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CLAIMS

1. A filter system comprising at least one filter element (5), which comprises a permeate hose (20), wherein said permeate hose (20) limits a secondary flow chamber, is closed at a front end, and comprises a permeate outlet (29) at a rear end, wherein at least a portion of the wall of this permeate hose (20) is a membrane (7) comprising pores, and wherein the pores connect the secondary flow chamber to a primary flow chamber, wherein the at least one filter element (5) as a wound module is wound spirally around a collector tube (1) comprising collector openings (3), and wherein the permeate outlet (29) at the inner end of the permeate hose (20) is arranged in the region of the collector tube (1) and is connected to the collector tube (1) via the collector openings (3), wherein the membrane (7) is at least a part of the wall of a feed hose (10), which is arranged along the permeate hose (20) and which limits the primary flow chamber, characterized in that the feed hose (10) comprises at least one feed inlet (25), which is arranged peripherally on the jacket surface of the feed hose (10) at the front end and a retentate outlet (23) in the longitudinal direction of the feed hose (10) spaced apart therefrom, at the rear end.

2. The filter system as claimed in claim 1, characterized in that the wall of the permeate hose (20) comprises an inner hose and an outer hose encasing the inner hose, wherein the inner hose is the feed hose (10) comprising the membrane (7).

3. The filter system as claimed in claim 1, characterized in that the wall of the feed hose (10) comprises an inner hose and an outer hose encasing the inner hose, wherein the inner hose is the permeate hose (20) comprising the membrane (7).

4. The filter system as claimed in claim 1, characterized in that the feed hose (10) and the permeate hose (20) are arranged adjacently next to one another, and in that the membrane (7) is a common section of the walls of the feed hose (10) and of the permeate hose (20).

5. The filter system as claimed in claim 4, characterized in that an intermediate space between adjoining layers of the at least one rolled-up filter element (5) at each of the two front sides of the wound module is at least partially sealed by means of a sealing element (21).

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6. The filter system as claimed in claim 5, characterized in that the primary flow chamber or the secondary flow chamber is limited by means of the adjoining layers of the at least one rolled-up filter element (5) and by means of the front-side sealing elements (21).

7. The filter system as claimed in one of claims 4 to 6, characterized in that the wound module is arranged in a housing (31), wherein the housing (31) comprises a housing jacket (33), which is covered by an input-side cover (35) comprising at least one input opening (37) and by an output-side cover (45) comprising at least one output opening (47).

8. The filter system as claimed in claim 7, characterized in that a front sealing body (41) is arranged between the input-side cover (35) and the wound module, which front sealing body seals the intermediate spaces between adjoining layers of the at least one filter element (5) on the front side, and which comprises at least one recess (43), which connects the input opening (37) to the feed inlet (25), and/or that a rear sealing body (51) is arranged between the output-side cover (45) and the wound module, which rear sealing body seals the intermediate spaces between adjoining layers of the at least one filter element (5) on the front side, and which comprises at least one recess (53), which connects the output opening (47) to the retentate outlet (23).

9. A method for preparing a liquid by means of a filter system according to claim 1, characterized in that the liquid flows into the feed hose (10) under pressure through the at least one feed inlet (25), which is arranged peripherally on the jacket surface of the feed hose (10) at the front end, in that a fraction of the liquid flows through the feed hose (10) along the permeate hose (20) and flows out through a retentate opening (25) at the end of the feed hose (10), and in that a further fraction of the liquid reaches through the pores of the membrane (7) into the permeate hose (20) and flows out of the permeate hose (20) through the permeate outlet (29).