

## Ion Exchange Resins at Work

# Purofine

PuroLite's Uniform bead size Ion Exchange Resins provide Added Value at no extra cost for Industrial Water Treatment

### Introduction

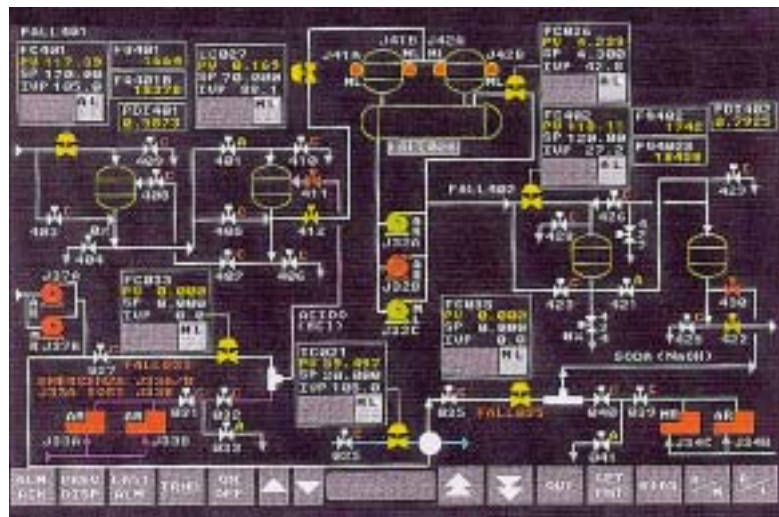
A major Western Europe oil refinery was operating an existing demineralisation facility using PuroLite resins. The customer utilised PuroLite expertise in defining a project to deliver more water from a revamp of the existing facility.

The customer utilised the PuroLite PureDesign programme to design the revamp and also introduced Purofine uniform bead size resins as part of the overall design process.

The resin volumes and operating capacities are outlined below:

	WAC or WBA resin volume, litres	SAC or SBA resin volume, litres	Vessel diameter, mm	Vessel cyl, height, mm
Cation filters, small lines	6700 (vs. 7300)	6700 (vs. 7400)	2600	2800
Cation filters, large lines	10500 (vs. 14600)	10500 (vs. 15000)	3000	4300
Anion filters, small lines	5800 (vs. 3100)	5800 (vs. 3350)	2100	2500
Anion filters, large lines	9000 (vs. 6200)	9000 (vs. 6700)	2100	4000
Mixed beds	-	6000+ 6000	3000	3500

The products installed during the revamp were:  
Purofine PFC 105, PFC 100, PFA 103 and PFA 500.



### Improvement in operating capacities

	Cation resins		Anion resins	
	WAC eq/l	SAC eq/l	WBA eq/l	SBA eq/l
Before revamping	0.65	0.95	0.90	0.40
After revamping	2.00	1.30	0.90	0.60

1 eq/l = 1 val/l

### Project benefits

The project benefits are outlined below:

- 50% more water on the small lines
- 25% more water on the large lines
- Reduction of more than 50% in service waters
- 40% savings on regeneration chemicals consumption (HCl and NaOH), rising to 48%, if you take into account the increased TDS in the feed water.

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