CLAIMS

1. An aseptic peripheral connection assembly for installing a sterilized peripheral in a bio-processing vessel via an aseptic connector affixed to the vessel, the peripheral connection assembly comprising:

a. a carrier within an applicator sleeve, the carrier comprising the sterilized peripheral and a first sealing member configured to form a leak-tight seal with the aseptic vessel connector on the bio-processing vessel at a location where the carrier is to be installed;

b. an applicator comprising the applicator sleeve and a vessel-facing opening adjacent to an applicator connector configured to temporarily connect to the aseptic vessel connector on the bio-processing vessel;

c. a plunger within the applicator sleeve and configured to plunge the carrier from a position within the applicator sleeve to a position engaged with the aseptic vessel connector to form the leak-tight seal, wherein the plunger comprises a second sealing member; and

d. a removable hermetic sealing tab covering the vessel-facing opening of the applicator sleeve to maintain the sterilized peripheral in aseptic condition prior to installation in the bio-processing vessel.

2. The aseptic peripheral connection assembly of claim 1, wherein the bio-processing vessel is a self-contained container or a flow path.

3. The aseptic peripheral connection assembly of claim 1, wherein the bio-processing vessel is a bioreactor or a filter flow path.

4. The aseptic peripheral connection assembly of claim 1, wherein the peripheral is a single use sensor.

5. The aseptic peripheral connection assembly of claim 1, wherein the carrier comprises two or more sensors.

6. The aseptic peripheral connection assembly of claim 1, wherein the carrier is disk shaped with a sensor having an exposed sensing surface on a flat side of the carrier.

7. The aseptic peripheral connection assembly of claim 6, wherein the carrier comprises two or more sensors having exposed sensing surfaces on a flat side of the carrier.

8. The aseptic peripheral connection assembly of claim 1, wherein the carrier is generally sheath shaped and comprises a sensor having an exposed sensing surface on an end of the carrier.

9. The aseptic peripheral connection assembly of claim 1, wherein the first sealing member comprises a clip or a ledge.

10. The aseptic peripheral connection assembly of claim 1, wherein the first sealing member comprises an o-ring.

11. The aseptic peripheral connection assembly of claim 1, wherein the applicator sleeve is constructed of a rigid material.

12. The aseptic peripheral connection assembly of claim 1, wherein the applicator is configured to be removed from the carrier and the bio-processing vessel after the carrier is installed in the bio-processing vessel.

13. The aseptic peripheral connection assembly of claim 1, wherein the applicator sleeve has a tubular shape and the plunger has a substantially circular shape comprising the second sealing member that forms a seal with an interior surface of the applicator.

14. The aseptic peripheral connection assembly of claim 1, wherein the applicator connector comprises a clip or a ledge.

15. The aseptic peripheral connection assembly of claim 1, wherein the applicator connector comprises an o-ring.

16. The aseptic peripheral connection assembly of claim 1, wherein the applicator connector is configured to provide a hermetic seal with the aseptic vessel connector while the plunger inserts the carrier into the aseptic vessel connector.

17. The aseptic peripheral connection assembly of claim 1, wherein the applicator is composed of a polycarbonate, polysulfone, polyvinylidene fluoride, co-polyester, or a combination of any of these.

18. The aseptic peripheral connection assembly of claim 1, wherein the applicator is composed of USP Class VI material that is animal derived component free, latex free, phthalate free, and gamma and e-beam stable.

19. The aseptic peripheral connection assembly of claim 1, wherein the second sealing member comprises an o-ring for forming a hermetic seal with the applicator sleeve while plunging the carrier into position with the aseptic vessel connector.

20. The aseptic peripheral connection assembly of claim 1, wherein the removable hermetic sealing tab is configured to be removed from the aseptic peripheral connection assembly after connecting the applicator to the aseptic vessel connector on the bio-processing vessel at a location where the sterilized peripheral is to be installed, and before plunging the carrier from a position within the applicator sleeve to a position engaged with the aseptic vessel connector.

21. The aseptic peripheral connection assembly of claim 1, wherein the removable hermetic sealing tab comprises a film or sheet having a thickness of between about 1 mil and 20 mil.

22. The aseptic peripheral connection assembly of claim 1, wherein the removable hermetic sealing tab comprises a USP Class VI, latex free, phthalate free animal derived component free polymeric plate.

23. The aseptic peripheral connection assembly of claim 1, wherein the removal hermetic sealing tab is coated with an adhesive.

24. A bio-processing vessel kit comprising:

a. the aseptic peripheral connection assembly of claim 1; and

b. a bio-processing vessel housing with the aseptic vessel connector affixed.

25. The bio-processing vessel kit of claim 24, wherein the bio-processing vessel housing is a single use bio-processing vessel housing or a flow path.

26. The bio-processing vessel kit of claim 24, wherein the bio-processing vessel housing is configured or designed as a bioreactor or a filter with a flow path.

27. The bio-processing vessel kit of claim 26, wherein the bio-processing vessel housing comprises a container packed with material for product separation.

28. A method of fabricating an aseptic peripheral connection assembly for installing a sterilized peripheral in a bio-processing vessel via an aseptic connector affixed to the vessel, wherein the aseptic peripheral connection assembly comprises (i) a carrier within an applicator sleeve, the carrier comprising the peripheral and a sealing member configured to form a leak-tight seal with the aseptic vessel connector on the bio-processing vessel at a location where the carrier is to be installed; and (ii) an applicator comprising the applicator sleeve and vessel-facing opening adjacent to an applicator connector configured to temporarily connect to the aseptic vessel connector on the bio-processing vessel, the method comprising:

a. placing the carrier in the applicator;

b. packaging the aseptic peripheral connection assembly in a hermetically sealed package; and

c. sterilizing the aseptic peripheral connection assembly, wherein the sterilizing does not employ exposure to radiation at a level of greater than about 15 kGy.

29. A method of using an aseptic peripheral connection assembly for installing a sterilized peripheral in a bio-processing vessel via an aseptic connector affixed to the vessel, wherein the aseptic peripheral connection assembly comprises (i) a carrier within an applicator sleeve, the carrier comprising the peripheral and a sealing member configured to form a leak-tight seal with the aseptic vessel connector on the bio-processing vessel at a location where the carrier is to be installed; and (ii) an applicator comprising the applicator sleeve and vessel-facing opening adjacent to an applicator connector, the method comprising:

a. connecting the applicator connector of the applicator to the aseptic vessel connector on the bio-processing vessel;

b. removing a hermetic sealing tab covering the vessel-facing opening of the applicator sleeve; and

c. plunging the carrier from a position within the applicator sleeve to a position engaged with the aseptic vessel connector, and forming the leak-tight seal therewith.