



WATER TREATMENT AT POWER PLANT

Fossil Power Plant Condensate Polisher Product Recommendations

Condensate polishers protect critical boiler components from potential condenser leaks, thereby improving plant reliability. Our ion exchange resins have been the backbone of condensate polishing systems throughout the world for decades. Depending on the chemistry used in the boiler feed water, the right resin combination will help provide the optimum performance in terms of treated condensate purity and cycle run length.

PRODUCT	AMINE	CATION PRE-BED	FEATURES AND RECOMMENDED USES	TYPE	MATRIX	TOTAL VOLUME CAPACITY (eq/L min)	IONIC FORM AS SHIPPED
AMBERLITE™ HPR4700 OH	NH ₄ / Organic Amine	N/A	This pairing offers the best balance of properties for fossil power plants: high capacity gel type resins, uniform particle size, and high physical stability. Combined with the exceptional separation in mixed beds, this is the go-to pairing for fossil power plants.	SBA	GEL	1.10	OH ⁻
AMBERLITE™ HPR1300 H		Yes		SAC	GEL	2.00	H ⁺
AMBERLITE™ HPR550 OH	NH ₄ / Organic Amine	N/A	Most typically used in nuclear power plants, but suitable for fossile plants when the premium grade resins with tight metal specifications are required or preferred. Together, these resins offer exceptional separation in mixed beds, which combined with excellent water quality and resin purity, has made them known throughout the industry as a premium mixed bed pairing in condensate polishing. AMBERLITE™ HPR650 H Resin is also an excellent choice for cation pre-bed required to handle NH ₄ /amine load.	SBA	GEL	1.10	OH ⁻
AMBERLITE™ HPR650 H		Yes		SAC	GEL	2.00	H ⁺
AMBERLITE™ HPR550 OH or AMBERLITE™ HPR4700 OH	NH ₄ / Organic Amine	N/A	Pairing that offers you one of the highest NH ₄ /amine capacity with good anion protection, allowing enhanced pH for better FAC control. AMBERLITE™ HPR1600 H Resin provides high NH ₄ /amine capacity for cation pre-bed.	SBA	GEL	1.10	OH ⁻
AMBERLITE™ HPR1600 H		Yes		SAC	GEL	2.40	H ⁺
AMBERLITE™ HPR900 OH	NH ₄ / Organic Amine	N/A	Pairing that offers you high NH ₄ /amine capacity with good resistance to anion resin fouling. AMBERLITE™ HPR1600 H Resin provides high NH ₄ /amine capacity for cation pre-bed. The use of a macroporous anion resin provides excellent resistance to surface fouling and kinetic impairment.	SBA	MACRO	0.80	OH ⁻
AMBERLITE™ HPR1600 H		Yes		SAC	GEL	2.40	H ⁺
AMBERLITE™ HPR900 OH	NH ₄ / Organic Amine	N/A	Pairing that offers you high capacity with good resistance to anion resin fouling. The use of a macroporous anion resin provides excellent resistance to surface fouling and kinetic impairment.	SAC	MACRO	1.70	OH ⁻
AMBERLITE™ HPR1300 H		Yes		SAC	GEL	2.00	H ⁺
AMBERLITE™ HPR9000 OH	Organic Amines	N/A	Pairing that offers you high Na selectivity for operation past amine break. The use of a macroporous anion resin provides excellent resistance to surface fouling and kinetic impairment.	SBA	MACRO	0.80	OH ⁻
AMBERLITE™ HPR2000 H		No		SAC	MACRO	1.70	H ⁺
AMBERLITE™ HPR900 OH		N/A	Macro resin pairing that combines excellent physical stability with superior resistance to fouling for enhanced resin life. Recommended for use in oxidative conditions or with alternative amines or when high stability needed. This pair is designed for use when a balance of operating performance, simple operation, long resin life, and cost-effective operation is required.	SBA	MACRO	0.80	OH ⁻
AMBERLITE™ HPR252 H		Yes		SAC	MACRO	1.65	H ⁺
AMBERLITE™ HPR2800 H		Yes	Macro resin pairing designed to be used when a combination of exceptional physical stability, simple and reliable operation, and long resin life is required. Recommended for use in oxidative conditions or with alternative amines or when high stability needed. This pairing is compliant with the China National Standard specifications for fossil power condensate polishing applications, including the China Strong Osmotic Ball Mill test.	SBA	MACRO	0.80	OH ⁻
AMBERLITE™ HPR900 OH		N/A		SAC	MACRO	1.70	OH ⁻
AMBERLITE™ 600i	Layer Separation	N/A	Inert interface separator compatible with all PWR condensate polishing resin pairs.	Inert	GEL	N/A	N/A

Key: SBA = Strong Base Anion SAC = Strong Acid Cation MB = Mixed Bed

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WARNING: Oxidizing agents such as nitric acid attack organic ion exchange resins under certain conditions. This could lead to anything from slight resin degradation to a violent exothermic reaction (explosion). Before using strong oxidizing agents, consult sources knowledgeable in handling such materials.

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