CLAIM(S):

1. A method for testing integrity of a filter device including a porous membrane having an upstream surface and a downstream surface, the filter device comprising a housing having an inlet and an outlet and defining a fluid flow path between the inlet and the outlet, wherein the porous membrane is arranged across the fluid flow path, the method comprising:

(a) passing a test liquid from a test liquid source from a side of the outlet along a test liquid source conduit on the side of the outlet and a test liquid conduit on the side of the outlet through the outlet of the filter device so as to fill the test liquid conduit and to cover the downstream surface of the porous membrane with the test liquid;

(b) preventing additional test liquid flow from the test liquid source to the test liquid source conduit and to the test liquid conduit;

(c) passing gas along a gas flow conduit from downstream of the test liquid conduit and into the test liquid conduit filled with the test liquid, including applying a first pre-determined gas pressure on the test liquid in the test liquid conduit;

(d) preventing additional gas from passing along the gas flow conduit so as to prevent applying additional gas pressure on the test fluid in the test liquid conduit;

(e) monitoring gas pressure on the test liquid in the test liquid conduit; and measuring a decay in the gas pressure on the test liquid in the test liquid conduit over a pre-determined period of time, wherein if the gas pressure on the test liquid in the test liquid conduit decreases below a second pre-determined gas pressure, the filter device is considered to lack integrity.

2. The method of claim 1, wherein the filter device housing includes at least one vent port and the method further comprises

(f) draining test liquid from the filter device though the at least one vent port.

3. A system for testing integrity of a filter device comprising:

(a) a test fluid source; a test liquid source conduit positioned on an outlet side of the filter device and connected to the test fluid source;

(b) a test liquid conduit positioned on the outlet side of the filter device and in fluid communication with both the test liquid source conduit and an outlet of the filter device including a porous membrane having an upstream surface and a downstream surface, the filter device comprising a housing having an inlet and the outlet and defining a fluid flow path between the inlet and the outlet, wherein the porous membrane is arranged across the fluid flow path, wherein the test fluid source passes a test liquid from the test liquid source along the test liquid source conduit and the test liquid conduit through the outlet of the filter device so as to fill the test liquid conduit and to cover the downstream surface of the porous membrane with the test liquid;

(c) a flow control device associated with the test liquid source conduit for preventing additional test liquid flow from the test liquid source to the test liquid source conduit and the test liquid conduit; a gas flow conduit positioned downstream of the test liquid conduit and in fluid communication with the test liquid conduit, the gas flow conduit connected to a compressed air supply source via a valve controller, wherein the valve controller applies a first pre-determined gas pressure on the test fluid in the test liquid conduit;

(d) a flow control device associated with the gas flow conduit for preventing applying additional gas pressure on the test fluid in the test liquid conduit; a fluid connector in fluid communication the test liquid source conduit, the test liquid conduit, and the gas flow conduit;

(e) a pressure sensor arranged to measure gas pressure on the test fluid in the test liquid conduit; and a monitoring unit measuring a decay in the gas pressure on the test liquid in the test liquid conduit over a pre-determined period of time, wherein if the gas pressure on the test liquid in the test liquid conduit decreases below a second pre-determined gas pressure, the filter device is considered to lack integrity.

4. The system of claim 3, further comprising

(f) a flow sensor arranged to sense liquid entering the test liquid conduit.