

# Filtration & Sequestration Irrigation System



Valve & Tank configuration may alter from these examples in the final design



## Water Doctors Engineered 2400 gpd Irrigation Iron Filter System

Fully adjustable, 9-cycle control delivers up flow backwash, time-tested, hydraulically-balanced piston, seal and spacer, controls service flow and regeneration. Non-corrosive Brass & fiber-reinforced polymer construction. Excellent flow rates of 24 GPM

**Stage 1**, Sub Micron filter prevents the accumulation of foreign bodies, such as manganese, colloidal rust particles and grains of sand.

**In stage 2**, Water Doctors iron removal system uses advanced media that has a silica oxidizing glauconitic core, this coating is ionically bound. The control assembly uses a full ported 2" lead free brass valve assembly and all Teflon™ seals that won't corrode and break down like rubber O-rings like in mass produced iron filters. Using an improved hydrolysis method of inorganic salts assisted with water-bath incubation, ultra-small water-soluble metal-iron oxide nanoparticles (including Fe<sub>3</sub>O<sub>4</sub>, ZnFe<sub>2</sub>O<sub>4</sub> and NiFe<sub>2</sub>O<sub>4</sub> nanoparticles) were synthesized in aqueous solutions, which can be used as T1-weighted contrast agents for magnetic resonance imaging (MRI). The morphology, structure, MRI relaxation properties and cytotoxicity of the metal-iron oxide nanoparticles were studied. The results show that the average sizes of nanoparticles are about 4 nm, 4 nm and 5 nm for Fe<sub>3</sub>O<sub>4</sub>, ZnFe<sub>2</sub>O<sub>4</sub> and NiFe<sub>2</sub>O<sub>4</sub> nanoparticles, respectively.

**Stage 3 WATER DOCTORS Rust-Shield II™** products are a family of "chelating" chemicals. Each is specific to certain well water conditions and applications. These chelating chemicals have in common that if they can attach themselves to the ferrous iron in the well water before it meets oxygen at the sprinkler head, the iron will sequester or bind up so that it will not combine with oxygen. In effect, we "Shield" the iron from contact with oxygen. Water Doctors offers a 1-year performance guarantee if the well has been chlorinated and is free of iron bacteria or sulfate reducing bacteria.

**Delivery:** To be made within 2 weeks after receipt of order.

**Terms:** 50% Down Net due upon completion.

**Price:** Based on analysis

\*assumptions for final system design:

No Tannins - Ph. above 7.5- Ferrous Iron below 4ppm - Ferric Iron below 1ppm - Manganese below 2ppm

