



## Medical Devices

# ANDALUCÍARespira: Mechanical ventilation system.

A research group from the Public Health System of Andalusia (SAS) and Malaga University (UMA), in collaboration with other professionals, have developed a mechanical ventilation system to be used as alternative to commercial systems.



## Description

Mechanical ventilation is usually necessary in persons at risk when respiratory diseases have developed. In this case, persons at risk include old people and patients with previous pathologies.

There are different commercial ventilators which support patients with respiratory necessities. However, an increase of deaths can occur when there is a lack of ventilators. This is the same as in COVID-19 pandemic, when companies could not supply hospital call.

In this context, professionals from IBIMA, the UMA, the two public hospitals in Málaga and other professionals worked together to come up with a new device with basic functionalities of a commercial ventilators.

The device met all AEMPS requirements (functionality, security and electromagnetic compatibility) and was authorized to be used in intensive care units as alternative to conventional ventilators with CE marking in the scope of clinical research.

The ventilator can be produced in about an hour with industrial components. Moreover, it is a robust, reliable, compact device with no moving parts that is electronically controlled for Pressure-Controlled Ventilation. A SIMV support ventilation mode is under developed.



Figure: ANDALUCÍARespira mechanical ventilator.



## Advantages

- **Easy-to-use and simple** in terms of the parameters programmed on its control panel.
- **Secure, UCI environment compatible** and **approved by AEMPS**.
- It is **assembled in about an hour**.



## Intellectual Property

This technology is protected by a utility model application with possibility of international extension.



## Aims

The team is looking for partnership agreement and/or sponsors to reach the CE approbation.



## Classification

**Area:** Intense care.

**Pathology:** Respiratory diseases.



<https://www.andaluciarespira.com/>



<https://www.youtube.com/watch?v=8xg9w9JQvGA>