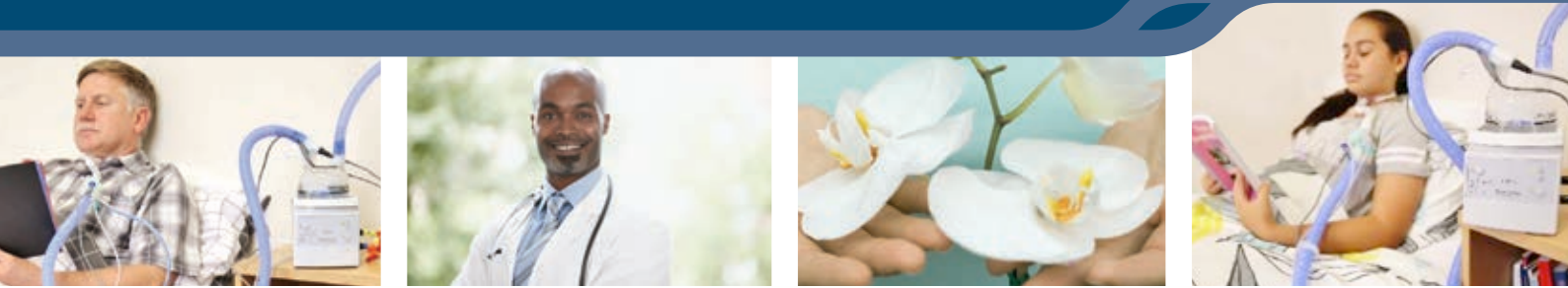


# F&P 550™ System

Designed for ventilated patients with bypassed airways in the home or in long-term care facilities



## HC550 HEATED HUMIDIFIER

The HC550 heated humidifier is part of the F&P 550 System designed to deliver optimally humidified gas to patients in the home or in long-term care facilities.

This dual-feedback system incorporates advanced algorithms designed to achieve optimal levels of humidity, while minimizing caregiver attention.

The simplified system interface of the HC550 displays only the required information for easy operation in the home or in long-term care facilities.



## Maintaining the natural balance

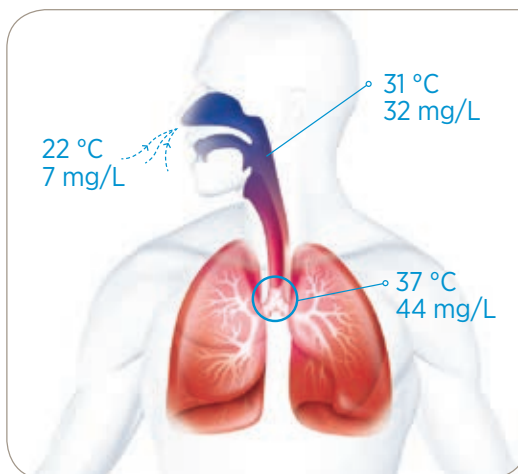
The **F&P 550 System**, from the developers of ThermoSmart™ technology, is designed to deliver Optimal Humidity while reducing condensate.

### PHYSIOLOGICAL HUMIDITY

The goal of airway humidification is to maintain and support the normal physiological environment in the airways. Healthy individuals breathing in ambient air, e.g. 22 °C, 7 mg/L, warm and humidify the air to an average of 31 °C, 32 mg/L with nasal breathing at the pharynx.<sup>1</sup>

Bypassing the natural humidification systems in the upper airway, for example with a tracheostomy, means that a patient's airways become less efficient at warming and humidifying gas. Bypassed airways result in impaired sneeze and gag reflexes, meaning that the principal remaining line of airway defense is the mucociliary transport system.

The F&P 550 System is designed to deliver Optimal Humidity of 37 °C, 44 mg/L (100% Relative Humidity)<sup>2</sup> to patients with bypassed airways. This preserves mucociliary function and maintains mucus clearance.



### OPTIMAL HUMIDITY

Optimal Humidity is the level of humidity at which mucociliary function is preserved. It aims to mimic the physiological levels of humidity in the lower airway.

Gas delivered at optimal conditions (37 °C body temperature, 44 mg/L fully saturated water vapor) will prevent the depletion of moisture in the mucociliary transport system, and maintain mucus clearance.

### GOALS OF OPTIMAL HUMIDITY

- Preserve mucociliary function<sup>2,3</sup>
- Reduce airway drying<sup>4</sup>
- Clear retained secretions<sup>5</sup>
- Maintain patient airways<sup>6</sup>
- Allow ease of suctioning<sup>7</sup>
- Maximize patient outcomes<sup>8</sup>

The **F&P 550 System** has been designed to deliver Optimal Humidity (37 °C, 44 mg/L) in the home or long-term care facilities.

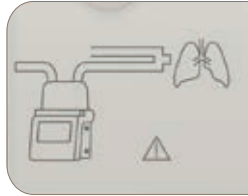
The HC550 has a simplified user interface with only two user-operated buttons, a power button and a mute button. Sophisticated measurement technologies and control algorithms manage temperature control within a range of ambient environments. Smart sensing technologies detect periods of standby reducing the incidence of nuisance alarms.





**Subdued display and indicators**

- Visible only when required – during setup or alarm states



**Setup indicator diagram and alarms**

- Setup issues or alarm states are indicated by lighted areas on a simplified diagram and audio alarms



**Preset temperature output**

- Set by the clinician, minimizing user setup
- Mode of operation can be set using an advanced menu



**Color-coded sockets**

- Color coded for easy operation
- Secure connection
- Connection errors are detected



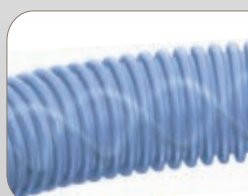
**Accessories**

- A heater-wire adaptor provides power to heated circuits and the temperature/flow probe provides feedback from chamber and circuit



**DirectConnect invasive interfaces**

- Delivers optimally humidified gas directly into a tracheostomy, allowing ease of positioning and freedom of movement



**Dual spiral heater-wire condensation management**

- Ensures even heat distribution leading to reduced condensate
- Lightweight, highly flexible tubing



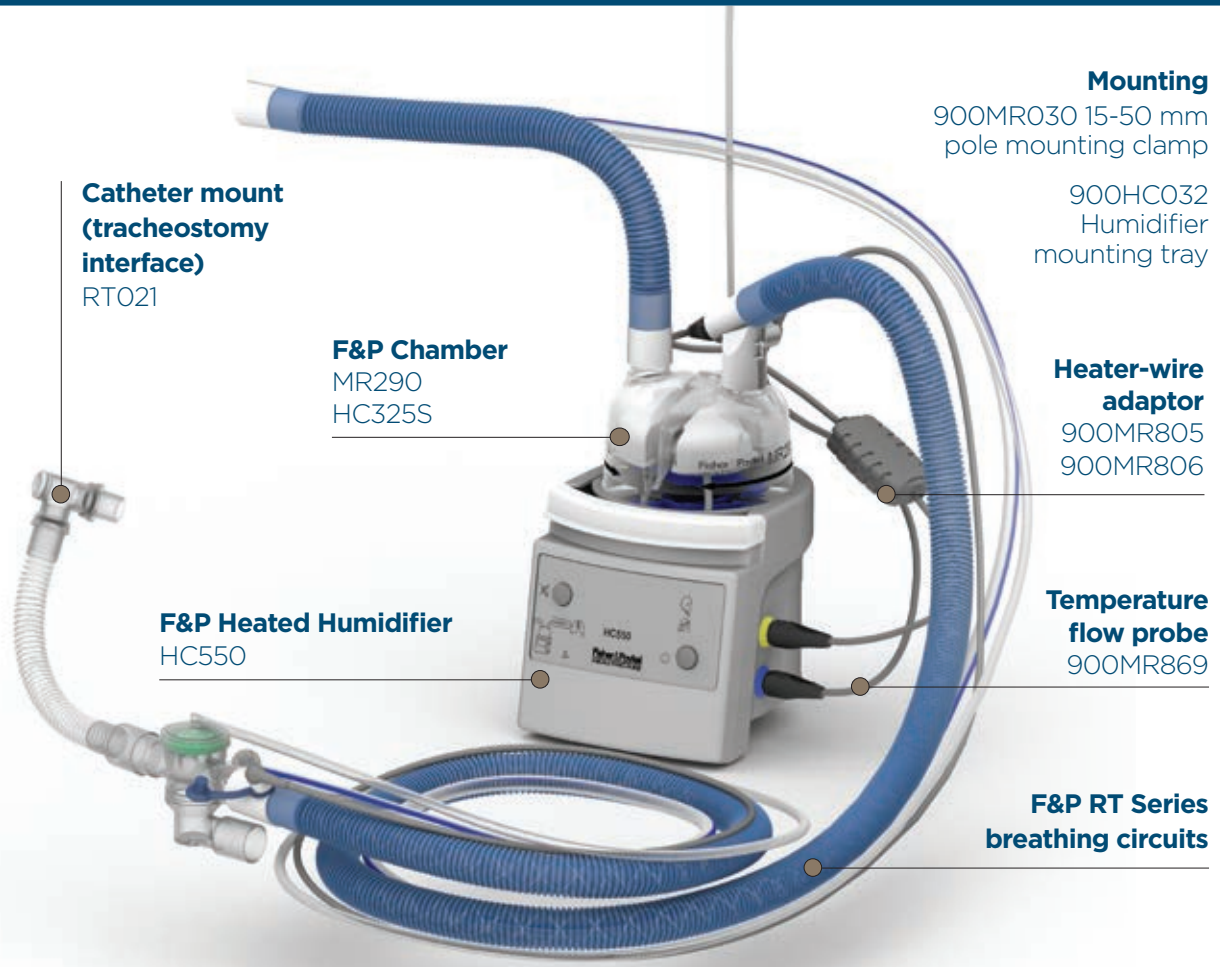
**Dual-float auto-feed chamber**

- Automatic refilling from a water bag and a dual-float mechanism, to maintain a consistent water level

**HC550 HEATED HUMIDIFIER**

<b>Model</b>	AXX	JXX
<b>Supply voltage</b>	230 V-	115 V-
<b>Supply current</b>	1.0 A Max	2.0 A Max
<b>Frequency</b>	50/60 Hz	
<b>Power input</b>	220 VA	
<b>Flow range</b>	< 40 LPM invasive mode	
<b>Dimensions</b>	140 x 173 x 135 mm (without chamber fitted)	
<b>Heater-plate capacity</b>	150 W at nominal mains voltage	
<b>Heater-plate thermal cutout</b>	118 ± 6 °C	
<b>Heater-wire supply</b>	22 ± 5 V-, 60 W	
<b>Weight</b>	2.8 kg (without chamber)	
<b>Display temperature range</b>	10-70 °C, accuracy: ± 0.3 °C (in 25-45 °C range). Not visible during normal operation.	
<b>Warm-up time</b>	< 30 minutes	

## SET-UP GUIDE



For more information please contact your local Fisher & Paykel Healthcare representative.

## REFERENCES

1. Primiano FJ, Saidel G, Montague FJ, et al. Water vapour and temperature dynamics in the upper airways of normal and CF subjects. *Eur Respir J* 1988;1(5):407-14.
2. Williams R, et al. Relationship between the humidity and temperature of inspired gas and the function of the airway mucosa. *Crit Care Med*. 1996;24(11):1920-9. Review.
3. FPH, Mucociliary Transport Videomicroscopy DVD. 185045505 Rev B.
4. Branson RD. Preventing moisture loss from intubated patients. *Clin Pulm Med*. 2000; 7(4):187-189. Review.
5. Robinson BR. Inhalation therapies in the ICU. *Curr Opin Crit Care*. 2009;15(1):1-9. Review.
6. Branson RD. Secretion management in the mechanically ventilated patient. *Respir Care*. 2007;52(10):1328-42.
7. Branson RD & Campbell RS. Humidification in the intensive care unit. *Respir Care Clin N Am*. 1998;4(2):305-20. Review.
8. Rankin N. What is optimal humidity? *Respir Care Clin N Am*. 1998;4(2):321-28. Review.

Product images are for illustrative purposes only. Information is subject to change without notice.  
Not all models are available in all markets.

[www.fphcare.com](http://www.fphcare.com)

**Fisher & Paykel**  
HEALTHCARE