CLAIMS

1. A product water tube for use with a filter element having a filter membrane, the product water tube comprising a tube wall having a plurality of apertures formed therein to allow permeate from the filter membrane to pass through the tube wall and into a center portion of the tube, wherein the tube wall has an outer surface having a pattern of ridges and channels that conduct the permeate across the outer surface of the tube to the apertures.

2. The product water tube of claim 1 wherein the ridges and channels on the outer surface of the product water tube are in a spiral pattern along the tube.

3. The product water tube of claim 2 wherein the outer surface of the wall of the product water tube has spiral ridges and channels that spiral in a first direction along the tube and an inner surface of the wall of the product water tube has spiral ridges and channels formed therein that spiral in an opposing direction along the tube and the apertures are formed at the intersections of the outside and inside channels.

4. The product water tube of claim 1 wherein the channels are formed in a staggered and cross-hatched pattern on the outer surface of the product water tube.

5. The product water tube of claim 4 wherein apertures are staggered slots.

CLAIMS

1. A product water tube for use with a filter element having a filter membrane, the product water tube comprising a tube wall having a plurality of apertures formed therein to allow permeate from the filter membrane to pass through the tube wall and into a center portion of the tube, wherein the tube wall has an outer surface having a pattern of ridges and channels that conduct the permeate across the outer surface of the tube to the apertures, wherein the ridges and channels on the outer surface of the product water tube are in a spiral pattern along the tube, and wherein the outer surface of the wall of the product water tube has spiral ridges and channels that spiral in a first direction along the tube and an inner surface of the wall of the product water tube has spiral ridges and channels formed therein that spiral in an opposing direction along the tube and the apertures are formed at the intersections of the outside and inside channels.