

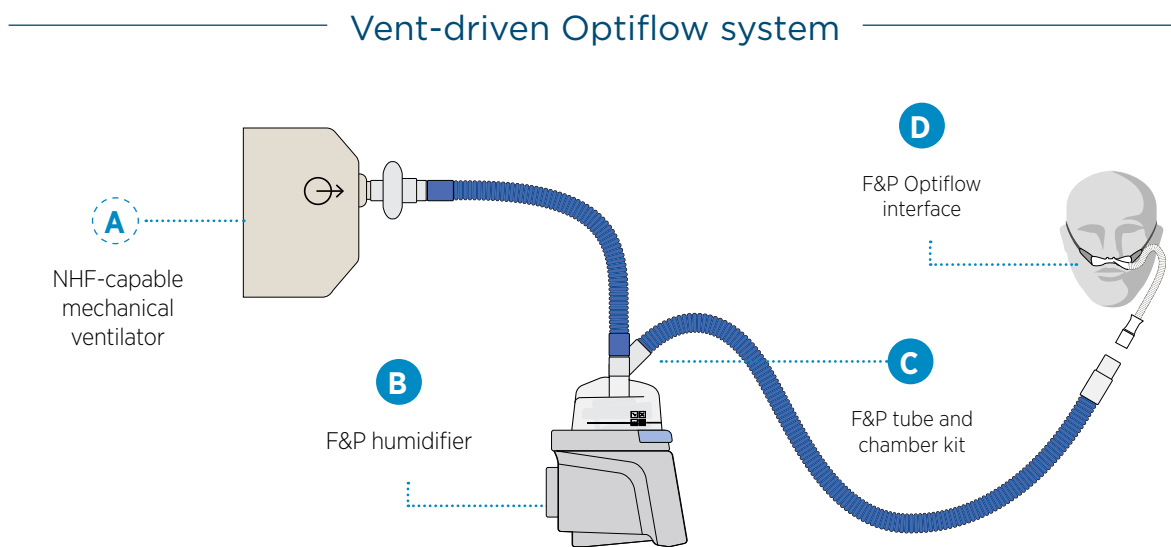
F&P Optiflow™ systems

Guideline recommendations for the use of Nasal High Flow (NHF) for acute respiratory support in adults are supported by a body of peer-reviewed and published evidence.

In a recent Fisher & Paykel Healthcare review of controlled studies using NHF as respiratory support in acute adult patients, the vast majority of the studies were found to have used Fisher & Paykel Healthcare (F&P) Optiflow systems with flow settings of 45 - 60 L/min* (see the link on the next page for more detail).

A number of respiratory support devices, such as the Philips V60 Plus**, provide NHF as a therapy option, making them suitable as independent flow generators that can be combined with F&P products to form vent-driven Optiflow systems.

The following figure demonstrates what is required to enable your NHF-capable mechanical ventilator to form part of a vent-driven Optiflow system.



A	B	C	D	System settings
Flow driver	Humidifier	Tube and chamber kit	Interface	
NHF-capable mechanical ventilator†	F&P 850 System‡ set to invasive mode	Adult Bi-level / CPAP circuit kit (e.g. RT219)	F&P Optiflow interface	37 °C ✓ 10 - 80 L/min§ 21 - 100% FiO ₂

Available from F&P

* The review is detailed in edition 11 of Flow Matters which is available from <https://resources.fphcare.com/content/optiflow-flow-matters-newsletter-edition-11-pm-621178.pdf>

** Philips is a registered trademark of Koninklijke Philips N.V.

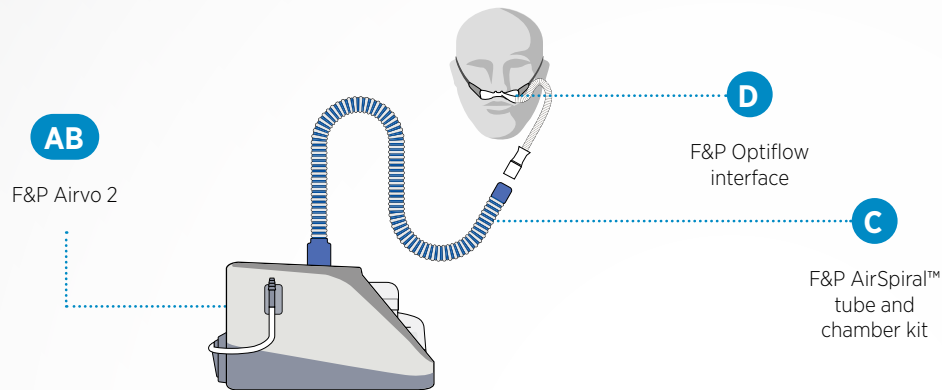
† A mechanical ventilator with a NHF mode and able to act as an independent flow driver for delivering NHF therapy.

‡ The F&P 850 System includes the following: MR850 respiratory humidifier (e.g. MR850JHU), temperature probe (e.g. 900MR869), heater-wire adapter (e.g. 900MR805), mounting bracket (e.g. 900MR087) and waterbag pole (e.g. 900MR290).

§ Flow rate limits based on internal F&P testing with the Philips V60 Plus set to high flow mode and a range of Optiflow interfaces: OPT942: 10 - 70 L/min, OPT944/6: 10 - 80 L/min, OPT1042: 10 - 60 L/min, OPT1044/6: 10 - 80 L/min. Flow rate limits may depend on the clinical application and flow source used.

The following figure demonstrates what is required for an Airvo™ Optiflow system:

Airvo Optiflow system



A	B	C	D	System settings
Flow driver	Humidifier	Tube and chamber kit	Interface	
F&P Airvo 2 [†]		F&P AirSpiral tube and chamber kit	F&P Optiflow interface	37 °C ✓ 10 - 60 L/min 21 - 100% FiO ₂ [#]

Available from F&P

Flow Matters Edition 11

Optiflow™ matters

Summary

The best practice of Health (NHf) the Australia and New Zealand Intensive Care Society (ANZICS) and the Surviving Sepsis Campaign (SSC) recommend NHf for use in COVID-19 related hypoxemia.¹

These recommendations are supported by findings from five systematic reviews with meta-analysis.²⁻⁶

A review conducted by Fisher & Paykel Healthcare (F&P) showed that the flow rates used in the controlled published studies⁷ (analyzed by the five meta-analyses) ranged from 10 L/min to 60 L/min and 80% of the studies required flows > 45 L/min.

When this review was repeated on the 22 acute adult NHf controlled studies (with subjects n = 39), found using a systematic search of the PubMed database, it was again clear that the flow rates used ranged from 10 L/min to 60 L/min and that 85% of the studies required flows > 45 L/min.

F&P Optiflow systems (including F&P Optiflow interfaces) and humidity settings of 37°C were widely used.

Guideline recommendations

Recent guidelines for the clinical management of COVID-19 from organizations such as the NHf, ANZICS and SSC recommend the use of NHf as respiratory support in adults. These recommendations are supported by systematic reviews with meta-analysis which search for review and analyze clinical data from controlled studies such as Randomized Controlled Trials (RCTs). F&P conducted a review of the systems and settings used in studies from which analyzed data formed the basis of these recommendations.

The NHf, part of the U.S. Department of Health and Human Services, is the U.S. national health research agency.
The SSC is a collaboration between the Society of Critical Care Medicine (SCCM) and European Society of Intensive Care Medicine (ESICM).

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Reviews with meta analysis

NHF recommendations from NHf, COVID-19 Treatment Guidelines, the ANZICS COVID-19 guidelines, and the SSC Guidelines on the Management of Critically Ill Adults with Coronavirus Disease 2019 (COVID-19) are supported by the following systematic reviews with meta-analysis: Zhou et al. 2020, Ou et al. 2020, Ni et al. 2020, Rochwerg et al. 2020 and Agrawal et al. 2020.²⁻⁶

Analyzed published studies

These five reviews analyzed data from 22 published studies (mostly RCTs) and one presentation.⁷ The studies represent various NHf applications, including primary respiratory support, pre-oxygenation prior to intubation and post-extubation respiratory support. The studies reported the NHf systems and settings that were used.

Systems and settings

The reported flow rates ranged between 10 L/min and 60 L/min with the majority requiring flows at the higher end of the range.

Of the 22 published and analyzed studies, 20 (91%) used F&P Optiflow systems, including a F&P Optiflow patient interface and a F&P humidity delivery system with humidity settings of 37°C.

Fisher & Paykel HEALTHCARE



To learn more about the systems and used in NHF research, take a look at **Edition 11 of Flow Matters**, which can be downloaded from our Optiflow webpage.

[CLICK HERE TO DOWNLOAD](#)

[†] An integrated flow source and humidifier to deliver NHF therapy across the hospital, independent of medical air supply.
[#] Provided an oxygen flow meter is available to deliver supplemental oxygen.