



FILMTEC Membranes

System Design: System Components

Shutdown Switches

The membrane elements must be protected against undue operating conditions. If there is a possibility that such conditions can occur, for example, by a pretreatment upset, provisions must be made so that the system is shut down.

Some undue operating conditions and the provisions to prevent these are listed in Table 3.13.

Table 3.13 Provisions against undue operating conditions

Undue operating condition	Provision
Too high feed pressure	High pressure shutdown switch in the feed line
Insufficient feed pressure	Low pressure shutdown switch in the pump suction line
Too high feed temperature	High temperature switch in the feed line
Permeate pressure exceeding feed by more than 0.3 bar (5 psi) pressure	Pressure relief mechanism in the permeate line
Too high concentration of colloidal matter in the feed	Turbidity control in the feed line
Too high concentration of sparingly soluble salts in the feed	Dosing pumps for acid and antiscalant should be electrically interlocked with the feed pump drive High pH shutdown switch
Oxidizing agents in the feed	ORP (Oxidation Reduction Potential) control in feed line or chlorine detection monitor with automatic shutdown
Oil in the feed	Oil detector in feed line

FILMTEC™ Membranes
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