

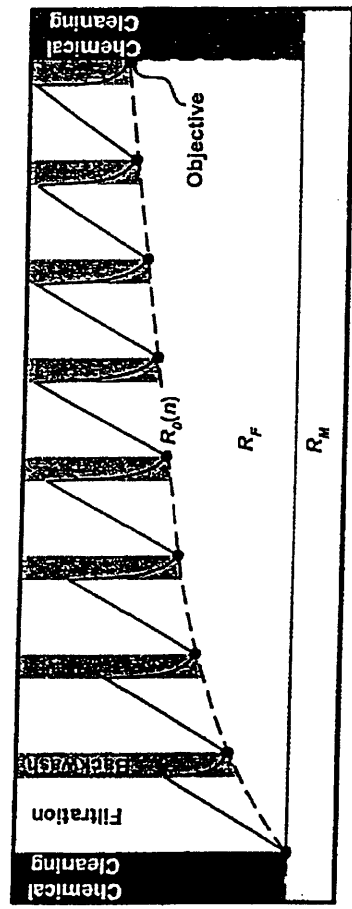


Fig. 1. Series of subsequent filtrations and backwashes between two chemical cleaning phases. The line illustrates the development of the resistance profile.

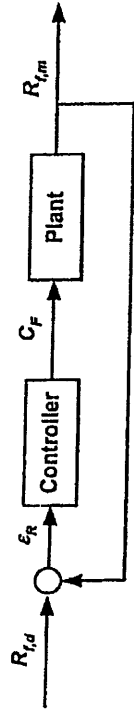


Fig. 2. Basic feedback configuration

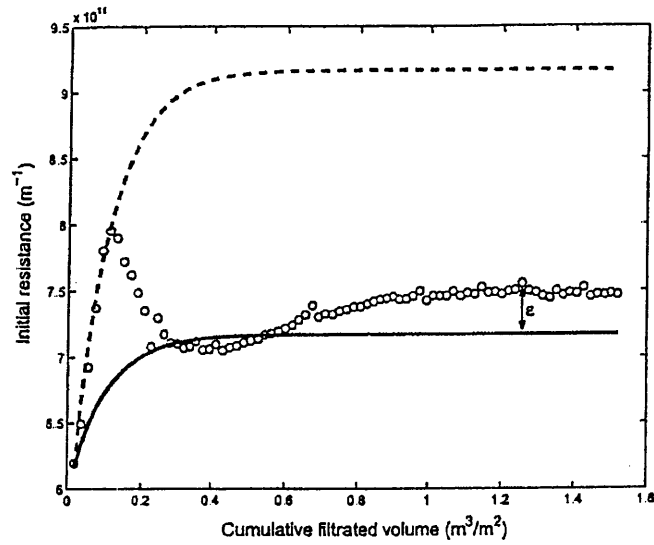


Fig. 3. Measured (circles) and desired (lines) filtration trajectories as a function of the cumulative filtered volume.

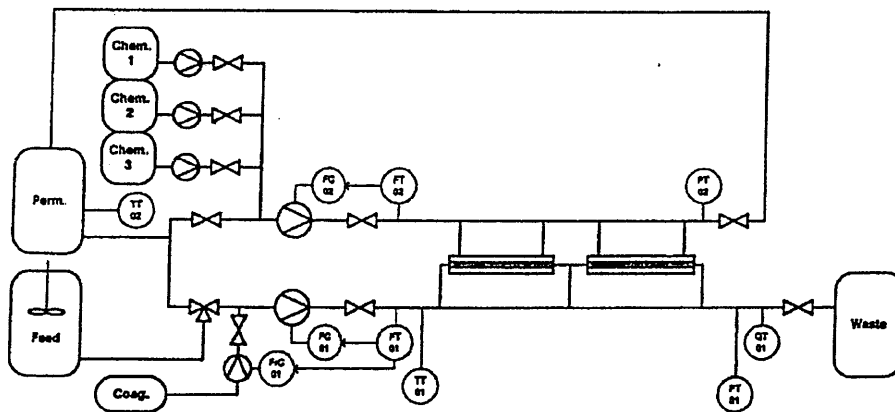


Fig. 4. Schematic representation of the pilot-plant scale filtration unit employed in the experiments.

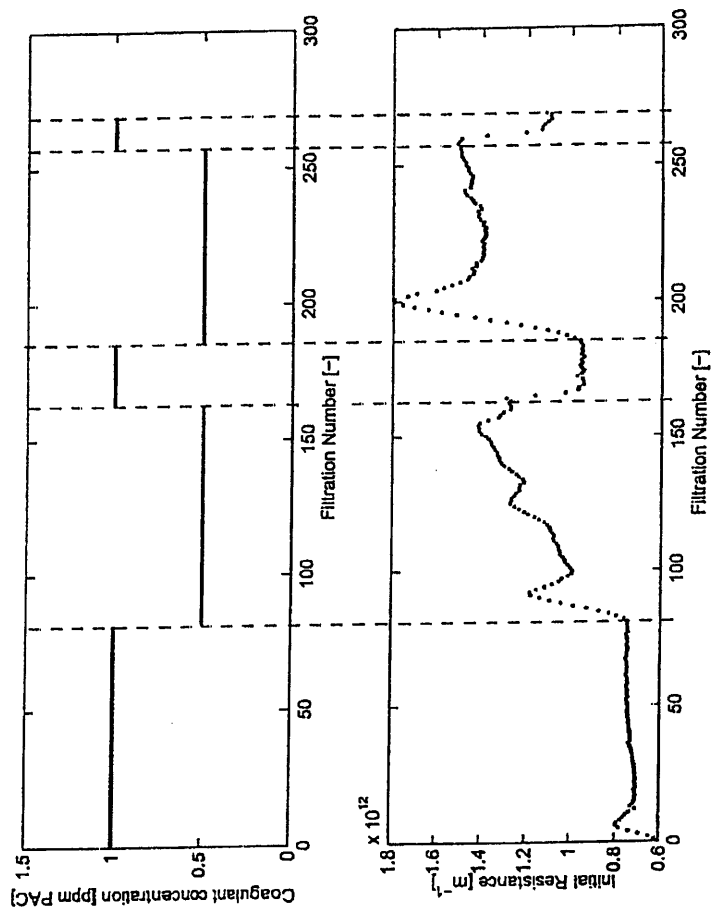


Fig. 5. Top: Coagulant concentration vs. filtration number, Bottom: Initial resistance vs. filtration number. Other settings were: $J_F = 75 \text{ l/m}^2\text{h}$, $t_F = 15 \text{ min}$, $J_B = 250 \text{ l/m}^2\text{h}$, $t_B = 60 \text{ s}$.

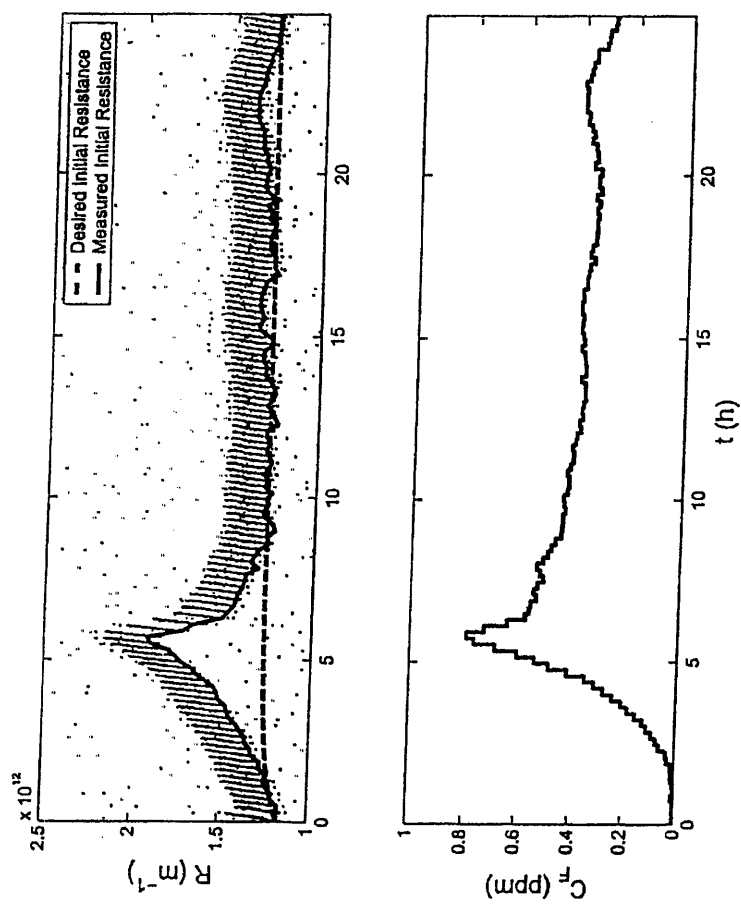


Fig. 6. Performance of the coagulant controller on a long sequence of short filtrations.

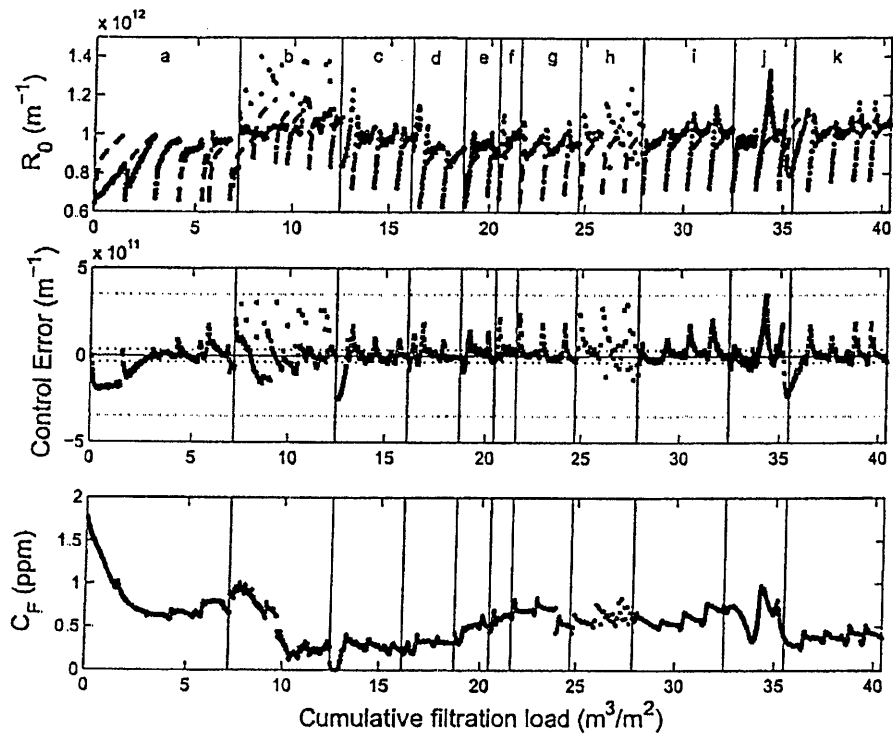


Fig. 7. Performance of the coagulant controller on a series of chemical cleaning cycles.

Table 1

Values of the filtration flux and filtration duration used in figure 7.

	a	b	c	d	e	f	g	h	i	j	k
J_F (l/m ² h)	75	25	50	100	75	75	100	75	75	75	75
t_F (min)	20	60	30	15	10	20	15	60	20	6	20