Hybernite® Technology
for a Comfortable Night and Enjoyable Day

Condensation and Sleep

Obstructive sleep apnea (OSA), a well-recognized sleep disorder, is treated by a range of respiratory devices that maintain positive airway pressure (PAP). However, the problem of condensation forming in the breathing tube decreases the effectiveness of these devices, by causing discomfort to the patient, disrupting sleep and impairing optimal humidity.

Condensation or rainout is the phenomenon whereby water vapor, generated by the heated humidifier, turns into water droplets and collects inside the breathing tube. Condensation occurs as a result of the air in the tube cooling down.

Technically, the temperature at which the vapor in the air in the tube starts condensing is known as its dewpoint. Cooling may happen due to a low ambient temperature or cold air flows (air conditioning, air from fans, etc.). As water condensation builds up in the breathing tube, the air reaching the patient will be less humidified. Insufficient humidification can result in nasal dryness and congestion. Additionally, the movement of water collected in the tube may create a disturbing gurgling noise that may have a negative impact on sleep quality. Tube vibrations resulting from water accumulation may also lead to pressure fluctuations.

Traditional Solutions and their shortcomings

Patients normally try and minimize rainout by means of various partial solutions:
- Lowering the setting of the heated humidifier, i.e. reducing the humidity output and as a result, decreasing the effectiveness of the humidification itself.
- Putting the breathing tube under the blankets.
- Raising the ambient temperature.
- Using a tubing sleeve or wrap.

New Generation Flow Generators

Flow generator manufacturers have begun introducing new generation models of heated humidifiers that now have heated breathing tubes integrated in their devices. These heated breathing tubes are designed to only fit onto these new generation flow generators with heated humidifiers.

How Does It Work?

The Hybernite® ROC system is an innovative design of stand-alone heated breathing tube that reduces or eliminates condensation in the tubing.

The Hybernite® HBT connects to the Hybernite® PSU via an easy plug-and-play connector.

Convenience

Due to the standard conical connectors, the Hybernite® ROC is a universal solution that can be fully integrated into any flow generator or humidifier and all types of mask that today uses standard tubes.

The Hybernite® HBT connects to the Hybernite® PSU via an easy plug-and-play connector.

The Benefits of Hybernite® ROC

Comfort

The Hybernite® ROC enhances therapy comfort by removing condensation. As a result, patients are no longer obliged to lower the settings of their humidifiers, but now have the opportunity to optimize the humidity output to suit their clinical needs and personal comfort.

Avoiding condensation reduces pressure instability, avoids sleep disruption and provides optimal air humidification. The Hybernite® ROC, offers you a comfortable nights sleep and an enjoyable day.

Compliance

Compliance with PAP therapy is dependent upon numerous factors related to the patient, clinician and equipment. PAP therapy acceptance by the patient can be improved based on technological interventions like heated humidification, behavioral interventions and by reducing side effects. Condensation in the breathing tube is however a frequent negative side-effect of heated humidification which is mitigated by the Hybernite® ROC. As such, the Hybernite® ROC is an innovative tool to enhance effective humidification: humidity generated by the humidifier equals humidity delivered to the patient! Hybernite® gets you the humidification you deserve!

Upgrade your equipment with Hybernite®
and get state-of-the-art humidification performance

The majority of patients still have previous models of flow generators and humidifiers, for which no effective rainout solutions are available.

The innovative Hybernite® solution is a heated breathing tube designed to work with any type of humidifier that today uses with standard non-heated tubing.

Replace your standard tube with Hybernite® now for better sleep quality

The Hybernite® ROC system is an innovative design of stand-alone heated breathing tube that reduces or eliminates condensation in the tubing.

It is a versatile solution that fits all humidifiers, humidifiers and masks that work with standard non-heated tubing.

How Does It Work?

The Hybernite® Heated Breathing Tube has copper wires embedded in the tubing wall.

These copper wires generate heat that maintains the air temperature inside the tube.

The heating wires are carefully positioned to provide uniform heating along the tube’s entire length, thereby avoiding condensation of water droplets on the wall of the tube and hence water accumulation.

The Hybernite® ROC system is an innovative design of stand-alone heated breathing tube that reduces or eliminates condensation in the tubing.

The Hybernite® Heated Breathing Tube is an innovative accessory that offers unparalleled comfort with any humidifier.

The Hybernite® HBT connects to the Hybernite® PSU via an easy plug-and-play connector.