

Breathing Circuit Filters by Recommended Application – For use with Anesthesia Machine Breathing Circuits

Specific Guidance on the use of Filters can be found [HERE](http://www.apsf.org) (www.apsf.org)

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Manufacturer	Part #	Description	Viral Filtration Efficiency	Tidal volume range or Min tidal volume (mls)	Internal Volume (mls)	Comments
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Airway Heat & Moisture Exchange Filters (HMEF)

For use at the patient's airway - between the airway and the breathing circuit.

DESCRIPTION: This list favors mechanical HMEs with gas sampling ports. Tidal volume targets indicate patient selection. Devices that are Electrostatic HMEFs or uncertain design are not favored since their VFE and filtration performance is not as good as mechanical filters. Ideally, HMEFs should be used in conjunction with a second mechanical filter placed at the distal end of the expiratory limb (see below)

Medtronic	354U5876	DAR Mechanical Filter HME - Large	99.9990%	300-1500	96	Link to Medtronic Filter HERE
Draeger Medical	MT-4388-2007	Filter/HME Twinstar HEPA	99.9999%	300-1500	55	Draeger Medical: Breathing Filter/ HME Guide [PDF]
Pall	BB100AP	Ultipor 100 w Monitoring Port	99.9990%	255 est	85	Minimum tidal volume estimated as 3 x internal volume. MANUFACTURER INFO
GE/Vital signs			99.98%-99.99%			Several options available of different sizes. Internal design cannot be confirmed but specs suggest electrostatic
Teleflex Giebeck			99.99%			Several options available of different sizes. Internal design cannot be confirmed from available literature but suggests electrostatic. MANUFACTURER INFO
Arc Medical		CircuitGuard	100.00%	100-1200	30	MANUFACTURER INFO

Airway Filters - No Humidification

For use at the patient's airway; May be suitable alternative to HMEF during low flow anesthesia, short procedures or with an active humidifier

DESCRIPTION: This list includes devices that are mechanical filters only with gas sampling ports and are not capable of preserving humidity. Other strategies for humidification are required. Especially consider low flow anesthesia. These filters should be used in conjunction with a second mechanical filter placed at the distal end of the expiratory limb. (see Below) Could be suitable for long term ventilation in conjunction with an active humidifier.

	351U5979	DAR Mechanical Filter - Small	99.9990%	150-1200	42	
Medtronic	351U5878	DAR Mechanical Filter - Compact	99.9999%	200-1500	66	Filters only: MANUFACTURER INFO
	351U5410	DAR Mechanical Filter - Large	99.9999%	300-1500	92	
	MT-4386-2007	Filter Safestar 80	99.9999%	300-1500	80	
Draeger Medical	MT-1165-2006	Filter Safestar 55	99.9999%	300-1500	55	Draeger Medical: Breathing Filter/ HME Guide [PDF]
	MT-4726-2007	Filter Safestar 60A	99.9999%	300-1500	60	
Pall	BB25	Ultipor 25 Filter w Monitoring Port	99.9990%	105 est	35	MANUFACTURER INFO

Breathing Circuit Filters

For use between the expiratory limb and the anesthesia machine Adult or Pediatric Applications. Patient size irrelevant.

DESCRIPTION: Could be used as the only viral filter if there is a strategy for managing gases sampled at the airway for analysis. Ideally changed between every patient but if filters are in short supply, potential to be used. Recommended to change as frequently as supplies will allow.

Medtronic	351U5856	DAR Mechanical Filter Large without Sampling Port	99.9999%	300-1500	92	MANUFACTURER INFO
PALL	BB100A	Ultipor 100 Breathing System Filter	99.9990%	255 est	85	MANUFACTURER INFO

NOTE: Filters listed in this section will afford maximal protection. This degree of protection is likely not essential when combined with an airway filter. The combined effectiveness is multiplied. Many filters are available that have a VFE of 99.99% and would likely be sufficient when combined with one of the airway filters noted above.