

- 30 -

ii. a connection port adapted to connect to a first fluid transfer component, said connection port located on the outside of said outer body at its proximal end;

5 iii. a needle holder located on the inside of said outer body at its proximal end;

iv. a needle that functions as a fluid conduit, wherein said needle passes through and is rigidly attached to said needle holder, the distal end of said needle comprises at least one port that allows fluid communication between the outside and the inside of said
10 needle;

v. a single membrane seal actuator reciprocally displaceable within the hollow interior of said connector section; said single membrane seal actuator comprising:

– a cylindrical actuator casing;

15 – a distal membrane that seals the distal end of said casing, wherein a part of said distal membrane protrudes distally from said casing; and

– at least one resilient arm which is connected at a proximal end thereof to an intermediate portion of the exterior of said casing and comprises enlarged locking elements at its distal end; ~~said~~

20 ~~enlarged locking element having specifically shaped surface areas which interact with an inner wall of said hollow cylindrical outer body of said connector section to enable a four step procedure for connecting or separating said connector section to a second fluid transfer component;~~

25 said connector characterized in that said single membrane seal actuator comprises a rigid plastic needle valve seat located proximally of said membrane, said needle valve seat comprising a bore, wherein said bore is adapted to each allow said needle to be pushed back and forth through it
30 and at least a portion of each of said bore is adapted such that fluid

- 32 -

ii. a needle holder;

iii. a first needle that functions as a liquid conduit, wherein said first needle passes through and is rigidly attached to said needle holder, the distal end of said first needle comprises at least one port that allows fluid communication between the outside and the inside of said first needle, the distal end of said first needle is located in said connector section, and the proximal end of said first needle is located in said liquid chamber;

iv. a second needle that functions as a gas conduit, wherein said second needle passes through and is rigidly attached to said needle holder, the distal end of said second needle comprises at least one port that allows fluid communication between the outside and the inside of said second needle, the distal end of said second needle is located in said connector section, and the proximal end of said second needle is located in said gas chamber;

v. a single membrane seal actuator reciprocally displaceable within the hollow interior of said connector section; said single membrane seal actuator comprising:

- a cylindrical actuator casing;
- a distal membrane that seals the distal end of said casing, wherein a part of said distal membrane protrudes distally from said casing; and

- at least one resilient arm which is connected at a proximal end thereof to an intermediate portion of the exterior of said casing and comprises enlarged locking elements at its distal end; ~~said enlarged locking element having specifically shaped surface areas which interact with an inner wall of said hollow cylindrical outer body of said connector section to enable a four step procedure for connecting or separating said connector section to a fluid transfer component;~~