

WHAT IS CLAIMED IS:

1. A respiratory mask, comprising:
 - a frame configured to connect to headgear, the frame comprising a front wall having a vent and a gas inlet opening, the frame further comprising a collar extending away from the front wall, the collar surrounding the vent and the gas inlet opening;
 - a cushion module comprising a housing and a cushion, wherein the housing is made of a material more rigid than the cushion, the housing forming at least a portion of a breathing chamber of the respiratory mask, the housing defining a connection opening;
 - a friction coupling configured to selectively couple the connection opening of the cushion module to the collar of the frame such that a flow of gas can be delivered to the breathing chamber through the gas inlet opening of the frame and the connection opening of the cushion module, the friction coupling comprising an elastomeric friction member coupled to a portion of the housing that defines the connection opening.
2. The respiratory mask of Claim 1, further comprising a divider wall within an interior of the collar, the divider wall having a first end and a second end, each connected to the collar, wherein the divider wall separates the vent and the gas inlet opening.
3. The respiratory mask of Claim 2, wherein a surface of the divider wall adjacent the vent extends substantially in a direction of gas flow through the vent.
4. The respiratory mask of any one of Claims 1-3, wherein the collar and the divider wall cooperate to define a socket configured to receive an elbow.
5. The respiratory mask of Claim 4, further comprising an elbow received by the socket, wherein the elbow has a swivel connection with the frame.
6. The respiratory mask of any one of Claims 1-5, wherein the collar extends rearwardly from the front wall of the frame to a rearward edge, wherein a rearward edge of the divider wall is positioned between the front wall of the frame and the rearward edge of the collar.
7. The respiratory mask of any one of Claims 1-6, wherein the frame forms at least a portion of the breathing chamber.

8. The respiratory mask of any one of Claims 1-6, wherein a space defined by an interior surface of the collar, an upper surface of the dividing wall and an interior surface of a vent wall portion of the front wall form at least a portion of the breathing chamber.

9. The respiratory mask of any one of Claims 1-8, wherein the collar comprises an internal surface and an engagement surface, wherein the engagement surface engages with the friction member.

10. The respiratory mask of Claim 9, wherein the collar further comprises a rim.

11. The respiratory mask of any one of Claims 1-10, wherein the friction member comprises an internal engagement surface and a peripheral surface.

12. The respiratory mask of any one of Claims 1-11, wherein the connection opening is defined by a support wall, wherein the support wall is disposed within the friction member and the housing extends through the peripheral surface of the friction member.

13. The respiratory mask of any one of Claims 1-11, wherein the cushion module further comprises a support flange that extends along a length of and supports the friction member.

14. The respiratory mask of Claim 13, wherein the support flange is embedded within the friction member.

15. The respiratory mask of any one of Claims 12-14, wherein a portion of the housing disposed within the friction member comprises a plurality of apertures.

16. The respiratory mask of Claim 15, wherein the friction member extends through each of the plurality of apertures.

17. The respiratory mask of Claim 12, wherein a portion of the housing disposed within the friction member comprises a plurality of apertures, wherein the friction member extends through each of the plurality of apertures, and wherein at least a portion of the apertures are located between the support wall and the peripheral surface.

18. The respiratory mask of either one of Claims 13 or 14, wherein at least a portion of the apertures are located on the support flange.

19. The respiratory mask of any one of Claims 9-18, wherein the friction member defines an abutment surface that contacts the front wall of the frame when the cushion module is coupled to the frame.

20. A respiratory mask, comprising:

a frame configured to connect to headgear, the frame comprising a front wall at least partially defining a gas inlet opening, the frame further comprising a collar extending away from the front wall, the collar at least partially surrounding the gas inlet opening;

a cushion module comprising a housing, a cushion and an elastomeric friction member, the cushion defining a face-contacting surface, the housing defining a connection opening, wherein a portion of the housing defining the connection opening is embedded within the elastomeric friction member to couple the friction member to the housing, wherein the housing is made of a material more rigid than the cushion and forms at least a portion of a breathing chamber of the respiratory mask, the friction member configured to selectively connect the cushion module to the collar of the frame with a friction fit so that the flow of gas can be delivered to the breathing chamber through the gas inlet opening of the frame and the connection opening of the cushion module;

wherein the friction member engages an outer surface of the collar and wherein an outer surface of the friction member is exposed when the cushion module is coupled to the frame.

21. The respiratory mask of Claim 20, wherein the housing comprises a wall portion external of the friction member and extending between the friction member and the cushion.

22. The respiratory mask of Claim 20, wherein the front wall of the frame further comprises a vent, and wherein the collar surrounds the vent in addition to the gas inlet.

23. The respiratory mask of Claim 22, further comprising a divider wall within an interior of the collar, the divider wall having a first end and a second end, each connected to the collar, wherein the divider wall separates the vent and the gas inlet opening.

24. The respiratory mask of Claim 23, wherein a surface of the divider wall adjacent the vent extends substantially in a direction of gas flow through the vent.

25. The respiratory mask of any one of Claims 20-24, further comprising an elbow supported by the frame and configured to deliver a flow of breathing gas through the gas inlet opening.

26. The respiratory mask of Claim 25, wherein the collar and the divider wall cooperate to define a socket that receives the elbow.

27. The respiratory mask of Claim 26, wherein the elbow has a swivel connection with the frame.

28. The respiratory mask of any one of Claims 23-27, wherein the collar extends rearwardly from the front wall of the frame to a rearward edge, wherein a rearward edge of the divider wall is positioned between the front wall of the frame and the rearward edge of the collar.

29. The respiratory mask of any one of Claims 20-28, wherein the housing of the cushion module further comprises a support flange, wherein the support flange defines the connection opening and extends within the friction member substantially in a direction of assembly of the cushion module to the frame.

30. The respiratory mask of Claim 29, wherein the support flange comprises a plurality of apertures and wherein the friction member extends through each of the plurality of apertures.

31. The respiratory mask of any one of Claims 20-30, wherein the friction member defines an abutment surface that contacts the front wall of the frame when the cushion module is coupled to the frame.

32. A respiratory mask, comprising:

a frame configured to connect to headgear, the frame comprising a front wall at least partially defining a gas inlet opening, the frame further comprising a collar extending away from the front wall, the collar at least partially surrounding the gas inlet opening;

a cushion module comprising a housing, a cushion and an elastomeric friction member, the cushion defining a face-contacting surface, the housing defining a connection opening, wherein the housing is made of a material more rigid than the cushion and forms at least a portion of a breathing chamber of the respiratory mask, the elastomeric friction member configured to selectively connect the cushion module to the collar of the frame with a friction fit so that the flow of gas can be delivered to the breathing chamber through the gas inlet opening of the frame and the connection opening of the cushion module;

wherein the elastomeric friction member comprises an internal engagement surface and a peripheral surface, the internal engagement surface configured to engage an outer surface of the collar when the cushion module is coupled to the frame;

wherein an embedded portion of the housing is disposed within the elastomeric friction member and the housing extends through the peripheral surface.

33. The respiratory mask of Claim 32, wherein the embedded portion comprises a forward or rearward-extending flange.

34. The respiratory mask of Claim 32, wherein the housing comprises a wall portion external of the friction member and extending between the friction member and the cushion.

35. The respiratory mask of Claim 32, wherein the front wall of the frame further comprises a vent, and wherein the collar surrounds the vent in addition to the gas inlet.

36. The respiratory mask of Claim 35, further comprising a divider wall within an interior of the collar, the divider wall having a first end and a second end, each connected to the collar, wherein the divider wall separates the vent and the gas inlet opening.

37. The respiratory mask of Claim 36, wherein a surface of the divider wall adjacent the vent extends substantially in a direction of gas flow through the vent.

38. The respiratory mask of Claim 37, wherein the collar and the divider wall cooperate to define a socket configured to receive an elbow.

39. The respiratory mask of Claim 38, further comprising an elbow received in the socket, wherein the elbow has a swivel connection with the frame.

40. The respiratory mask of any one of Claims 37-39, wherein the collar extends rearwardly from the front wall of the frame to a rearward edge, wherein a rearward edge of the divider wall is positioned between the front wall of the frame and the rearward edge of the collar.

41. The respiratory mask of any one of Claims 32-40, wherein the housing of the cushion module further comprises a support flange, wherein the support flange defines the connection opening and extends within the friction member substantially in a direction of assembly of the cushion module to the frame.

42. The respiratory mask of Claim 41, wherein the support flange comprises a plurality of apertures and wherein the friction member extends through each of the plurality of apertures.

43. The respiratory mask of any one of Claims 32-42, wherein the friction member defines an abutment surface that contacts the front wall of the frame when the cushion module is coupled to the frame.

44. A respiratory mask, comprising:

a frame configured to connect to headgear, the frame comprising a front wall at least partially defining a gas inlet opening, the frame further comprising a collar extending away from the front wall, the collar at least partially surrounding the gas inlet opening;

a cushion module comprising a housing, a cushion and an elastomeric friction member, the cushion defining a face-contacting surface, the housing defining a connection opening, wherein a portion of the housing defining the connection opening is embedded within the elastomeric friction member to couple the friction member to the housing;

wherein the friction member engages the collar when the cushion module is coupled to the frame.

45. The respiratory mask of Claim 44, wherein the housing comprises a wall portion external of the friction member and extending between the friction member and the cushion.

46. The respiratory mask of Claim 44, wherein the front wall of the frame further comprises a vent, and wherein the collar surrounds the vent in addition to the gas inlet.

47. The respiratory mask of Claim 46, further comprising a divider wall within an interior of the collar, the divider wall having a first end and a second end, each connected to the collar, wherein the divider wall separates the vent and the gas inlet opening.

48. The respiratory mask of Claim 47, wherein a surface of the divider wall adjacent the vent extends substantially in a direction of gas flow through the vent.

49. The respiratory mask of any one of Claims 44-48, further comprising an elbow supported by the frame and configured to deliver a flow of breathing gas through the gas inlet opening.

50. The respiratory mask of Claim 49, wherein the collar and the divider wall cooperate to define a socket that receives the elbow.

51. The respiratory mask of Claim 50, wherein the elbow has a swivel connection with the frame.

52. The respiratory mask of any one of Claims 47-51, wherein the collar extends rearwardly from the front wall of the frame to a rearward edge, wherein a rearward edge of the divider wall is positioned between the front wall of the frame and the rearward edge of the collar.

53. The respiratory mask of any one of Claims 44-52, wherein the housing of the cushion module further comprises a support flange, wherein the support flange defines the connection opening and extends within the friction member substantially in a direction of assembly of the cushion module to the frame.

54. The respiratory mask of Claim 53, wherein the support flange comprises a plurality of apertures and wherein the friction member extends through each of the plurality of apertures.

55. The respiratory mask of any one of Claims 44-54, wherein the friction member defines an abutment surface that contacts the front wall of the frame when the cushion module is coupled to the frame.