

Nebulizer positioning guidelines



Setup guidelines for positioning a pneumatic or Aerogen nebulizer into adult/pediatric coaxial and dual limb breathing circuit sets

While the information contained herein is believed to be accurate, it does not represent an official recommendation from Hamilton Medical, nor may it substitute an opinion, assessment, or instructions provided by a trained healthcare professional.

Hamilton Medical ventilators can be used with supported pneumatic nebulizers and Aerogen nebulizers and controllers.

The ventilators generally connect to Aerogen devices as follows*:

HAMILTON-C6/G5/S1: Aerogen module/communication board plus activation on the ventilator

HAMILTON-C6: USB Controller can connect to ventilator USB port

HAMILTON-C1/C2/C3/T1/MR1: Ventilator USB port

This guide provides guidelines for positioning nebulizers for adult/pediatric patients.

IMPORTANT SAFETY INFORMATION

⚠ WARNING

- Do not use an Aerogen device in the MRI environment.

⚠ WARNING

- Connect the nebulizer per your institution's policy and procedures. Connecting the pneumatic nebulizer between the flow sensor and the endotracheal tube increases dead space and causes incorrect volume measurements; it also can generate a "false positive" Turn flow sensor alarm.
- Nebulization of drugs can cause an occlusion and increased resistance of a connected expiratory filter or HMEF. Check the filter frequently for increased resistance or blockage.
- Pneumatic nebulization affects the delivered oxygen concentration.

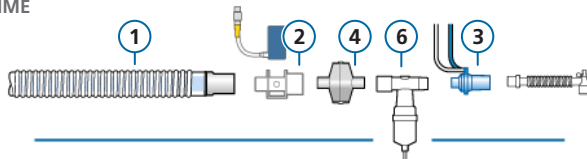
⚠ CAUTION

To prevent the expiratory valve from sticking due to nebulized medications, regularly check and clean or replace the expiratory valve membrane and/or the expiratory filter.

Positioning the nebulizer in a COAXIAL breathing circuit set

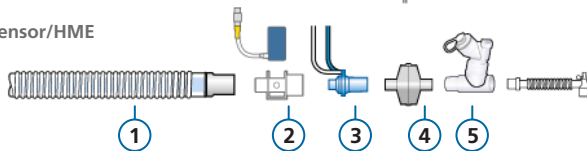
PNEUMATIC:

Connection after limb/HME



AEROGEN:

Connection after flow sensor/HME

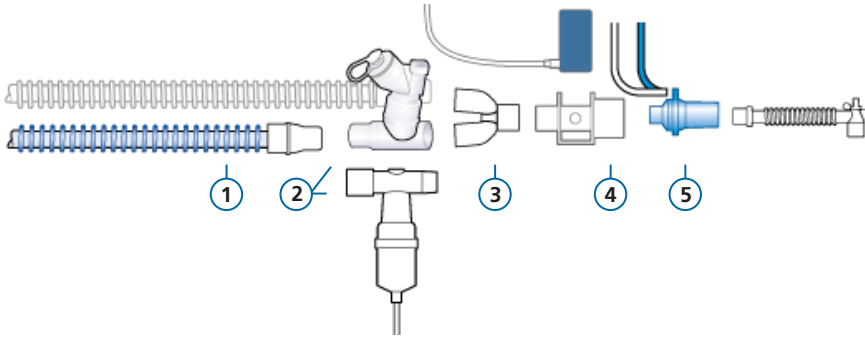


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|---|-------------------------------------|---|------------------------------------|---|---------------------|
| 1 | Coaxial inspiratory/expiratory limb | 3 | Flow sensor | 5 | Aerogen nebulizer |
| 2 | CO2 adapter/sensor (optional) | 4 | Heat and moisture exchanger (HMEF) | 6 | Pneumatic nebulizer |

* For specific details, as well as information on use with neonatal patients, refer to the ventilator *Operator's Manual*, the *Aerogen Instructions for Use*, and the manufacturer's *Instructions for Use*.

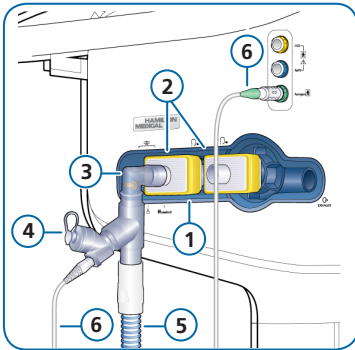
Using a nebulizer with a DUAL LIMB breathing circuit set (with humidifier)

AEROGEN and PNEUMATIC: Connection to inspiratory limb before the Y-piece



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|---|---|---|-------------------------------|---|-------------|
| 1 | Inspiratory limb | 3 | Y-piece | 5 | Flow sensor |
| 2 | Aerogen nebulizer (shown on top) or pneumatic nebulizer (shown on bottom) | 4 | CO2 adapter/sensor (optional) | | |

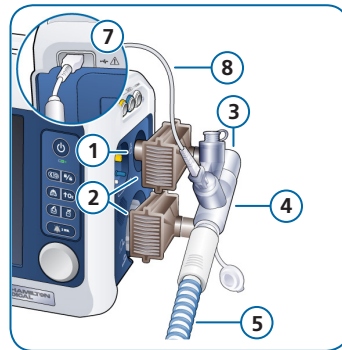
AEROGEN only: Dry-side connection directly to ventilator inspiratory port



- 1 To patient inspiratory port on ventilator
- 2 Bacterial/viral filters
- 3 Elbow adapter (optional)
- 4 Aerogen nebulizer/controller
- 5 Inspiratory limb to humidifier
- 6 Aerogen cable*. Connects device to:

HAMILTON-G5/S1: Aerogen module

HAMILTON-C6: Aerogen port on communication board



- 7 USB port
- 8 Aerogen controller USB cable**. Connects device to:
HAMILTON-C1/C2/C3/C6/MR1/T1: USB port

* Connection to HAMILTON-C6 shown, using optional elbow adapter

** Connection to HAMILTON-C1 shown, using optional elbow adapter

Note. Expiratory limb setup and connection not shown.