

# flowrest®

## Flowrest® High Flow Therapy for the home

humidity | temperature | flow | FiO<sub>2</sub>

24° 25° 26° 27° 28° 32° 33° 34° 35° 36° 37° 38° 39° 40°

Flowrest®  
breathe well,  
sleep well



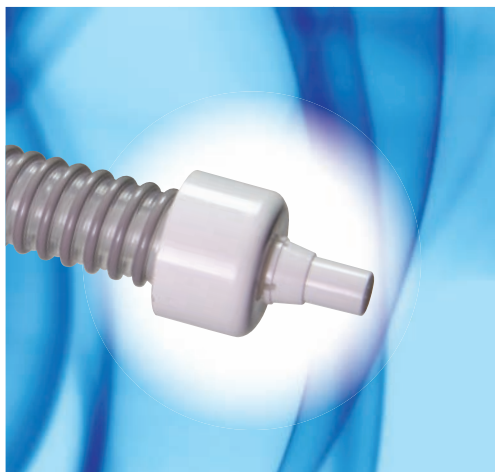
# flowrest®

Vapotherm, Inc., the world leader in High Flow Therapy (HFT™) introduces a device designed specifically for patients in the home and other low acuity environments. Now, more respiratory patients in more environments can experience the benefits of non-invasive, humidified high flow therapy with a device that is comfortable, cost-effective and easy to use.



## Introducing Flowrest® cost-effective non-invasive respiratory care

Patients want effective therapies that are comfortable and easy to use. Clinicians seek better outcomes and patient compliance. Health care systems want to reduce hospital stays and the cost and complexity of care. These were the inputs that drove the development of Flowrest®.



**Technical innovation delivers unique performance and safety features**



**Effective respiratory support that is comfortable and easy to use**

- ▣▣ Efficient humidification via unique membrane technology
- ▣▣ High performance blower to deliver flows from 15 – 35 liters per minute
- ▣▣ Flowguard™ Breathing Circuits deliver conditioned gas to patients without traditional heated wires
- ▣▣ Clinician programmable
- ▣▣ Easily adaptable for use with oxygen
- ▣▣ Three unique patient-controlled temperature comfort settings

- ▣▣ Heat and humidification allow for higher flows
- ▣▣ Breathelite™ patient Interface: simple, lightweight, soft and customizable for patient comfort
- ▣▣ Automatic shut-off if water chamber reaches low level
- ▣▣ Intuitive click-touch keypad
- ▣▣ Backlit LCD display

### What is High Flow Therapy (HFT™)?

HFT™ is the application of nasal cannula gas flows that exceed a patient's normal inspiratory flow rate so that the patient only breathes the intended gas without entraining room air. This simple concept enhances breathing making each breath more effective and less taxing by purging the nasal passages and offering a comfortably mild pressure (Dysart, 2009; Price, 2008; Parke 2009).

The uniqueness of VapoTherm's HFT™ technology is its ability to condition respiratory gases at or near body temperature and saturated with water. This level of gas conditioning allows for the flushing of the nasal passages without drying or irritation, but also serves to promote better cleansing and mucus expulsion in the respiratory system (Hasani, 2008). Whereas conventional therapy of this nature has relied on face masks, HFT™ is effective in supporting breathing with only a nasal cannula.

Cannulae are comfortable for long periods and allow patients to eat and talk without interruption of the therapy or feelings of confinement or claustrophobia.

*Dysart, K, Miller, TL, Wolfson, MR, & Shaffer, TH. "Research in high flow therapy: Mechanisms of action." Respiratory Medicine. 2009;103(10):1400-5.*

*Price, A, Plowright, C, Makowski, A & Misztal, B. Using a high flow respiratory system (VapoTherm®) within a high dependency setting. Nurs Crit Care 2008: 13(6), 298-304.*

*Parke, R, McGuinness, S & Eccleston, M. Nasal high flow therapy delivers low levels of positive airway pressure. Br J Anaesth 2009: 103(6), 886-90.*

*Hasani, A, Chapman, TH, McCool, D, Smith, RE, Dilworth, JP & Agnew, JE. Domiciliary humidification improves lung mucociliary clearance in patients with bronchiectasis. Chron Respir Dis 2008: 5, 81-6.*



# comfort and efficacy

## Flowrest® High Flow Therapy for the home

### Products and Accessories

#### Flowrest® Device

The main unit houses the blower, internal heater, heater plate, display, control panel, and all the electronics that control air flow and temperature. Using no water internally, the Flowrest® requires no internal cleaning or disinfection.

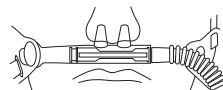


#### Disposables

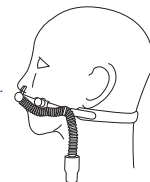
The canister assembly contains the water reservoir, gas pathways and HFT™ vapor cartridge. The Flowguard™ insulated delivery tube carries conditioned patient gas from the canister to the Breathelite™ nasal cannula. Air from the internal heater passes between the insulated tube's inner and outer walls, and keeps the humidified gas from losing heat and water.



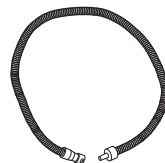
Breathelite™ Cannula



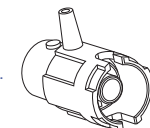
Breathelite™ Support



Flowguard™ Insulated Delivery Tube



Flowguard™ Oxygen Adapter



#### Canister Assembly

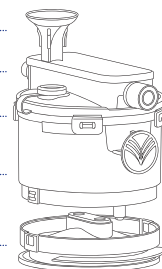
Funnel

Lid

Canister Top & Gaskets

Humidification Canister

HFT™ Vapor Cartridge



### Technical Specifications

#### Indications

The Flowrest® delivers warmed humidified high flow breathing gases. The Flowrest® is intended for treating spontaneously breathing patients who require warmed and humidified high flow respiratory gases within the homecare, sub-acute and hospital settings.

Patient Comfort Setting	Temperature (°C)		Water Vapor Content (mg/l)	Water Vapor Content (mg/l)
	Min.	Max.		
			80% RH	90% RH
Cool	31	33	28.5	32.2
Normal	33	36	33.3	37.7
Warm	36	38	36.8	41.8

#### Performance

- ☐ Warm-up time: < 20 minutes
- ☐ Humidification: Up to 100% RH
- ☐ Flow Rate Settings: 15 to 35 lpm in 5 lpm increments
- ☐ Optional oxygen adapter facilitates up to 46% oxygen

#### Physical Characteristics

- ☐ Dimensions: 7¼" height, 11¼" width, 7½" depth (18.4 cm x 29.7 cm x 19.1 cm)
- ☐ Weight: < 4 pounds (1.8 Kg) without water
- ☐ Water chamber volume: 21.8 oz (645 ml)