Ecodyne has been supplying Powdex® systems for nearly 60 years.

The Powdex process is based on the phenomenon that small particles of ion exchange resins, when mixed together, agglomerate to form large floc particles. These floc particles can then be precoated on a filter septum (cartridge) with surprisingly low resistance to flow. A filter precoated with Powdex resins is capable of removing suspended solids while simultaneously performing an ion exchange operation. The Powdex system is chemical free, uses ion exchange resin for a single cycle and can withstand higher temperatures than typical deep bed polishers.
Design Principles and Features

High quality applications require high quality filter precoat materials. Raw materials for Ecodyne filter precoat materials must undergo rigorous quality control testing before use. In addition each product is subjected to a series of in-process and finished-product quality assurance procedures. Whatever your objective is in filtration or ion exchange, you can be sure that the Ecodyne precoat materials are of the best quality available.

Converting existing precoat filter installations

Existing precoat filter installations can be operated with Ecodyne precoat materials, with only slight changes in precoat procedures.

Applications

• Nuclear plant condensate polishing
• Condensate treatment for industrial boilers
• Fossil and power plant condensate polishing

Features and advantages

• Produces very high quality effluent with a high flux
• Withstands high temperatures
• Different types of specialized media can handle any number of contaminants including hydrocarbons, colloidal solids, radioactive material, color, TDS, TSS etc.
• No chemical regeneration required.
• Low maintenance and lower overall system cost (capital and operating).
• Smaller equipment footprint compared to standard filtration and deep bed ion exchange systems.
• Low ΔP (pressure drop).
• Protection of steam loop assets such as boiler, turbine, condenser etc.

Ecodyne can assist in selecting the best media option.

Powdex®

Powdex is powdered resin in various forms (OH, H). This resin has excellent exchange capability and can also filter solids because it is powdered.

Ecodex®

Ecodex is a homogenous mixture of Powdex resins and an organic fibrous material. Due to its unique floc structure Ecodex has much higher capacity for suspended solids than Powdex while still maintaining some ion exchange capability. Ecodex is used in systems where suspended solids removal is the primary objective and ion exchange requirements are secondary. Ecodex is capable of retaining suspended solids larger than 0.5 microns in size as well as absorbing a wide range of colloidal particles and color bodies.

Ecocote®

Ecocote is an organic fibrous precoat overlay material. Like Powdex and Ecodex, Ecocote also forms floc particles. Which are overlaid on filter septa which have been precoated with Powdex. This Ecocote/ Powdex combination has superior solids retention and ion exchange ability.

Ecosorb®

Ecosorb is an activated carbon material that is used for applications with color, chlorine or hydrocarbons in the water. Ecosorb is a very effective way to remove suspended contaminants including colloidal solids.
The Ecodyne Difference

• Custom Engineering
• Shop Assembly and Trial Fit Capability
• Global Experience
• Industry Leader
• Spare Parts
• ISO 9001 Certified