompatible '3D printed manifold and coupler' with HEPA filter (Highly Efficient Particulate Air Filter). These unique features help to alleviate the fear of the virus spread. It has features like CPAP, Bi-Timed, Spontaneous / AUTO modes with provision to connect oxygen concentrator or enrichment unit externally.

The ventilator has gone through stringent tests for electrical safety, performance and bio-compatibility at NABL accredited agency. The SwasthVayu has successfully conducted clinical trials at Command Hospital, Bengaluru and Mysore Medical College & Research Institute, Mysuru on 50 COVID-19 patients.

CSIR-NAL has commercialised this technology with six private companies and one of these companies (which is in the MSME category) has set up the production facilities for almost 300 units per week. CSIR-NAL recently bagged an order for supply of 1200 SwasthVayu machines to Delhi Government.