

Introduction to documentation

The AAU Pandemic Ventilator is documented in the following pages. The project is in progress and therefore different versions exist. The main purpose of this introduction is to highlight which version of the AAU Pandemic Ventilator is actually referred to in different sections of this documentation.

All development aims at the setup described as the beta-version. This is the version we have described in our user manual and the version our risk analysis is based upon. As such, all software for the ventilator is developed with this specific setup in mind.

In our test of the ventilator's capability to deliver precise volumes and inspiratory oxygen fractions as well as measure and react to different levels of pressure, we used an alpha-version. This is a version with only the critical components needed to mix and deliver gas, control expiration and set PEEP.

The software initially released here is designed for the beta-version but was actually used with the alpha-setup, thus making parts of the software unusable as there is now hardware support (for example measurement of inspiratory volume)

The parts list for the alpha version is described here in the documentation along with a preliminary parts list for the beta-version.

Below are figures demonstrating the alpha (used for test) and the beta version (used for almost everything else) of the ventilator.

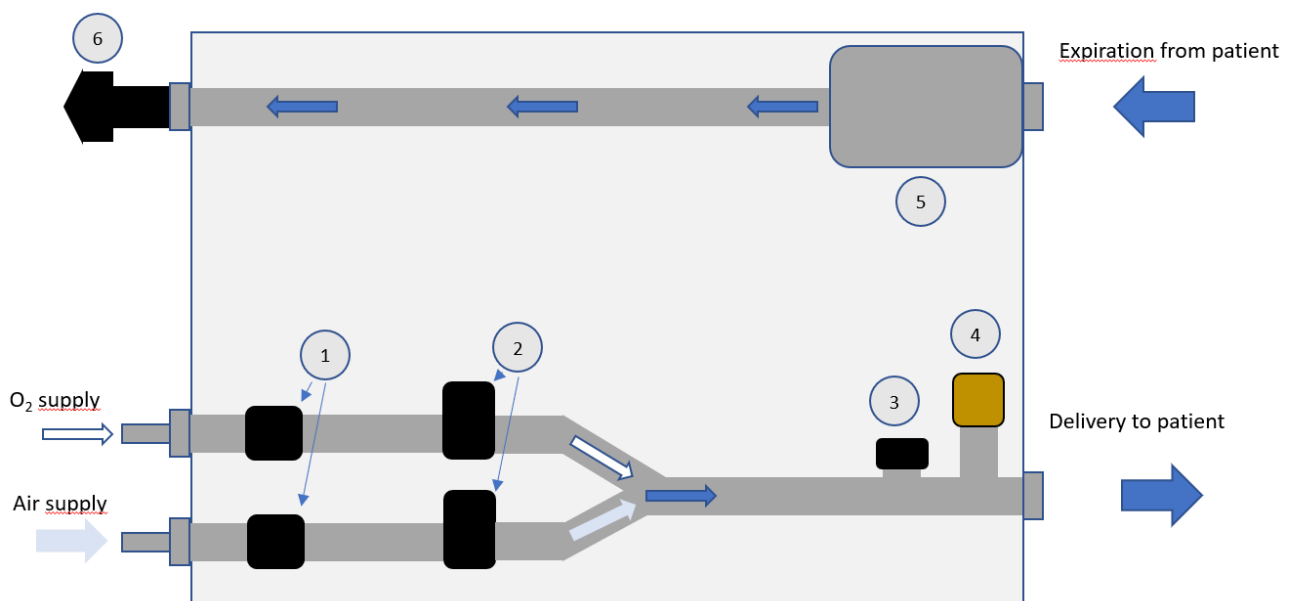


Figure 1: Alpha-version: 1) Pressure regulators with manometers. 2) Solenoid valves. 3) Pressure sensor. 4) Safety valve. 5) Expiratory valve. 6) PEEP valve.

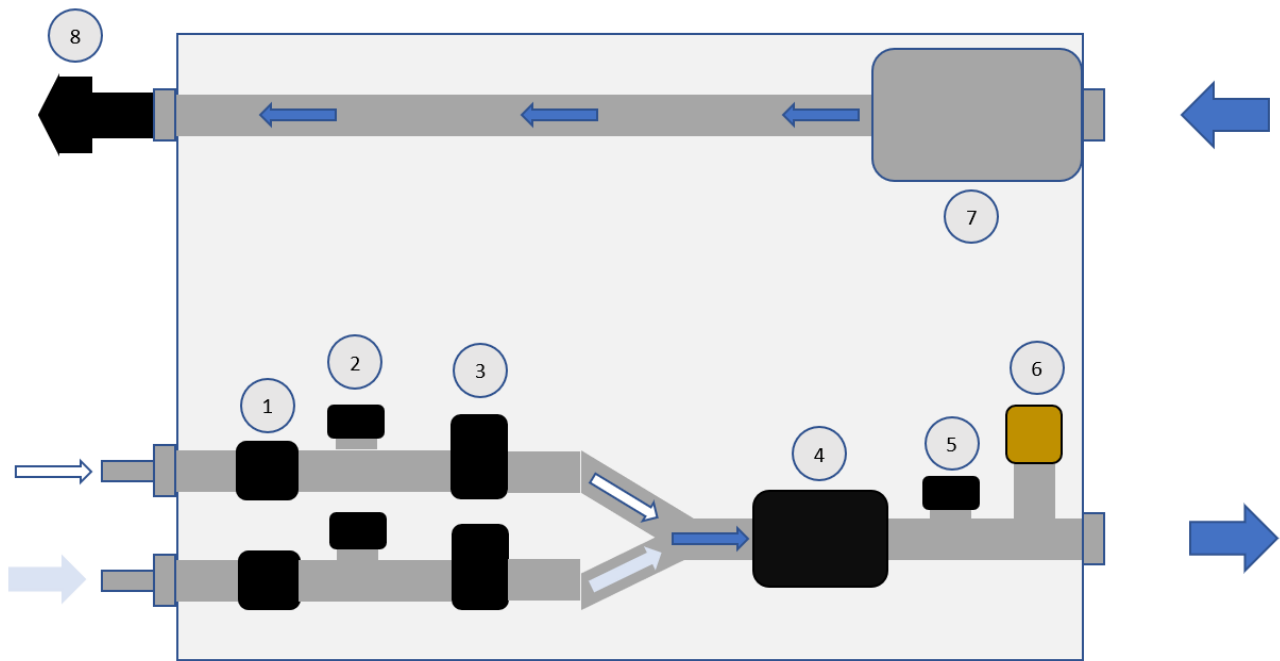


Figure 2: Beta-version: 1) Pressure regulators with manometers. 2) Pressure sensors. 3) Solenoid valves. 4) Flow sensor. 5) Pressure sensor. 6) Safety valve. 7) Expiratory valve. 8) PEEP valve.