

# Cooling Water Make-up

## Product Recommendation

Cooling tower blowdown is often too impaired to be reused without treatment and is typically sent directly to the facility's wastewater treatment plant. This imposes a hydraulic load on the wastewater treatment system. More importantly, a tremendous amount of relatively clean water is wasted, adding significant cost and discharge compliance complexity. DuPont can work with you to deliver the optimal solution for your needs, using robust, reliable, fouling-resistant filtration and purification technologies to recover and return up to 90% of blowdown water for makeup water use.

TECHNOLOGY	PRODUCT	APPLICATION	FEATURES
<b>ULTRAFILTRATION MODULE AND SKID</b>	IntegraFlux™ SFP-2880XP Module	Suspended Solids Removal	High permeability and high mechanical strength hollow fiber polyvinylidene fluoride (PVDF) membranes. The modules provide excellent performance, industry leading membrane area with low energy and chemical consumption. XP fiber provides up to 35% higher permeability than previous generation modules, improving operating efficiencies and productivity.
	DuPont™ Ultrafiltration SFP-2880 Module		High mechanical strength hollow fiber PVDF membranes. The modules provide excellent performance with industry leading membrane area.
	IntegraPac™ IP-77XP Skid		Skids are pre-engineered, standardized, and ready to assemble. Comprising of IntegraPac™ modules (standard and XP fiber), auxiliary parts, and piping the skids can significantly streamline design, assembly, and installation. Flexible sizing with 6-22 modules per skid.
	IntegraPac™ IP-77 Skid		
<b>NANOFILTRATION ELEMENTS</b>	FILMTEC™ NF270-400/34	Softening	A product suitable for removal of a high percentage of total organic carbon (TOC) and with medium to high salt passage and medium hardness passage at very low operating pressures.
	FILMTEC™ NF90-400/34	Softening/Partial Deminearalization	A product suitable for high hardness removal and partial monovalent ion passage at low operating pressures.
<b>REVERSE OSMOSIS ELEMENTS</b>	FILMTEC™ ECO PRO-440	Deminearalization from Controlled Feedwater Source (municipal/high quality)	State-of-the-art solution to deliver high salt rejection at low operating pressure reducing CAPEX and OPEX.
	FILMTEC™ BW30HR-440		Very high rejection proven at broad Total Dissolved Solids (TDS) range, coupled with reduced footprint installations.
	FILMTEC™ BW30HRLE-440		Delivers low operating pressure coupled with a good permeate purity.
	FILMTEC™ XLE-440		High-quality permeate water at low operating costs.
	FILMTEC™ BW30-400	Deminearalization from Challenging Feedwater Source	Established industry reference product providing consistent, high performance and long element life with decades of proven performance
	FILMTEC™ FORTILIFE™ CR 100		State-of-the-art solution to tackle tough fouling coupled with excellent salt rejection.
	FILMTEC™ ECO PRO-400		State-of-the-art solution to deliver high salt rejection at low operating pressure reducing CAPEX and OPEX.
	FILMTEC™ BW30XFR-400/34		Established high fouling resistance and fouling removal efficiency coupled with very high rejection proven at broad TDS range.
	FILMTEC™ BW30XFRLE-400/34	Improved fouling resistance as well as efficiency of element's cleaning combined with low energy consumption and good water purity.	
	FILMTEC™ BW30-400/34	Consistent and reliable high operational performance coupled with increased productivity comparing to BW30-365.	
	FILMTEC™ BW30-365	Established industry reference product providing consistent, high performance and long element life with decades of proven performance.	
	FILMTEC™ SW30HRLE-400	Seawater Desalination	High rejection at sustainable lower lifecycle cost for medium- and high-salinity feedwaters.
	FILMTEC™ SW30HRLE-440		Advanced combination of productivity and rejection resulting in a low energy seawater element, enabling lowest operation cost.
	FILMTEC™ SW30XLE-400		
FILMTEC™ SW30XLE-440			

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ION EXCHANGE	AMBERLITE™ HPR 1100 Na	Softening	Uniform particlesize softening resin with excellent physical stability and low/rinse profile.
	AMBERLITE™ HPR 1200 Na		Designed to be go-to, high-quality uniform particle size SAC resin. Offers excellent operating capacity and rinse characteristics while compatible with all system
	AMBERLITE™ IRC 120 Na		General-purpose, durable resin offers a good balance of capacity and strength resulting in long lifetime forco-flow regenerated systems.
	AMBERLITE™ IRC 83H		General-purpose, high-capacity dealkalization and softening resin with improved operating capacity demonstrated in high TDS Na form operation.

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Form No. 609-50291 CDP, Rev. 1  
August 2019