

# U.S. university successfully converts CPAP machines to emergency ventilators using high-flow ASCO™ valves

## RESULTS

- A prestigious university successfully provided much-needed medical equipment and care to local and developing areas.
- Emerson's fast response helped the medical team quickly deliver 110 ventilators to hospitals responding to COVID-19.



## APPLICATION

Valves to control oxygen flow in repurposed CPAP machines.

## CUSTOMER

U.S. university

## CHALLENGE

In response to the COVID-19 pandemic, a U.S. university developed a project to provide emergency ventilators to local hospitals, rural areas and developing countries using common, readily available medical components. This project involved converting continuous positive airway pressure (CPAP) machines into ventilators. These repurposed machines required the addition of two valves to control the oxygen flow during inhalation and exhalation.

## SOLUTION

To drive the emergency ventilators, Emerson provided two ASCO Series 210 solenoid valves. The university, already an existing end-user of ASCO products, selected this valve after having the models on-hand in its facility.

The versatile Series 210 features precise instrumentation that controls liquids, as well as corrosive, air and inert gases with reliability in applications ranging from medical equipment to air compressors. These high-flow valves also come in a wide range of pressure ratings, sizes and resilient materials—including brass and stainless steel—achieving long service life and low internal leakage in critical applications.

An oxygen-cleaned version of the Series 210 valve was provided to withstand the high concentration of oxygen that would be administered to patients.

**110 emergency ventilators were created from CPAP machines, meeting the university's initial goal of developing ventilators from readily available medical components. This innovation, coupled with Emerson's quick response time, enabled the university to provide much-needed medical equipment and care to local and developing areas.**