



Graver Technologies

Filtration

Separation

Purification

METSORB ARSENIC TREATMENT SYSTEM SIZING AND GALLONAGE PERFORMANCE CALCULATIONS

DEFINED VARIABLES:

- PUMP CAPACITY/WELL OUTPUT : In Gallons Per Minute
 - To Be Provided by Customer
 - (ie.) Residential Well Pump Capacity = 7 gpm
- Targeted Metsorb Resonance Time (Empty Bed Contact Time, EBCT) = 3 minutes recommended (can range from 1.5 – 3 minutes)
- 7.481 gallons per Ft³ of media – STANDARD CONVERSION
- Media Performance Estimate – Provided by Graver Tech. (ie. 40,000 bed volumes)

CALCULATIONS:

- MEDIA VOLUME DETERMINATION
 - $(\text{Pump Capacity} \times \text{EBCT}) \div 7.481 \text{ g/ft}^3 = \text{Ft}^3 \text{ of Metsorb in System}$
(ie. $(7 \text{ gpm} \times 3 \text{ min}) \div 7.481 \text{ g/ft}^3 = 2.8 \text{ ft}^3 \text{ of Metsorb Required}$)
- BED VOLUME (bv)– Volume of Media in a Single Vessel/System Design (in gallons)
 - Calculation – $2.8 \text{ ft}^3 \text{ Vessel of Metsorb} \times 7.481 \text{ gallons/ft}^3 = 21 \text{ gallons}$
 - 1 bed volume for this system = 21 gallons
- SYSTEM PERFORMANCE ESTIMATION
 - Estimated Bed Volume of Performance (from Graver) X 1 Bed Volume (gallons) = Expected Total Gallons Treated
 - (ie. $40,000 \text{ bv} \times 21 \text{ gallons} = 840,000 \text{ gallons}$)

METSORB™ HMRG is a highly effective granular adsorbent that removes Arsenic III & V, and a wide variety of heavy metals including Lead, Chromium⁺⁶, Selenium, Uranium and Vanadium from aqueous sources. For more information on MetSorb® arsenic adsorbent media contact James Knoll at 410 596-9434, or by email at jknoll@gravertech.com.