CLAIMS

1. A filter for an apparatus for delivering a flow of gas, the filter comprising:

a filter body, wherein the filter body has a main compartment and a sub-compartment at least partly within the main compartment, wherein the main compartment is in fluid communication with a main compartment gases inlet and the sub-compartment is in fluid communication with a sub-compartment gases inlet, the sub-compartment comprising walls that provide a barrier to direct all gases from the sub-compartment gases inlet through a sub-compartment gases outlet; and

a filter medium associated with both the main compartment and the sub-compartment, and that is arranged to filter gases in, or exiting, the main compartment and the sub-compartment.

2. A filter according to claim 1, wherein a gas flow direction through the main compartment gases inlet is offset from a gas flow direction through a main compartment gases outlet.

3. A filter according to claim 2, wherein the direction of gas flow through the main compartment gases outlet is transverse to the direction of gas flow through the main compartment gases inlet.

4. A filter according to any one of the preceding claims, wherein the sub-compartment gases outlet is arranged so that gases exit the sub-compartment in a gas flow direction that is offset from an axis of the sub-compartment gases inlet.

5. A filter according to any one of the preceding claims, wherein the direction of gas flow through the sub-compartment gases outlet is transverse to the direction of gas flow through the sub-compartment gases inlet.

6. A filter according to any one of the preceding claims, wherein the sub-compartment receives gases from an alternative supply to that of the main compartment.

7. A filter according to any one of the preceding claims, wherein the main compartment receives a flow of ambient air.

8. A filter according to any one of the preceding claims, wherein the sub-compartment receives a flow of oxygen.

9. A filter according to any one of the preceding claims, wherein the sub-compartment gases inlet receives a flow of gas from a hospital wall supply rotameter, a gas tank, or from an oxygen concentrator.

10. A filter according to any one of the preceding claims, wherein an alternative gas supply connector is in fluid communication with the sub-compartment, and wherein the alternative gas supply connector is an elongate tapering connector suitable for releasably connecting semi-rigid gas supply tubes.

11. A filter according to any one of the preceding claims, wherein at least a portion of the main compartment tapers inwardly such that a portion of the main compartment spaced further from the main compartment gases inlet has a smaller dimension than a portion of the main compartment adjacent the main compartment gases inlet.

12. A filter according to any one of the preceding claims, wherein at least a portion of the sub-compartment tapers inwardly such that a portion of the sub-compartment spaced further from the sub-compartment gases inlet has a smaller dimension than a portion of the sub-compartment adjacent the sub-compartment gases inlet.

13. A filter according to any one of the preceding claims, wherein the filter is a filter module that is removably and sealably engageable with a housing of the apparatus for delivering a flow of gas.

14. A filter according to claim 13, wherein the filter has a filter engagement tab configured to engage a retention block of the apparatus for securing the filter.

15. A filter according to claim 13 or 14, comprising seal(s) about an external periphery of the filter to sealingly engage the filter in the housing of the apparatus.

16. A filter according to claim 15, wherein the seal(s) comprise(s) O-ring(s) or integrally formed ‘wiper’ seal(s).

17. A filter according to any one of the preceding claims, wherein the main compartment is defined by at least one main compartment wall bounding a main compartment volume.

18. A filter according to claim 17, wherein the sub-compartment is defined by at least one sub-compartment wall bounding a sub-compartment volume at least partly within the main compartment volume.

19. A filter according to any one of the preceding claims, comprising a second sub-compartment at least partly within the main compartment, wherein the second sub-compartment is arranged to receive gas from a second sub-compartment gases inlet.

20. A filter according to any one of the preceding claims, wherein the filter medium comprises the same material as the filter body.

21. A filter according to claim 20, wherein the filter body comprises polypropylene material or polymeric material(s), and wherein the filter medium comprises spun polypropylene, polymeric or synthetic material(s), and/or wool fibres.

22. A filter according to any one of claims 19 to 21, when dependent on claim 18, wherein the filter medium is ultrasonically welded to the at least one main compartment wall and the at least one sub-compartment wall.

23. A filter according to any one of the preceding claims, comprising a second sub-compartment at least partly within the main compartment, wherein the second sub-compartment is arranged to receive gas from a second sub-compartment gases inlet, and wherein a duct is provided in fluid communication with the second sub-compartment.

24. A filter according to claim 23, wherein the duct is integrally formed with the filter body or is separately formed from the filter body.

25. An apparatus for delivering a flow of gas comprising:
a filter receptacle that defines a cavity; and
a filter module having a filter according to any one of the preceding claims, wherein the cavity receives the filter module.

26. An apparatus according to claim 25, wherein an inner wall of the filter receptacle defines an aperture that is in fluid communication with a gases outlet of the filter module, the aperture is configured to direct gases to, or toward, a motor and/or sensor module.

27. An apparatus according to claim 26, wherein the filter module has a filter according to claim 14, comprising a retention block configured to engage the filter engagement tab on the filter for securing the filter module.

28. An apparatus according to any one of claims 25 to 27, further comprising a release tab configured to allow removal of the filter module from the filter receptacle.