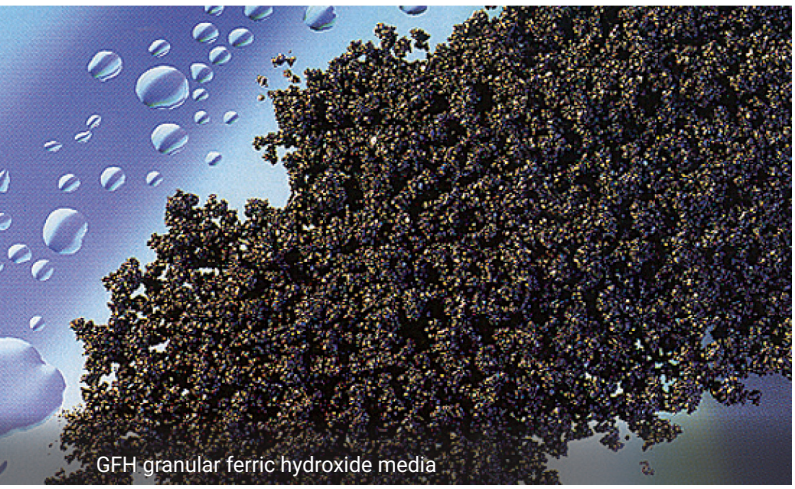
GFH® DRY granular ferric hydroxide media

A proven, safe, and simple solution to arsenic removal challenges



GFH granular ferric hydroxide media

Description

In March of 2006, the US Environmental Protection Agency (EPA) issued its rule setting the arsenic primary drinking water Maximum Contaminant Level (MCL) of 10 micrograms per liter. Some states have adopted even lower limits, e.g., 5 micrograms per liter. Over the past decade, this regulation has prompted hundreds of municipalities to utilize numerous treatment technologies for the removal of arsenic. Among the various technologies available, the EPA Arsenic Treatment Technology Demonstration Program has shown iron-based media to be effective for arsenic removal.

GFH DRY Media is a specially designed adsorbent media based on granular ferric hydroxide. It is specifically designed for the removal of arsenic (arsenate (As+5) and arsenite (As+3)) from water and can remove other heavy metals as well. The arsenic removal requires no preconditioning or preoxidation. Applied in a downflow packed bed configuration, it is easily applied to municipal wellhead applications.

Applications

In addition to arsenic, GFH DRY Media has been demonstrated to provide removal of several othercontaminants, including:

- Phosphate
- Antimony
- Copper

System options

GFH Media can be placed into parallel or series pressure vessel systems depending on the removal requirement. To apply GFH DRY Media, our Vantage® PTI Series systems are available in Simplex, Duplex, or Triplex configurations. These systems are preengineered, pre-assembled, and factory tested to minimize installation and startup time.

Service and disposal options

For arsenic removal applications where the client cannot incur a capital expense for a treatment system, Xylem offers integrated equipment and service combinations (temporary or permanent), thereby minimizing a plant's capital investment and reducing overall space requirements. Temporary installations are also available through our mobile fleet, providing the ultimate flexibility to add or remove treatment capacity as your business grows or compliance limits change. This option also saves valuable manufacturing space while minimizing your maintenance and installation requirements.

Once exhausted, spent GFH DRY Media can be disposed of via landfill and classified as a non-hazardous waste after passing a TCLP test. Xylem can provide full media exchange services and disposal assistance in GFH DRY media applications.

Features and benefits

- ANSI/NSF 61 Certified for use in potable water applications.
- Consistent removal of both arsenate and arsenite forms of arsenic, even during sudden changes in influent arsenic concentration.
- Applications fully supported by Xylem laboratory facilities to evaluate and tailor specific solutions to each application.
- Standard systems using GFH DRY media are designed for flows from 1 to 5,000 gpm and higher. Compact designs that require minimal operator attention.
- Service based offerings reduce capital investment required.
- Full service capabilities for spent media exchange and disposal available.
- Low waste volume (< 0.1% typical).
- High arsenic capacity resulting in long media bed life and reduced frequency of media exchange.
- Does not impact water pH.

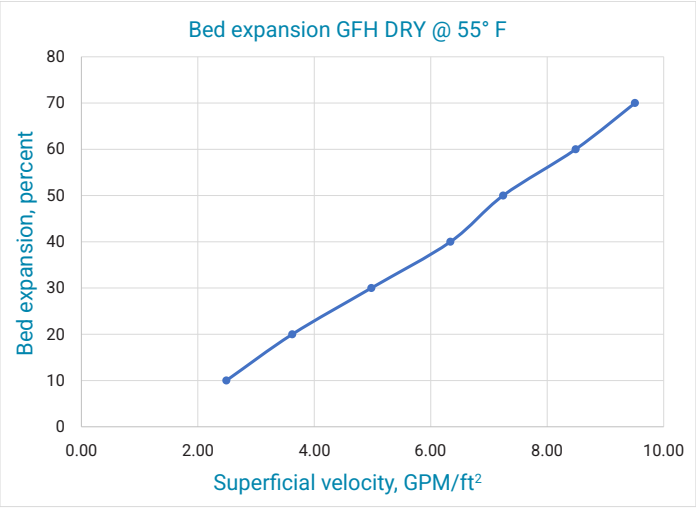
Physical properties

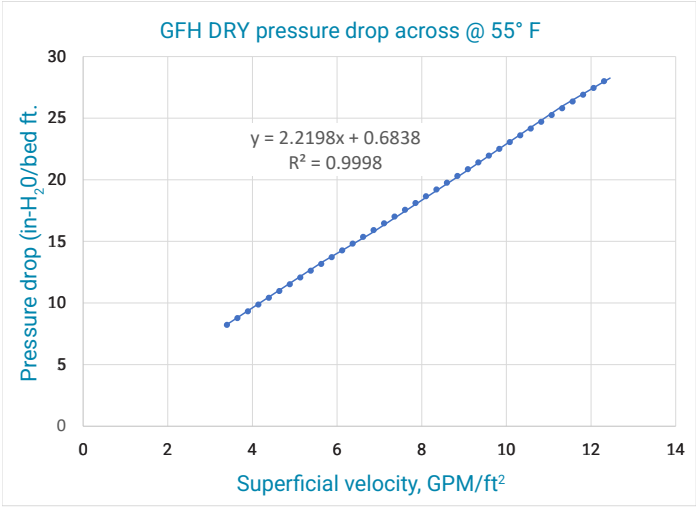
Particle size	50 x 70 mesh/315 x 2000 micron
Bulk density, backwashed (lb./ft^3)	29-36
Chemical composition	Fe2O3

Operating conditions

Operating pH range	5.5-9.0
Recommended contact time	3.5 minutes minimum
Backwash rate (gpm/ft^2)	9-11
Maximum operating temperature	140° F (*)

* Temperature limit of standard equipment. Contact your representative for higher temperature applications.





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