

WHAT IS CLAIMED IS:

1. A frame for an interface for use in a positive pressure respiratory therapy system, the frame comprising a base and side arms, wherein:
 - the base is configured to support a seal of the interface;
 - each of the side arms includes a connector separately attached to the base;
 - at their outer or free ends the side arms comprise connector portions for detachably connecting the side arms to a headgear of the interface;
 - the side arms have both an outer kerfing and an inner kerfing along a length of the side arms, the outer kerfing and the inner kerfing consisting of a series of live hinges or slots recessed into the side arms along a thickness direction of the side arms;
 - the side arms are formed from an injection moulded plastic material and the outer kerfing and the inner kerfing are integrally and unitarily-formed into the side arms or formed by cutting, molding or otherwise creating the slots in the side arms; and
 - the side arms are resiliently flexible towards and away from a face of the user in an approximately horizontal plane (when worn), to accommodate different face sizes, but are relatively inflexible in an approximately vertical plane.
2. The frame of claim 1, wherein the slots extend through an entire width of the side arms such that a thickness of the side arms is thinner at portions having the slots than at portions between the slots.
3. The frame of claim 1 or claim 2, wherein the side arms have a rectangular cross-sectional shape, and the rectangular cross-sectional shape of the side arms have a height substantially greater than a thickness such that a resistance to bending in a direction parallel to the height direction is substantially greater than the resistance to bending in a direction parallel to the thickness direction.
4. The frame of any one of claims 1 to 3, wherein the slots have a semicircular shape.
5. The frame of any one of claims 1 to 4 wherein, when assembled with the seal and the headgear of the interface:

the outer kerfing is positioned closest to the seal; and

the inner kerfing is positioned closest to the headgear.

6. The frame of any one of claims 1 to 5, wherein the side arms extend toward or to a location between ears and eyes of the user and/or to or near a temple of the user, where the side arms connect to the headgear.

7. The frame of any one of claims 1 to 6, wherein the side arms, when assembled with the seal and the headgear of the interface, extend outwardly (away from each other), rearwardly and upwardly at a shallow angle, past left and right extremities of the seal and along left and right cheeks and in particular cheekbones of the user to connect to the headgear for holding the seal on the face of the user.

8. The frame of any one of claims 1 to 7, wherein a length of the side arms is between about 100mm and about 150mm.

9. The frame of any one of claims 1 to 8, wherein the side arms comprise a softer material fully around a portion of the side arms, for softening contact of the side arms with a face of the user.

10. The frame of any one of claims 1 to 8, wherein an interior surface of the side arms includes pads that face and/or contact a face of a user, the pads have a fabric outer surface to promote comfort, and the pads are removable for cleaning or replacement.

11. The frame of any one of claims 1 to 10, wherein:

a central portion of the base defines an aperture through which gases can flow;

a first annular wall surrounds the aperture and projects in a rearward direction to define a seal connector for connection with the seal; and

a second annular wall surrounds the aperture and projects in a forward direction to define an elbow connector for connection with an elbow.

12. The frame of claim 11, wherein the elbow connector comprises a recess configured to receive a protrusion of the elbow, the recess being an annular recess that extends around the entire circumference of the elbow connector so that the elbow is rotatable relative to the frame.

13. The frame of any one of claims 1 to 12, wherein the base is configured to be removably coupled with the seal by a snap-fit.

14. The frame of any one of claims 1 to 13, wherein each of the connector portions comprises a recess or receptacle configured to receive a complementary connector of the headgear.

15. The frame of any one of claims 1 to 14, wherein the frame is stiffer than at least a portion of the seal, such as a portion that defines a user-contacting surface.

16. The frame of any one of claims 1 to 15, wherein the base and the connectors are permanently connected to one another.

17. A mask for an interface for use in a positive pressure respiratory therapy system, the mask comprising:

the frame of any one of claims 1 to 16; and

the seal removably coupled to the frame.

18. The mask of claim 17, wherein a wearer side of the seal is formed of a silicone material or thermoplastic elastomer, and is bonded to a more rigid shell which couples to the frame.

19. The mask of claim 17, wherein the seal is a foam seal.

20. The mask of any one of claims 17 to 19, wherein the seal and the frame together form an enclosure having a gas flow inlet from the positive pressure respiratory therapy system and an aperture through the seal to the user.

21. The mask of any one of claims 17 to 20, wherein the seal is a nasal seal.

22. An interface for use in a positive pressure respiratory therapy system, the interface comprising:

the mask of any one of claims 17 to 21;

the headgear, detachably connecting the side arms; and

an elbow removably connected to the frame.