

Air Liquide Medical Systems

Service Marketing
6 Rue Georges Besse
92160 Antony
+33 (0)1 40 96 66 00

Antony, 26th March 2020

Object: Recommendations about the use of EOVE-150 & EOVE-70, during Covid-19

Dear customer,

We would like to thank you for the confidence you have shown in Air Liquide Medical Systems, by using the life support ventilator EOVE-150 & the secretion management device EOVE-70 during this period of health crisis.

In order to help you for the use of this medical device, you can find below the recommendations on the setting-up of filters and the compatibility of patient circuits with our device.

1. Compatibility of patient circuits for EOVE-150
2. Setting-up of filters for EOVE-150
3. FiO₂ abacus at 15 L/min for EOVE-150
4. Secretion management device EOVE-70

If you have any questions, please contact your usual referent.

Delphine Szewczyk
Product manager

1. Compatibility of patient circuits for EOVE-150

a. Single limb circuits with expiratory valve

The expiratory valves listed below can be used with the ventilator EOVE-150.

All circuits of 15 or 22 mm diameter integrating those expiratory valves can be used if the calibration is performed with success.

i. WILAmed



Supplier reference:

BTS8059: Single limb circuit with valve, proximal pressure line, diameter of 22 mm, length of 1.80 m

Indicative FiO₂:

Mode : AVCV					
VT (ml)	PEEP (mbar)	Rate (c/min)	Insp. Time (s)	O2 Flow	FiO2
400	5	14	2.1	15	81%
400	10	14	2.1	15	76%

ii. Intersurgical



Supplier reference:

5191000: Single limb circuit with valve, proximal pressure line, diameter of 22 mm, length of 1.80 m

Be careful: In case of use of the Intersurgical valve with a PEEP superior to 8 cmH₂O, the valve may be noisy and generate an auto-trigger.

Indicative FiO₂:

Mode : AVCV					
VT (ml)	PEEP (mbar)	Rate (c/min)	Insp. Time (s)	O2 Flow	FiO2
400	5	14	2.1	15	75 %
400	10	14	2.1	15	58.5 %

b. Double limb circuits

All CE marked circuits or equivalent with diameters of 10, 15 or 22 mm can be used with the ventilator EOVE-150 if the calibration pass with success and if it is conform to the needs of the patient.

2. Setting-up of filters for EOVE-150

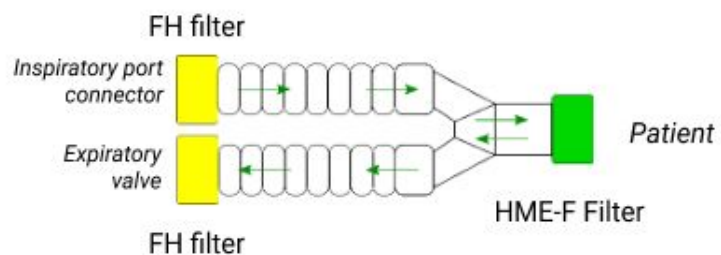
a. Double limb configuration

The double limb adapter of the ventilator EOVE-150 is single use. In case of use on several patients, an antibacterial filter may be used on the expiratory limb in order to protect the double limb adapter (see the illustration below).

If the double limb adapter is not protected by a filter, it is highly recommended to replace it in order to prevent any risk of cross contamination.

The use of High Efficiency Anti-Bacterial Filters (HEF) on the inspiratory port connector and the Expiratory Valve is recommended.

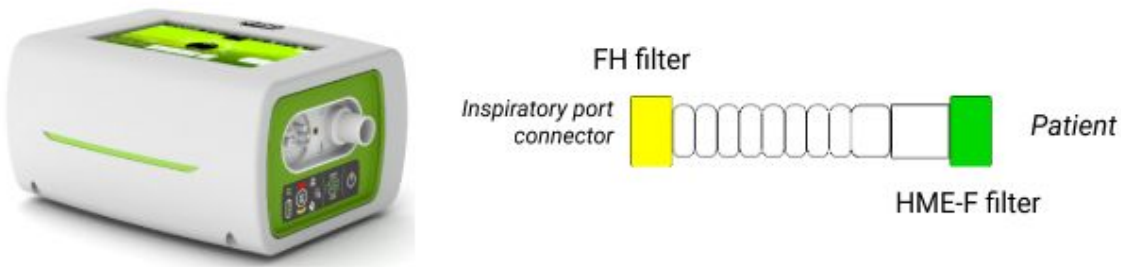
A Heat Moisture Exchanger Filter (HME-F) is also recommended for the Y-piece.



b. Single limb configuration with expiratory valve

For the single limb configuration, the use of High Efficiency Anti-Bacterial Filters (HEF) on the inspiratory port connector and a HME-F filter between the patient and the expiratory valve is recommended (see the illustration below).

The application of these measures ensures protection in both directions, to the patient and/or to the environment.



NOTE: For hospital use and in the presence of High Efficiency Anti-Bacterial Filters (HEF), according to the recommendations described above, the replacement of the air inlet filter is not required between two patients.

3. FiO₂ abacus at 15 l/min for EOVE-150

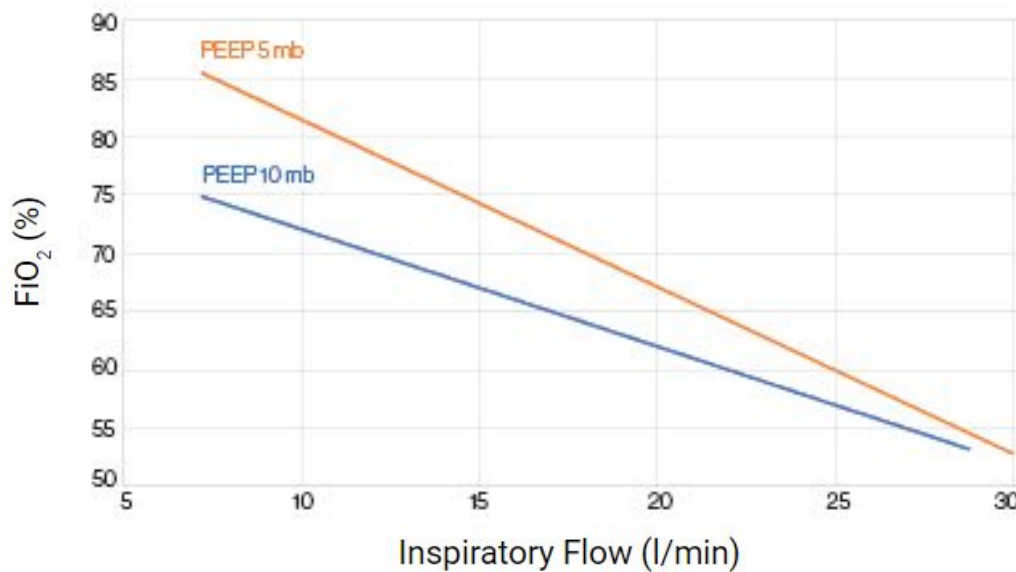
a. Testing conditions

- Oxygen flow: 15 l/min (source: Air Liquide cylinder of 200 bars, 11 L, with a maximum flow of 20 l/min, flow controller and high pressure output).
- Measures of reference O₂ at patient level with the PF300 from IMT Medical
- Lung (Michigan):
 - Resistance: 20 cmH₂O/L/min
 - Compliance: 20 cmH₂O/ml
- Ventilation in AVCV mode with the following settings:
 - Vt between 300 and 600 mL
 - PEEP: 5 or 10 mbar
 - I/E: 1/1
 - Rate: from 12 to 16 breaths per minute

b. Raw results

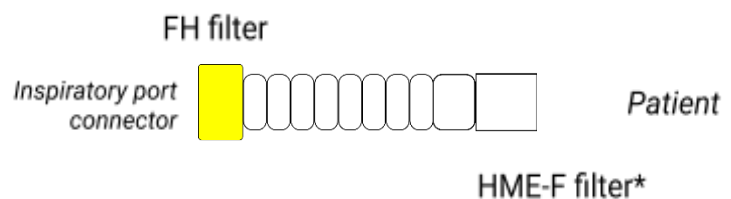
PEEP (mbar)	Volume (ml)	Rate (bpm)	T. Insp. (sec)	Insp. Flow (l/min)	FiO ₂ (%)
5	300	12	2.5	7.2	83
5	300	14	2.1	8.4	83
5	400	14	2.1	11.2	80
5	500	14	2.1	14	76
5	600	14	2.1	16.8	70
5	600	16	1.9	19.2	70
10	300	12	2.5	7.2	76
10	400	12	2.5	9.6	75
10	500	14	2.1	14	73
10	500	16	1.9	16	72
10	600	14	2.1	16.8	70
10	600	16	1.9	19.2	69

- c. FiO_2 variations depending on the inspiratory flow
(O_2 Flow = 15 L/min)



4. Secretion management device EOVE-70

The secretion management device EOVE-70 can be used with a High Efficiency Anti-Bacterial Filter (HEF) on the inspiratory limb.



***The use of HME-F at proximal end can be optional but then the Circuit + High Efficiency Anti-Bacterial Filter (HEF) on the inspiratory limb must be replaced between Patients.**

IN/EX Mode: Installation of an antibacterial filter at the inspiratory port connector of the device (see picture)

PRM Mode (IPPB): The PRM function (IPPB) requires a leakage circuit, so the use of this function is not recommended.