CLAIMS

I/We claim:

1. A treatment module, comprising:

a housing having an input port and an output port;

a plurality of treatment members, each treatment member having a skeleton and a loosely-fitting mesh material provided over the skeleton to allow the loosely-fitting mesh material to flutter during backwashing, the mesh material being joined to the skeleton at one or more portions of the skeleton; and

a layer of adsorbent particles formed over a first side of the mesh material, the layer having pores of sufficient size to enable a fluid to flow through the layer.

2. The treatment module of claim 1, wherein the skeleton extends along a first direction, and the mesh material is flexible,

wherein the skeleton is configured to prevent the mesh material from collapsing entirely inward when a force is applied inward to the mesh material, and

wherein each of the treatment members further has a rod disposed within the skeleton to provide a structural support for the skeleton.

3. The treatment module of claim 1, wherein the mesh material is joined to the skeleton at first and second ends of the skeleton.

4. The treatment module of claim 3, further comprising:

a first end piece joining the mesh material to the first end of the skeleton; and

a second end piece joining the mesh material to the second end of the skeleton.

5. The treatment module of claim 2, wherein the skeleton has an elongated shape along the first direction, and the mesh material has a tubular shape covering the skeleton.

6. The treatment module of claim 2,

wherein the skeleton includes a plurality of longitudinal members, a plurality of rings, and a plurality of prongs, therings being attached to the longitudinal members, each of the prongs extending inwardly from an inner surface of a corresponding one of the rings.

7. The treatment module of claim 6, wherein the prongs have lengths sufficient to hold the rod in place.

8. The treatment module of claim 1, wherein the mesh material is formed as a flat sheet over the skeleton.

9. The treatment module of claim 1, wherein each of the treatment members is configured to be removable from the housing.

10. The treatment module of claim 1, wherein the treatment members are bonded together at least on one end by potting.