

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

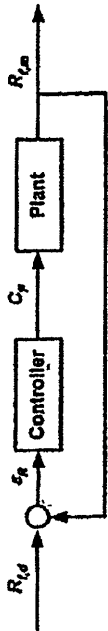


Fig. 2. Basic feedback configuration

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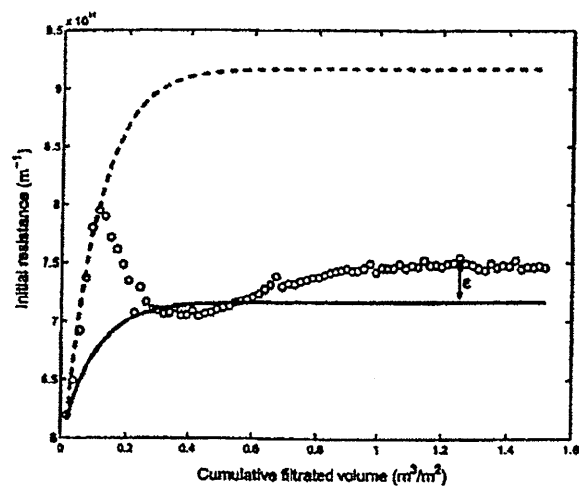


Fig. 3. Measured (circles) and desired (lines) filtration trajectories as a function of the cumulative filtered volume.

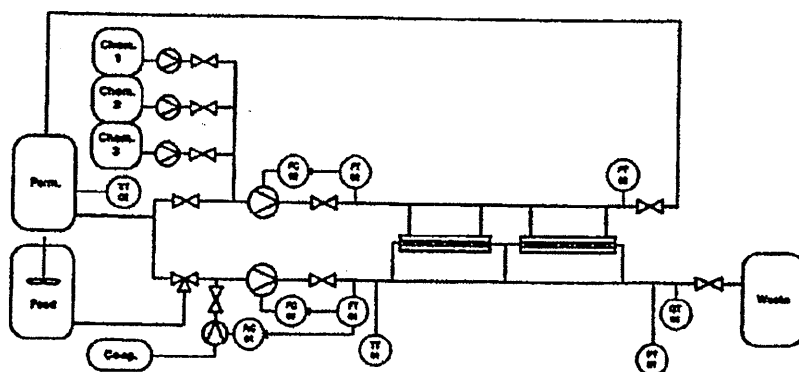


Fig. 4. Schematic representation of the pilot-plant scale filtration unit employed in the experiments.

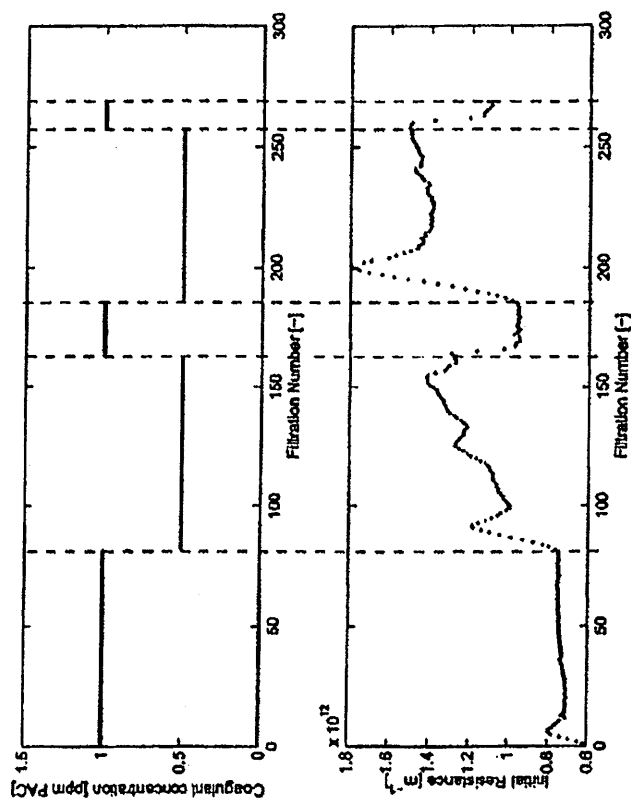


Fig. 5. Top: Coagulant concentration vs. filtration number, Bottom: Initial resistance vs. filtration number. Other settings were: $J_F = 75 \text{ l/m}^2\text{h}$, $t_F = 15 \text{ min}$, $J_B = 250 \text{ l/m}^2\text{h}$, $t_B = 60 \text{ s}$.

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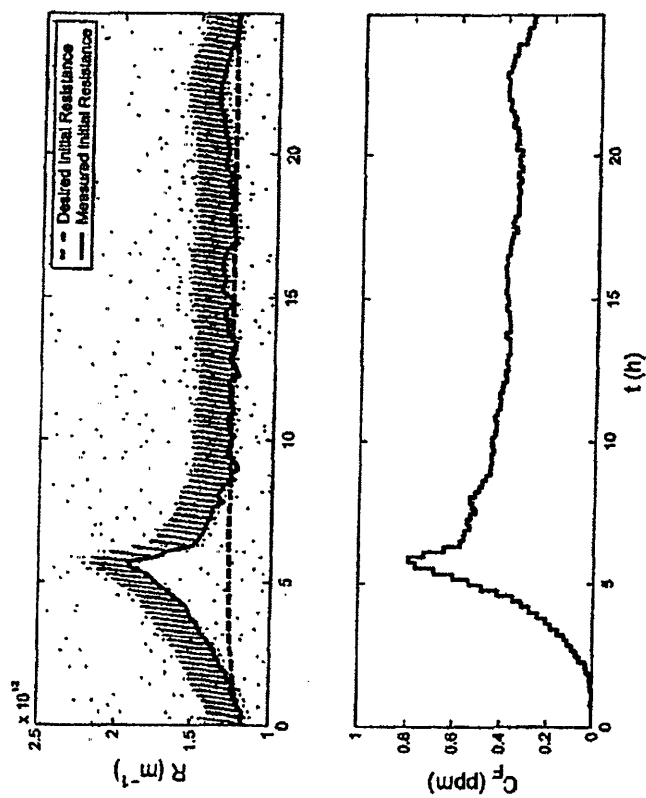


Fig. 6. Performance of the coagulant controller on a long sequence of short filtrations.

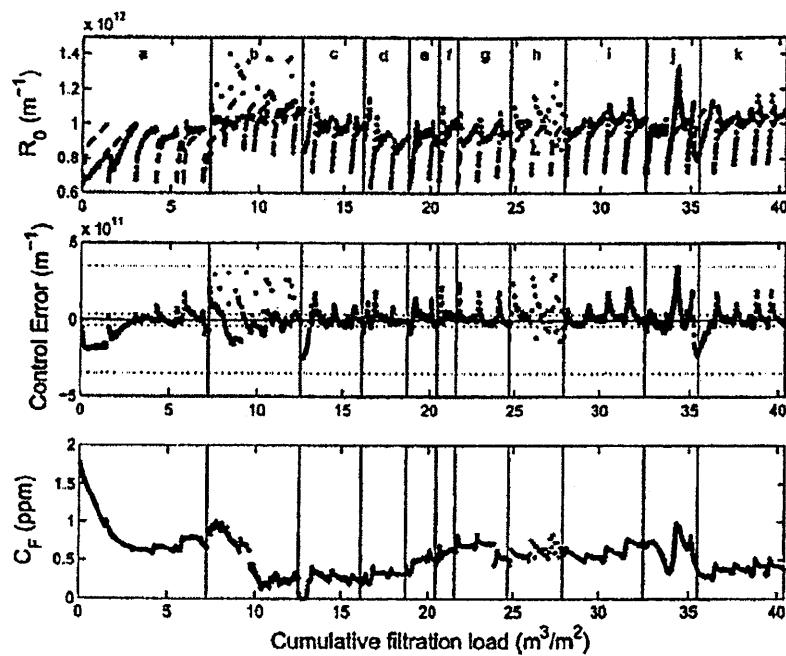


Fig. 7. Performance of the coagulant controller on a series of chemical cleaning cycles.

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/m²h)	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