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(54) Title: BYPASS CONTROL SLEEVE FOR SANITARY SPIRAL WOUND FILTER

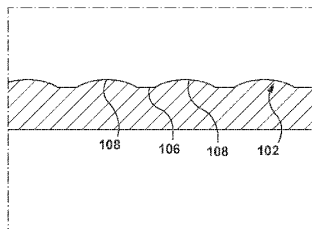


FIG. 1A (PRIOR ART)

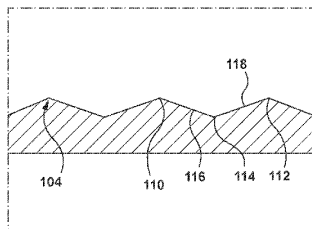


FIG. 1B (PRIOR ART)

(57) Abstract: A by-pass control sleeve has circumferential protrusions along its outer surface. The protrusions of the by-pass control sleeve may be distributed along the length of the sleeve with constant diameter sections of the sleeve therebetween. The protrusions may be asymmetrical and/or may have a steep and/or concave curved forward face. A method of making a by-pass control sleeve comprises molding the protrusions on an outer surface of the sleeve. A method of installing the by-pass control sleeve comprises sliding the sleeve onto an end of a spiral wound membrane element. A combination of the by-pass control sleeve fixed to the spiral wound membrane element may be installed in a pressure housing.

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