

HSGS Series High Performance Hydrogen Sulfide System



Problem Areas Being Treated:

- Iron (Red Stains)
- Manganese (Gray/Black Stains)
- Hydrogen Sulfide (Sulfur Odor)

The "rotten egg" odor that is becoming all-to-familiar to those with well water is most often caused by a gas called hydrogen sulfide. Since it is a gas that escapes as soon as the water hits the air, hydrogen sulfide is very difficult to test onsite and impossible to test in a lab. The odor is created by decaying organic matter or sulfate-reducing bacteria that are common in well water containing iron and lower pH values.

Hydrogen Sulfide cannot be filtered by normal physical means since it is impossible to physically screen out a gas that is dissolved in water without first changing its physical properties. For this reason, the media used in the HSGS filter is catalytic in nature - meaning it accelerates a chemical reaction without being consumed by the reaction itself. The HSKPAC and Greensand Plus media convert soluble iron and manganese into an insoluble particulate while converting the hydrogen sulfide into an insoluble sulfur precipitate; all of which are easily trapped by filtration. The undesired contaminants are then removed from the media bed by a strong backwash performed automatically during the night.

Specifications

Tank Size	Bed Size	Inlet/Outlet	Service Flow Range*	Minimum Required BW
10 X 54"	1.5 Cu. Ft.	1"	2.7 - 5 gpm	7 gpm
12 X 48"	2 Cu. Ft.	1"	4 - 7 gpm	10 gpm
13 X 54"	2.5 Cu. Ft.	1"	4.6 - 8 gpm	12 gpm
14 X 65"	3.0 Cu. Ft.	1"	6 - 9 gpm	15 gpm

Media:

Greensand Plus - Iron, Manganese & Sulfur Odor Removal

HSKPAC - Higher levels of Sulfur Odor. - See attached information

Regeneration:

Chlorine Tablets[†] (Calcium Hypochlorite) - To be used in place of potassium permanganate to regenerate (Refresh) the mineral bed.

The GS Plus series filter works in a wider pH range (6.2 - 8.5) than a lot of other media filters. Raw waters with a pH lower than 6.2 should be pH-corrected to 6.5-6.8 before filtration.

The GS Plus series is an automatic backwashing system. Based on either time (Timer Valve) or amount of water used (Metered Valve) the filter backwashes on its own without any intervention, worry or maintenance by the homeowner. The time in which backwashing occurs is adjustable but usually is factory set at 2 am in the morning to avoid times of heavy water usage. See the attached information on HSKPAC and Hydrogen Sulfide.

The system includes:

High-impact polyglass filter tank, Fleck or Clack backwashing valve with bypass, distributor tube, gravel under-bed, filtration media, small chlorine tablet tank and potable water calcium hypochlorite (chlorine) tablets[†].

[†]Only chlorine that is specifically manufactured for potable drinking water may be used. DO NOT use tablets made for swimming pools or hot tubs.

*These numbers indicate a continuous (service) flow rate - the amount of water the media can handle for extended periods. Filters also have a "peak" flow rate which are higher than the ones published above. These are flow rates the media can handle for short periods of time.

The HSGS system removes higher levels of hydrogen sulfide odor without the need of continuous chlorination.

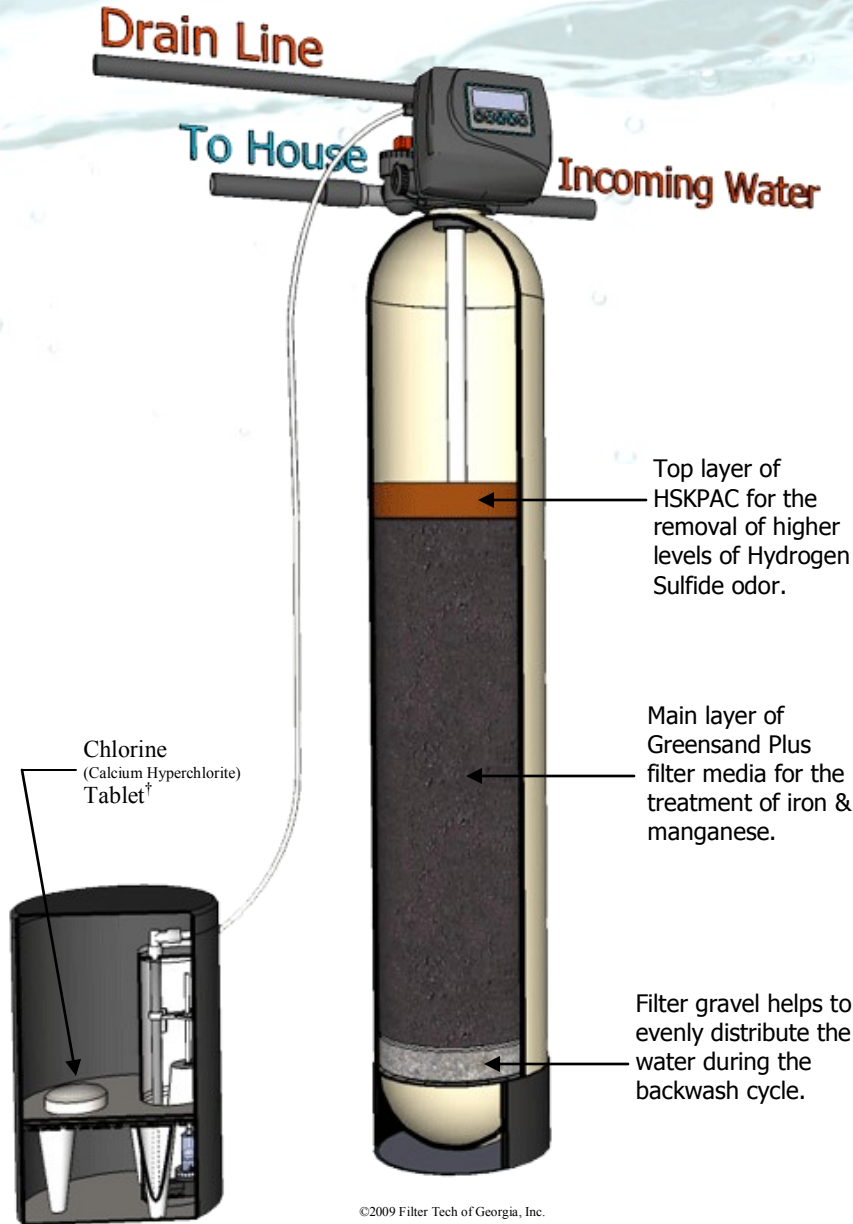


P.O. Box 664 § 110 Howell Road, Suite A § Tyrone, GA 30290 § (770) 487-1066 § Fax (770) 487-2293

* (Commercial Systems Available Per Application)

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Above: This cutaway diagram shows the interior of the Greensand Plus filter and the feeder tank. About 18" of free space is left between the top of the media bed and the top of the filter tank to allow the filter media to expand and roll during the backwash cycle.



The Feeder Tank holds the potable water chlorine tablet which will need replacement every 2-3 weeks.



Our filters are assembled with American made Enpress Vortech tanks. These tanks use a distributor *plate* which requires 30% less water and allows for a more thorough backwash than a traditional distributor basket.



**Filter
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Water Treatment Systems

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