Open Source DIY Ventilator Experiment

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Simple Open Ventilator

Updates:

4/3/2020: **Tidal volumes look good around 650mL per breath** * TODO: PEEP * TODO: Vary Tidal Volume * TODO: Capture Tidal Volume, Mass, Speed variation in a chart * TODO: Write up Test procedures

Introduction: Team Seldon is producing plans and prototypes of a ventilator that can be built by tradespeople across the planet from locally obtainable materials.

Progress:

The block diagram shows our progress to date. Green Blocks are designed built and under test

Overall System Design

System Diagram: As currently Implemented

More Diagrams under development Document detailing efforts so far.

Major Blocks of the Design

Note: some of these links are not complete yet

- **Air Source**
- **Pressure Relief Valve**
- **Air Filter Source**
- **Pressure Control Valve**

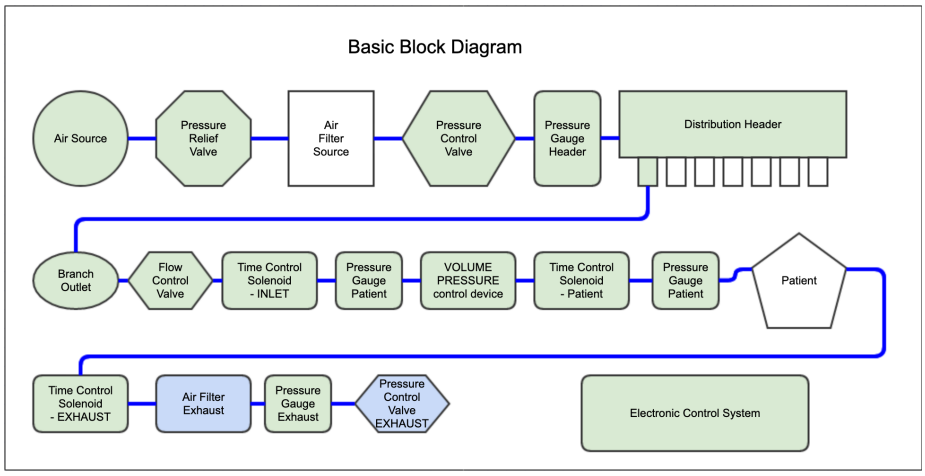

Figure 1: System Block Diagram

- **Pressure Gauge Header**
- **Distribution Header**
- **Branch Outlet**
- **Flow Control Valve**
- **Time Control Solenoid -INLET**
- **Pressure Gauge - Patient**
- **VOLUME/PRESSURE Control Device**
- **Time Control Solenoid -PATIENT**
- **Pressure Gauge - Patient**
- **Patient – Specifications**
- **Time Control Solenoid -EXHAUST**
- **Air Filter Exhaust**
- **Pressure Control Valve - PEEP**
- **Electronic Control System**
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****Bill Of Materials – Current cost 422.80**

Ventilator Station – Design Requirements

- - *Tidal Air Measurement and Delivery* - 400mL to 600ML
- - *Respiration Rate* 5-30 Cycles / min
- - *Pressure* 40mmHg - 60mmHg . . . 21.4 inH2O - 32 inH2o
- - *Tidal Air Removal PEEP* 5-24 inH2O
- - *Tidal Air Filtration*

Test and Measurement

- Tidal Volume
- Pressure

Lessons Learned

- Lessons Learned

#DISCLAIMER – See main Page [../README.md] **Lawyers: This project is to demonstrate the possibility**