



## FILMTEC Membranes

### System Design: System Components

#### Pressure Vessels

Pressure vessels are available with different diameters, lengths, and pressure ratings. When selecting a pressure vessel, the chosen pressure rating must be high enough to allow for a pressure increase to compensate for irreversible fouling (typically 10% more than needed in a 3-year design).

When dynamic permeate backpressure is employed during plant operation, the limiting component for some pressure vessels is the permeate port. Materials such as polyvinylchloride (PVC) are used for the permeate port on many pressure vessels. The permeate pressure rating is a strong function of temperature, as shown in Table 3.12. Please consult with the manufacturer of the pressure vessel for details on the specific vessel. Note that at static conditions, i.e., with the high-pressure pump shut down, permeate backpressure must never exceed 5 psi (0.3 bar).

**Table 3.12 Maximum dynamic permeate backpressure for pressure vessels with FILMTEC™ elements**

Temperature (°F)	Temperature (°C)	Maximum dynamic permeate backpressure	
		psi	bar
113	45	145	10.0
104	40	180	12.4
95	35	219	15.1
86	30	257	17.7
77	25	299	20.6
68	20	338	23.3

**FILMTEC Membranes**  
For more information about FILMTEC  
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Notice: The use of this product in and of itself does not necessarily guarantee the removal of cysts and pathogens from water. Effective cyst and pathogen reduction is dependent on the complete system design and on the operation and maintenance of the system.

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