

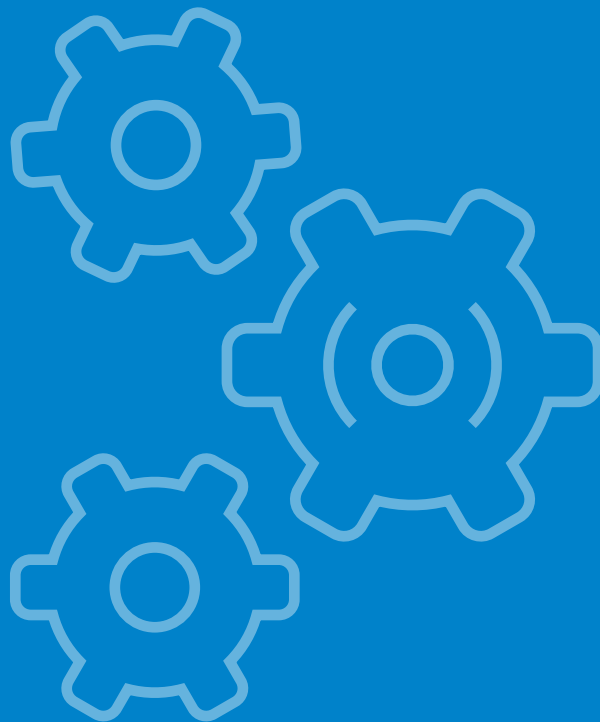
DATA SHEET

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# AFC30 AND AFC40

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Nanofiltration Membranes



## PERFORMANCE CHARACTERISTICS

This publication is a summary of data collected for the PCI Membranes nanofiltration membranes type AFC30 and AFC40.

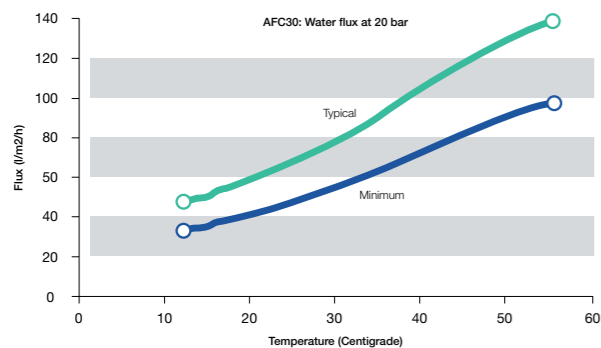
The data has been collected under a variety of conditions, and should be regarded as an indication of the characteristics of these membrane types. The data included here does not form part of the specification for either AFC30 or AFC40.

### Flux and retention data for various solutes

Solute	Flux (l/m <sup>2</sup> /hr)		Retention (%)	
	AFC 30	AFC40	AFC30	AFC40
CaCl <sub>2</sub> (5 g/l)	148	156	52.7	39.5
MgSO <sub>4</sub> (5 g/l)	158	170	52.7	39.5
Glucose (2 g/l)	144	158	90.6	83
Lactic acid (2g/l)	114	158	90.6	39.2
Rhodamine B dye	145	176	97.8	97.3

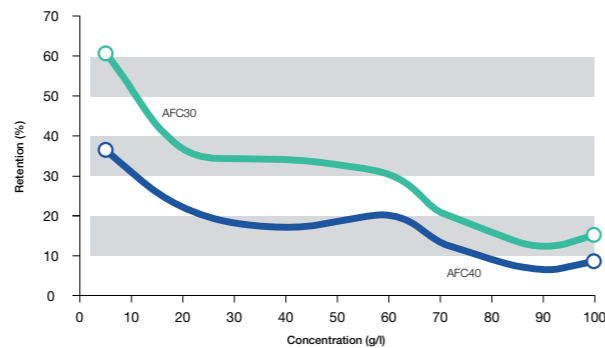
Note: The above data was collected on single solute solutions at 25 Bar pressure, and at a temperature of 20°C. Prior to the tests the membranes had been washed with an enzyme detergent solution at pH 9.

### Flux as a function of temperature.



(On water at 20 bar operating pressure).

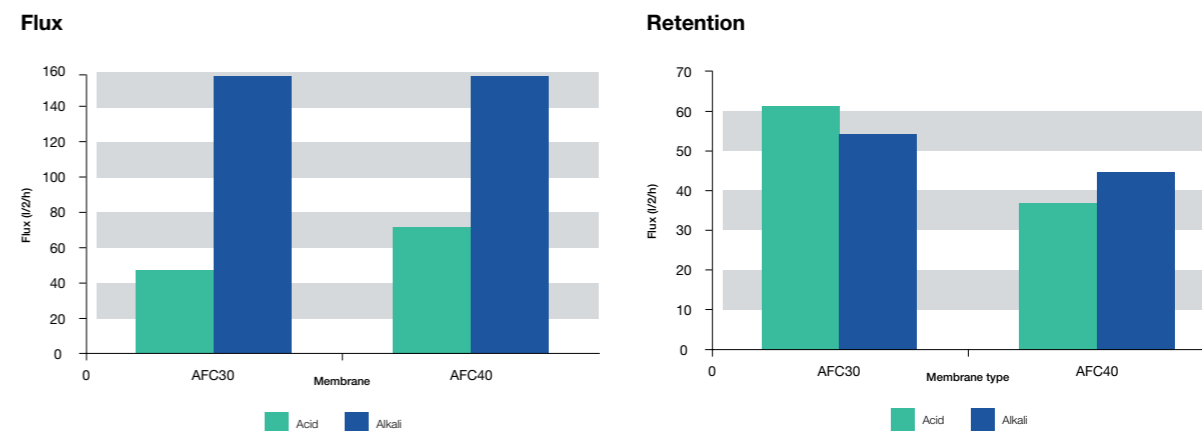
### Retention of sodium chloride as a function of concentration.



Single solute solution, Pressure: 20 bar. Temperature: 150°C. Membrane was acid cleaned.

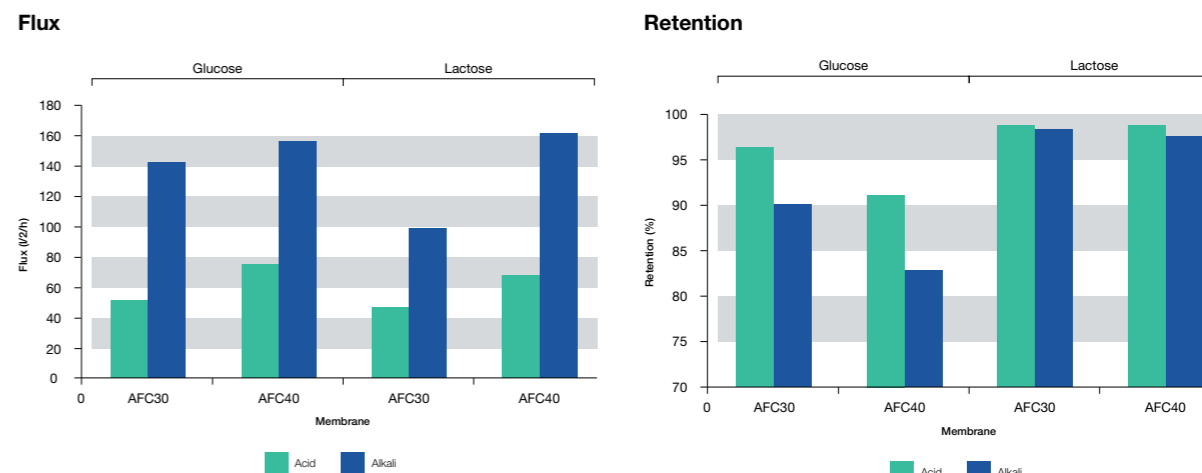
### Acid and Alkali Cleaning

The performance of both the AFC30 and AFC40 membrane can be influenced by the pH the membrane has been subjected to before it is used. Acid cleans tend to “tighten” the membrane, reducing the water flux, and in some cases increasing the retention of certain solutes. Alkaline cleans tend to “open” the membrane, increasing the water flux, and in some cases reducing the retention of certain components.



5g/l. of sodium chloride solution, pressure: 20 bar. Temperature: 15°C.

### Effect of cleaning on sugar solution flux and retention.



Glucose: concentration; 2 g/l, pressure; 25 bar, temperature; 20° C. Lactose: concentration; 1.5 g/l, pressure; 20 bar, temperature 15° C.

### Retention of cations

The retention of monovalent and divalent cations compared with their molar ratio for AFC30 membrane type. The concentration of the anion, chloride, was kept constant. Pressure was 40 bar.

