

Summary

HFNO is a valuable treatment in the ongoing COVID-19 pandemic. Its importance has risen as many healthcare systems now discourage using more readily available Non Invasive Ventilation (e.g. BiPAP). Access to HFNO is severely limited. Treatment guidelines for COVID-19 now stipulate maximum treatment levels of 30 litres / minute. The popular HFNO device Airvo™ 2 ("Optiflow") has a maximum capacity of 60 litres / minute but uses only proprietary connectors and cannot be connected to other devices. **The basic premise of this project is to provide 3D-printable parts to be able to split the Airvo™ 2 HFNO air flow to enable the system to treat two patients simultaneously, thus doubling the treatment capacity.** This should not be used if *any* other method of providing HFNO exists!

This project provides both the 3D-models of parts needed for split HFNO treatment as well as **suggested** instructions for use and manufacturing instructions. We also aim to continuously provide the validation from both simulations / calculations as well as real world usage.



Fig 1. Render of the T-shaped connector and adapters that enable SHFNO