

QUICK REFERENCE CARD EVONE®

This Quick Reference Card does not replace the Instructions for Use of Evone or Tritube®.

Introduction on Evone

Mechanical ventilator Evone can be used in combination with Tritube, or a conventional adult endotracheal tube (single lumen or double-lumen). Evone has two ventilation modes:

FCV® MODE: to be used with all tubes

FCV® is a ventilation method where flow is continuously controlled in both inspiratory and expiratory phase. This is implemented with a constant inspiratory flow and a controlled expiratory flow (by suction) between a set minimum airway pressure (EEP) and a maximum airway pressure (Peak). FCV® is used for patient ventilation in elective situations with a cuffed airway.

JET MODE: to be used with Tritube only

High frequency jet ventilation 60 to 150 Breaths Per Minute. This mode is used for breathing support (not triggered by patient) with an open airway.





MATERIALS

- Evone Control Unit
- Evone Cartridge ①
- Evone Airway Adapter ②
- Humid-Vent Filter Pedi straight (HME Filter) ③
- Evone Breathing Tubing ④ OR
Conventional Tube Adapter (CTA) ⑥
- Tritube ⑤ OR a conventional adult endotracheal tube
(single lumen at least 5 mm ID or double-lumen
at least CH35) ⑦
- Empty syringe (20mL) to check cuff
- Syringe with 2-5 mL saline and
~15 mL air to purge lumens
- Cuff manometer

Materials for alternative ventilation

Tritube:

- Ventrain® and manometer

OR

All tubes:

- Conventional tube/(laryngeal) mask
(in parallel with Tritube)
- Conventional (balloon) ventilation equipment



» ASSEMBLY WITH TRITUBE

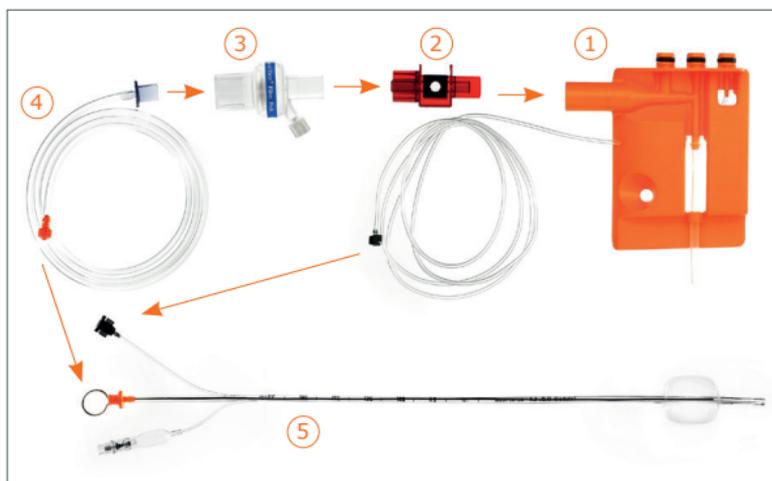


Fig. 1 Assembly of the Evone Breathing System and Tritube

Numbers refer to parts on page 2.



» ASSEMBLY WITH CONVENTIONAL TUBES

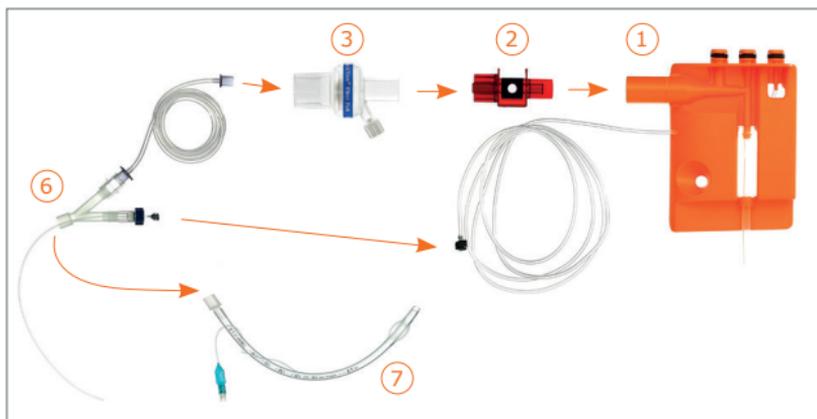


Fig. 2 Assembly of the Evone Breathing System and conventional adult endotracheal tube

Numbers refer to parts on page 2.



INSTALLATION AND SET UP

- 1** Switch on Evone.
- 2** Perform Startup checks successfully.
- 3** Patient set up menu: select patient gender and fill out characteristics. Accept default settings or start with last used.
- 4** Check and if required adapt alarm limits.

Note that default settings are:

- FiO₂ 50%
- Inspiratory Flow 12 L/min
- I:E ratio 1:1.0
- Peak 15 mbar
- EEP 5 mbar



» INTUBATION WITH TRITUBE

- 1** Inflate cuff of Tritube® - check for leakage - deflate and wrap cuff around Tritube.
- 2** Patient with increased risk on secretions: ask to clear the throat by coughing and swallowing any secretions.
- 3** Induce anesthesia (TIVA).
- 4** Visually assess larynx and remove secretions if present.
- 5** Bend Tritube in curve required for intubation.
- 6** Remove stylet after the tip has passed the vocal cords.
- 7** Advance Tritube while turning to facilitate insertion.
- 8** Pull back to the position aimed for to avoid tracheal contact with the tip.
- 9** Flush both lumen with air by syringe.
- 10** Fixate Tritube.



» VENTILATION WITH TRITUBE

- 1 Connect Tritube to Evone (ventilation lumen and pressure lumen).
- 2 Optional: start ventilation with the cuff deflated to allow deepening of anesthesia (Jet mode).
Note that the airway is open (risk on aspiration).
- 3 Start ventilation with the cuff inflated (25-30 mbar) in FCV® mode when anesthesia is optimized. A triangular pressure curve appears on the screen (Fig. 3).



Fig. 3 FCV mode active

- 4 If needed adapt ventilation settings:
 - FiO₂ as preferred
 - EEP as preferred
 - Peak to adjust Tidal Volume
 - Inspiratory Flow to adjust Minute Volume.

» VENTILATION WITH CONVENTIONAL TUBES

- 1 Induce anesthesia (TIVA).
- 2 Intubate patient as usual with tube of choice.
- 3 Oxygenate patient as preferred to allow deepening of anesthesia.
- 4 Connect tube to CTA of Evone when anesthesia is optimized.
- 5 Start ventilation in FCV[®] mode. A triangular pressure curve appears on the screen (Fig. 3).
- 6 If needed adapt ventilation settings:
 - FiO₂ as preferred
 - EEP as preferred
 - Peak to adjust Tidal Volume
 - Inspiratory Flow to adjust Minute Volume.



» HANDLING OBSTRUCTIONS

- 1 Stop ventilation.
- 2 Fiercely flush the pressure lumen and/or ventilation lumen with 2-5 mL saline followed by ~15 mL air.
- 3 In case secretions are still present in ventilation lumen, remove secretions using a suction catheter.
Note that the airway needs to be open.
- 4 Purge lumen again with 2 mL saline followed by air.
- 5 **In case of Tritube:** slightly turn Tritube to avoid any tracheal wall contact and inflate cuff.
- 6 Re-start ventilation.





SEDATION AND RELAXATION

Because of the small lumen (high resistance) of the breathing circuit, coughing may result in tube dislocation and **spontaneous breathing is not possible**.

In case of light anesthesia (indicated by e.g. irregular pressure curves, increased/decreased compliance, coughing, BIS>60, TOF>90%):

Tritube

- Deflate cuff of Tritube to reduce trachea stimuli.
- Optimize anesthesia.
- Inflate cuff when anesthesia is optimized.

Note that the airway is open (risk on aspiration).

Conventional tubes

- Disconnect CTA.
- Use alternative means of oxygenation if preferred.
- Optimize anesthesia.
- Reconnect CTA when anesthesia is optimized.



» WAKENING THE PATIENT

- 1 Set FiO₂ as preferred.

Tritube

Wake patient using one of the two ventilation options:

- 2 With inflated cuff (e.g. in case of aspiration risk) in FCV[®] mode.
- 3 Gently wake patient (no shaking).
Deflate cuff and extubate when patient awakes.

OR

- 2 With deflated cuff in Jet mode (risk on aspiration).
- 3 Open airway required.
- 4 Adapt settings if required (e.g. lower driving pressure with higher frequency may reduce tracheal stimuli).

Conventional tubes

Wake the patient:

- 2 Disconnect CTA from tube allow waking up using preferred method of oxygenation.

Note that spontaneous breathing is not possible when the CTA is connected to the conventional adult endotracheal tube.

» ADDRESSES

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