



Air Flow Rate of TPP Screw Caps

Comparison: VENT Cap vs. Filter Cap

Feature	VENT Cap	Filter Cap
Definition	VENT cap without a fixed membrane. Uses a mechanical "vent" position (click) for gas exchange.	Cap with an integrated 0.22 µm PTFE hydrophobic filter membrane.
Gas exchange	High. Facilitates CO ₂ /O ₂ exchange via specific cap positioning. Ideal for CO ₂ incubators.	Controlled. Provides exchange through the membrane; slightly more limited compared to open venting.
Mechanism	VENT "click" system. Reliable pressure equalization via mechanical setting.	Filter: 0.22 µm PTFE membrane. Constant sterile barrier regardless of cap position.
Sterile application	Suitable	Suitable
Risk of clogging	None. No membrane that could get wet or blocked.	Possible. Membrane may clog if it comes into contact with liquids.
Cost	Lower	Higher



Comparative Air Flow Rates at $\Delta p = 100$ mbar

Values measured at a pressure differential of 100 mbar to illustrate the performance difference in airflow rates between Filter and VENT caps.

Product*	Order Number	Minimum air flow rate at $\Delta p = 100$ mbar [L/min]	
		Filter	VENT
Screw Cap Flask 25	90025 / 90026 / 90028	0.30	4.06
Screw Cap Flask 75	90075 / 90076 / 90078	0.54	4.20
Screw Cap Flask 150 / 300	90150 / 90151 / 90153 / 90300 / 90301 / 90303	0.66	4.17 - 4.20
Tissue Culture Flat Tube 10	91106	n/a	3.94
Tissue Culture Tube 20	91243	0.50	n/a
TubeSpin® Bioreactor 15	87015 / 87017	0.16	n/a
TubeSpin® Bioreactor 50	87050 / 87056	0.46	n/a
TubeSpin® Bioreactor 50 with Septum **	86050 / 86550	0.65	n/a
TubeSpin® Bioreactor 450	87450	1.58	n/a
TubeSpin® Bioreactor 600	87600	1.65	n/a
Clipmax	70010	0.20	n/a

* All products are also available in triple-bagged packaging (3-B). To order, simply add the prefix "3" to the standard TPP product number (e.g., 3-XXXXX).

**TubeSpin® Bioreactor 50 with Septum is also available in single-bagged packaging (1-B).

For further information, please contact info@tpp.ch

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