

GE's ABMet Modular Selenium Removal System

Unprecedented selenium removal for any location

Description and Use

GE's ABMet selenium treatment system is now available in a modular, pre-engineered equipment package that is scalable to treat a broad range of flows. With its flexible, easy-to-install design, the modular ABMet system provides unprecedented selenium removal for any location. Custom designs are also available to meet specific site conditions or large flows (>1 MGD).

Modular ABMet systems are prefabricated and delivered on-site, resulting in a short execution timeline from order to a fully-operational system. Each ABMet modular system incorporates:

- Complete systems including pumping, bioreactor tanks, backwash storage tanks and nutrient dosing system
- Multiple pre-engineered sub-systems allowing for flexibility in process designs
- Pre-engineered and fabricated equipment that minimizes site work and reduces total plant costs
- Multiple train systems that provide process redundancy
- Epoxy-coated carbon steel bioreactor tanks, backwash tanks and equipment skids
- Skid-mounted feed pumps, backwash pumps, and nutrient pumps
- LDPE or FRP nutrient storage tank
- Compressed air system



- On-line monitoring system for process parameters
- Plant start-up and operator training
- 480 V, 3 phase, 60 Hz MCC
- PLC control panel
- Commissioning support
- Optional service and monitoring contract

Typical Applications

ABMet is a proven selenium removal system. Applications include mine water, coal-fired power water, agricultural drainage water, groundwater, and Hydrocarbon Processing waters.



**ABMet performance is based on incoming water characteristics and process controls
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Features and Benefits

- Proven selenium removal to <5 ppb** total selenium
- Complete Nitrate-N removal
- Able to handle selenium loads from 10 ppb to 10,000 ppb
- System is self-sustaining with only the addition of a proprietary molasses-based nutrient; does not require ongoing replenishment of microbial cultures or GAC (granular activated carbon)
- Low-power, fixed-bed reactor
- Does not require post-filtration to polish particulate selenium
- Low operation and maintenance costs of \$0.10 to \$0.50 per 1000 gallons of water treated
- Operates over a broad temperature range (4-40° C) and does not require pre-heating of the water
- Systems can be housed in a structure or insulated for outside installation
- Solid waste from system consistently passes Toxicity Characteristics Leaching Protocol (TCLP)
- Effluent water has passed Chronic Toxicity Testing (EPA/821/@-02/013)