CLAIMS:

1. A water treatment system comprising:

a cartridge having;

an external cartridge housing, the housing having a cylindrical portion with a top portion and a bottom portion, the bottom portion having a closed end, the top portion having a shoulder with a generally cylindrical neck portion extending upward from the shoulder, the cylindrical neck portion defining a portion of a connection fitting, the cylindrical neck portion defining a cylindrical bore having a cylindrical bore wall which defines a first diameter, the cylindrical bore wall having an annular ring protruding from the wall and defining a second diameter which is smaller than the first diameter;

an internal cartridge housing within the external cartridge housing and having a top portion with a shoulder, a tube portion extending upward from the internal shoulder, the tube portion defining an outlet bore, the tube portion defining an outer diameter having a third diameter, the third diameter is smaller than the first and second diameters, the tube portion and the annular ring define a cartridge inlet having an annular gap.

2. The system of claim 1, further comprising a manifold head having a connection fitting which includes an internal annular collar having a length defined such that with the cartridge assembled to the manifold, the internal annular collar extends around the tube portion and extends adjacent the annular ring.

3. A filter cartridge comprising:

an external cartridge housing including a top end, a bottom end, and a filter portion extending longitudinally between said top end and said bottom end, said filter portion including a housing wall having an inside surface and an outside surface; said top end including;

a shoulder, said shoulder and said housing wall inside surface forming an inner annular groove peripheral about said top end; and

a neck portion extending longitudinally beyond said shoulder and having at least one longitudinal bead on said neck portion extending outwards in the direction of said outside surface, said neck portion having an aperture for fluid flow; and

an internal cartridge housing within said external cartridge housing, having a

protruding portion extending through said aperture of said neck portion and forming an annular gap with said aperture of said neck portion to allow fluid flow, said protruding portion of said internal cartridge housing having an aperture for fluid flow.

4. The filter cartridge of claim 3 including an outer annular collar releasably attachable to said filter cartridge having a bottom lip for insertion within said inner annular groove of said filter cartridge.

5. The filter cartridge of claim 4 including said outer annular collar having a double lead thread on an inner surface to releasably attach to a filter manifold.

6. The filter cartridge of claim 3 wherein said top end includes an annular lip on said housing wall with at least one longitudinal slot formed therein.

7. The filter cartridge of claim 3 wherein said top end includes an annular lip on said housing wall with a plurality of longitudinal slots formed therein and equally spaced apart from one another.

8. An annular collar having an outside surface, and inside surface, a top end, and a bottom end, said annular collar releasably attachable to a filter cartridge on said annular collar bottom end and to a manifold on said annular collar top end, comprising:

a double lead thread on said inside surface adapted to mate with a corresponding outer threaded connector on said manifold; and

an extended lip portion on said bottom end for mating with an annular groove on said filter cartridge.

9. The annular collar of claim 8 including having at least one longitudinal extending bead which is received by a respective slot on said filter cartridge.

10. The annular collar of claim 8 wherein said double lead thread includes a circumference, a first thread, and a second thread, said first and second threads being interwoven and extending around approximately said circumference, wherein said first thread is offset from said second thread.

11. The annular collar of claim 10 wherein said first thread is offset from said second thread by approximately 180 degrees.

12. A filter cartridge comprising:

an external cartridge housing including a top end, a bottom end, and a filter portion extending longitudinally between said top end and said bottom end, said filter portion

~~including a housing wall having an inside surface and an outside surface;~~

said top end including:

a shoulder, said shoulder and said housing wall inside surface forming an inner annular groove peripheral about said top end; and

a neck portion extending longitudinally beyond said shoulder and having at least one longitudinal bead on said neck portion extending outwards in the direction of said outside surface, said neck portion having an aperture for fluid flow;

an internal cartridge housing within said external cartridge housing, having a protruding portion extending through said aperture of said neck portion and forming an annular gap with said aperture of said neck portion to allow fluid flow, said protruding portion of said internal cartridge housing having an aperture for fluid flow; and

an annular collar having an outside surface, and inside surface, a top end, and a bottom end, said annular collar releasably attachable to a filter cartridge on said annular collar bottom end and a manifold on said annular collar top end, comprising:

a double lead thread on said inside surface adapted to mate with a corresponding outer threaded connector on said manifold; and

an extended lip portion on said annular collar bottom end for mating with an annular groove on said external filter cartridge.

13. A filter cartridge comprising:

an external cartridge housing having a cylindrical portion with a top portion and a bottom portion, the top portion having a shoulder with a generally cylindrical neck portion extending upward from the shoulder, the cylindrical neck portion defining a portion of a connection fitting and having a cylindrical bore wall defining a first diameter, the cylindrical bore wall having an annular ring protruding from the wall and defining a second diameter smaller than the first diameter; and

an internal cartridge housing within the external cartridge housing and having a top portion with a shoulder, a tube portion extending upward from the internal shoulder, the tube portion having a third diameter smaller than the second diameter, the tube portion and annular ring define a cartridge inlet having an annular gap.

CLAIMS:

1. An annular collar having an outside surface, and inside surface, a top end, and a bottom end, said annular collar releasably attachable to a filter cartridge on said annular collar bottom end and to a manifold on said annular collar top end, comprising:

   a double lead thread on said inside surface adapted to mate with a corresponding outer threaded connector on said manifold; and

   an extended lip portion on said bottom end for mating with said filter cartridge.

2. The annular collar of claim 1 including having at least one longitudinal extending bead which is received by a respective slot on said filter cartridge.

3. The annular collar of claim 1 wherein said double lead thread includes a circumference, a first thread, and a second thread, said first and second threads being interwoven and extending around approximately said circumference, wherein said first thread is offset from said second thread.

4. The annular collar of claim 3 wherein said first thread is offset from said second thread by approximately 180 degrees.

5. The annular collar of claim 1 wherein said extended lip portion on said bottom end mates with an annular groove on said filter cartridge.