



## DOW™ UF and RO Technology Help Produce Soft Drinks



DOW™ Ultrafiltration (UF) modules and DOW FILMTEC™ elements have been installed to purify well water used as process water for soft drink production.

### Fast Facts

Country:	Spain	
End-User:	Beverage Industry	
Feed Water Quality:	Well Water	
	Conductivity ~1,000 µS/cm; TSS: 5 mg/L Turbidity: 5 NTU; SDI > 5	
Membrane Type:	<b>DOW™ UF SFP-2880</b>	<b>DOW FILMTEC™ LE-400i</b>
Total # of Elements:	<b>45</b>	<b>72</b>
Plant Design Info:	<b>3 racks with 15 modules</b>	
Plant Capacity:	<b>200 m³/h (4,800 m³/day)</b>	<b>70 m³/h</b>
Recovery:	<b>&gt; 95%</b>	<b>75%</b>
Product Water Quality:	<b>Turbidity &lt; 0.03 NTU (Ultrafiltrate)</b>	
Temperature Range:	10-20°C	
Start-Up Date:	June 2010	

### Performance

- Filtration Cycle Duration: 60 minutes
- Operating Flux: 65 L/m²h
- Trans-Membrane Pressure (TMP) at 20°C: 0.40 bar
- No Chemically Enhanced Backwash (CEB) needed.

### Operating Conditions UF – Summary Table

Parameter	Frequency	Duration	Chemical Consumption
Filtration	—	60 min	—
Air Scour	Every 60 min	20 s	—
Backwash	Every 60 min	60 s	0.2 – 0.3 ppm ClO <sub>2</sub>
Forward Flush	Every 60 min	60 s	—
CEB <sup>a</sup>	None	None	—
CIP <sup>b</sup>	—	—	<i>Alkaline:</i> 0.05% NaOH, 0.2% NaOCl <i>Acid:</i> 2% citric acid

<sup>a</sup>Chemically Enhanced Backwash

<sup>b</sup>Clean-in-Place