

Triangular Wave Technologies, Inc (TWT®)

# Iron Reduction/Removal Filtration Systems



Optional:Stainless Steel Jacket

**Designed to effectively eliminate rust and iron from your water supply thoroughly and economically. The Iron Reduction/Removal Systems work automatically. Every drop of water coming through the line is filtered to remove rust and other particles. The pre-set timer periodically activates the back-wash mechanism keeping the filter medium fresh and effective for many years.**

**Residential • Commercial • Industrial Application & Use**



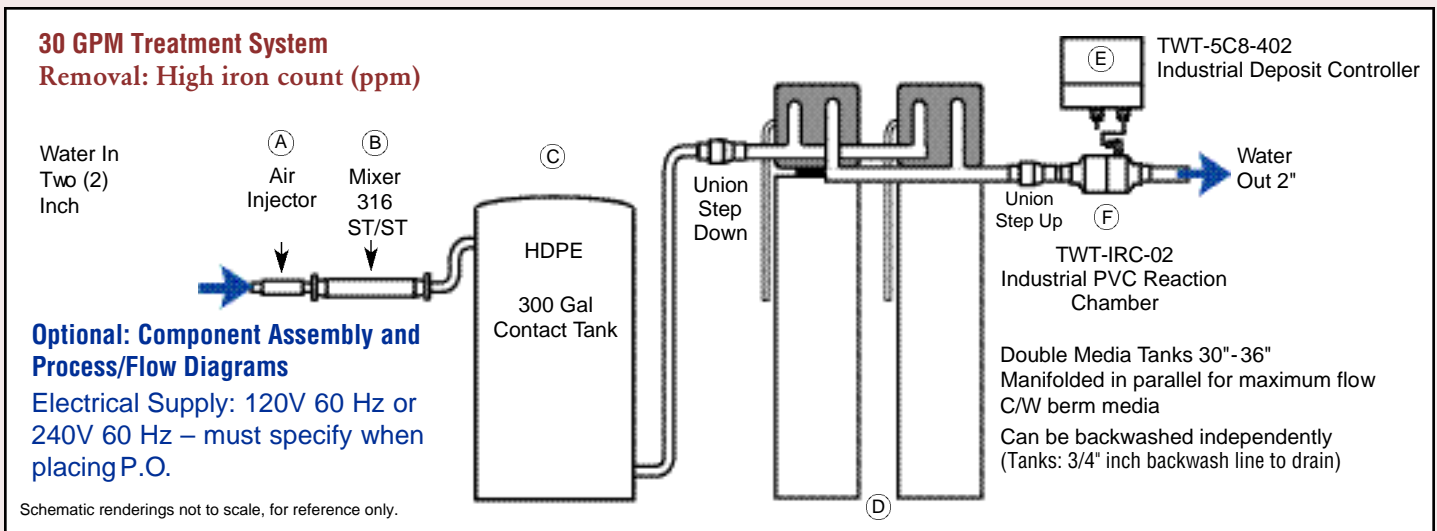
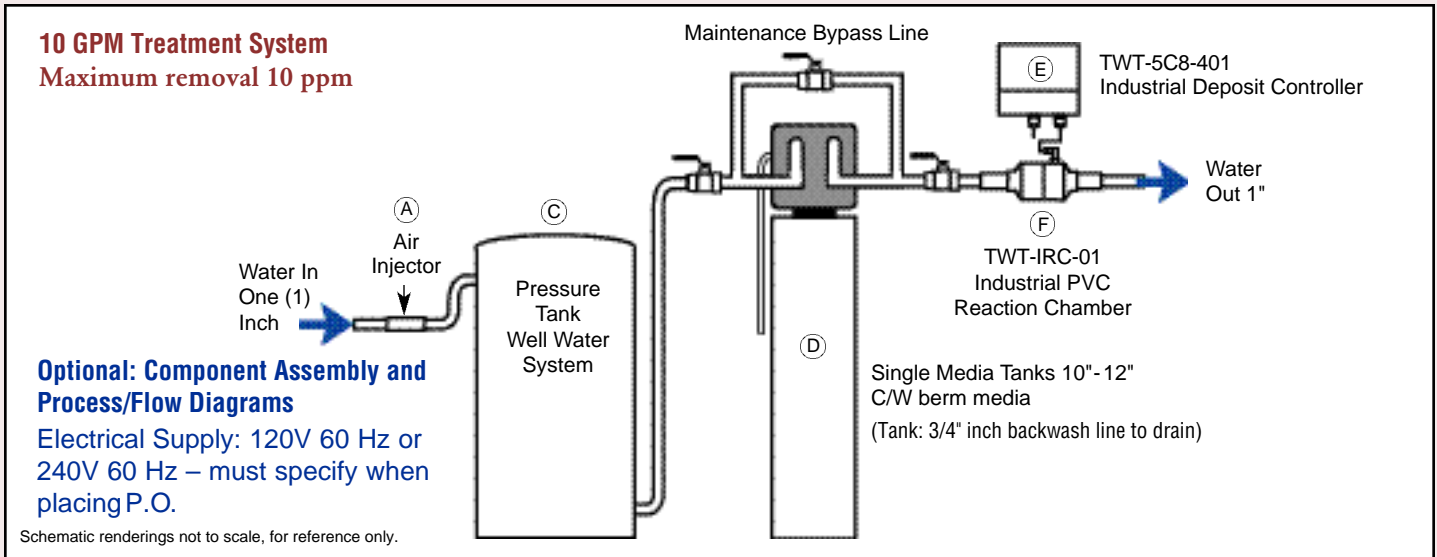
# Iron Reduction/Removal Filtration Systems

## Chemical-Free (no chemical injection required)

### Effects of iron and manganese in water

When exposed to air, dissolved iron or manganese reacts with oxygen and is converted by oxidation to a colored, solid material that settles out of the water. Iron changes to white, then yellow and finally to a reddish-brown color. Manganese forms a black residue. High concentrations of these sediments cause reddish-brown or black stains on residential, commercial and industrial appliances and fixtures. Another result of iron and manganese in water is the presence of harmless bacteria in soil, shallow groundwater supplies and some surface water that secrete large amounts of red-brown (iron) or black-brown (manganese) slime that stain plumbing fixtures.

The iron removal filtration system is designed to effectively eliminate rust from your water supply economically and thoroughly. No more unsightly rust stains in the toilet, tub, sinks and other related plumbing equipment. The Iron Filtration systems work automatically. Every drop of water coming through the line is filtered to remove rust and other particles. The pre-set timer periodically activates the back-wash mechanism which keeps the filter medium fresh and effective for many years. Media is good for approximately 4 - 5 years or more depending on water conditions and use.



- A.** Air injectors: Purpose - To inject large volumes of air into the water stream, attaching air molecules to the iron.
- B.** Mixer: Purpose - To further mix the ingested air into the water, allowing greater oxidation effectiveness.
- C.** Contact Tank: Purpose -To allow contact time for iron to precipitate out of the solution. HDPE tank material.
- D.** Media Tank: Purpose - Equipped with media with specific affinity for iron to remove oxidized iron from solution.
- E.** TWT Deposit Control: Purpose - Hard water conditioning and treatment system to mitigate heat exchanger and other biofouling problems.
- F.** TWT Reaction Chamber: Industrial stainless steel chamber through which fluid flows and is exposed to the Triangularwave signal. The complex modulated signal field provides the necessary molecular agitation for the scale and bio-film prevention and removal.

**Please Note:** System engineering design, weight, size and system component assembly may vary based on TWT engineering review, water conditions, GPM, application, industry and/or customer specific needs.

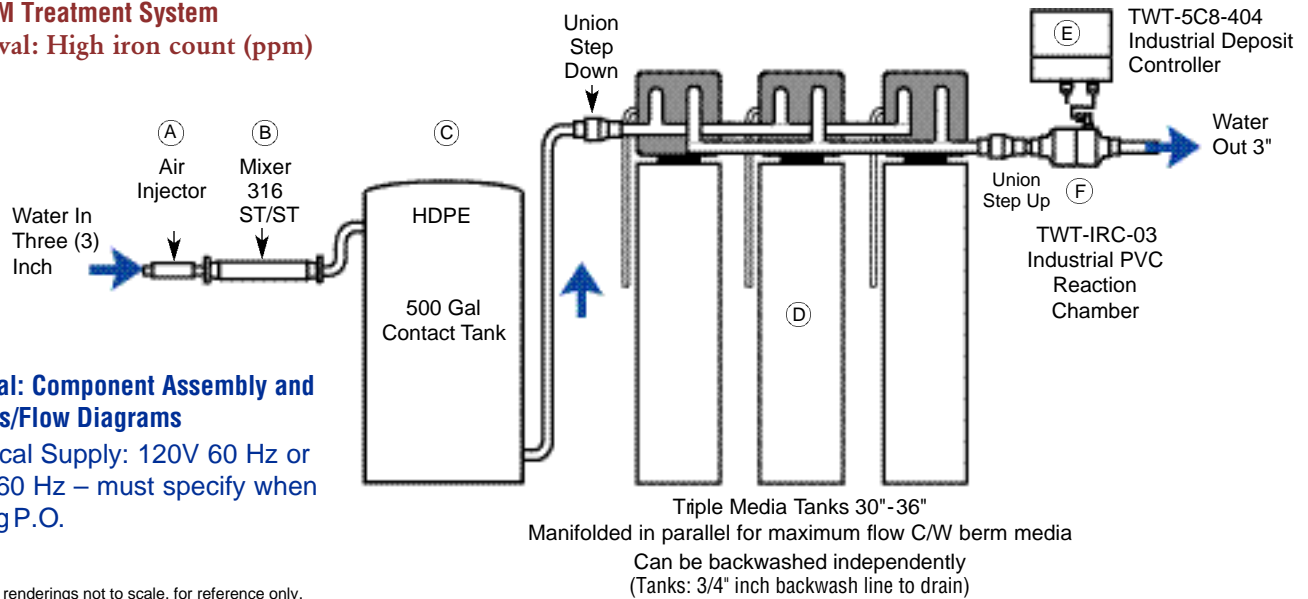
Pumps, piping, fittings, valves, and other related material needed to and from system owners responsibility. Installation not included.

Water: pH should be 7.0 or higher for effective use and operation.



# Iron Reduction/Removal Filtration Systems

## 50 GPM Treatment System Removal: High iron count (ppm)

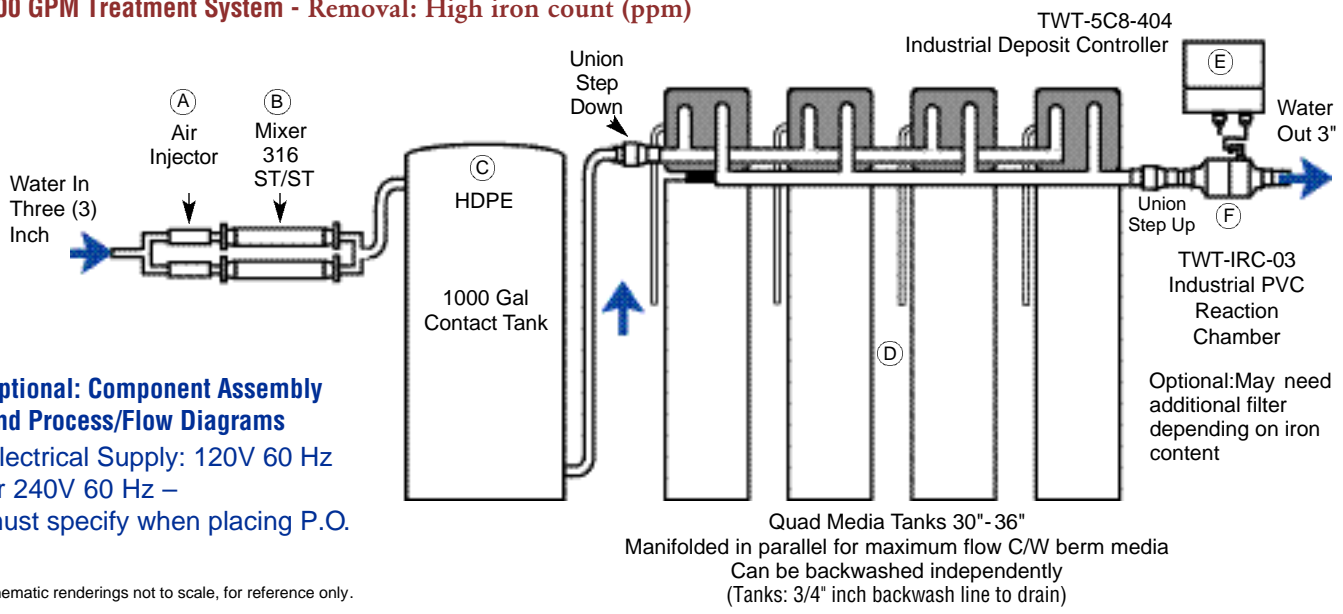


### Optional: Component Assembly and Process/Flow Diagrams

Electrical Supply: 120V 60 Hz or 240V 60 Hz – must specify when placing P.O.

Schematic renderings not to scale, for reference only.

## 100 GPM Treatment System - Removal: High iron count (ppm)



### Optional: Component Assembly and Process/Flow Diagrams

Electrical Supply: 120V 60 Hz or 240V 60 Hz – must specify when placing P.O.

Schematic renderings not to scale, for reference only.

- A.** Air injectors: Purpose - To inject large volumes of air into the water stream, attaching air molecules to the iron.
- B.** Mixer: Purpose - To further mix the ingested air into the water, allowing greater oxidation effectiveness.
- C.** Contact Tank: Purpose -To allow contact time for iron to precipitate out of the solution. HDPE tank material.
- D.** Media Tank: Purpose - Equipped with media with specific affinity for iron to remove oxidized iron from solution.
- E.** TWT Deposit Control: Purpose - Hard water conditioning and treatment system to mitigate heat exchanger and other biofouling problems.

- F.** TWT Reaction Chamber: Industrial stainless steel chamber through which fluid flows and is exposed to the Triangularwave signal. The complex modulated signal field provides the necessary molecular agitation for the scale and bio-film prevention and removal.

**Please Note:** System engineering design, weight, size and system component assembly may vary based on TWT engineering review, water conditions, GPM, application, industry and/or customer specific needs.

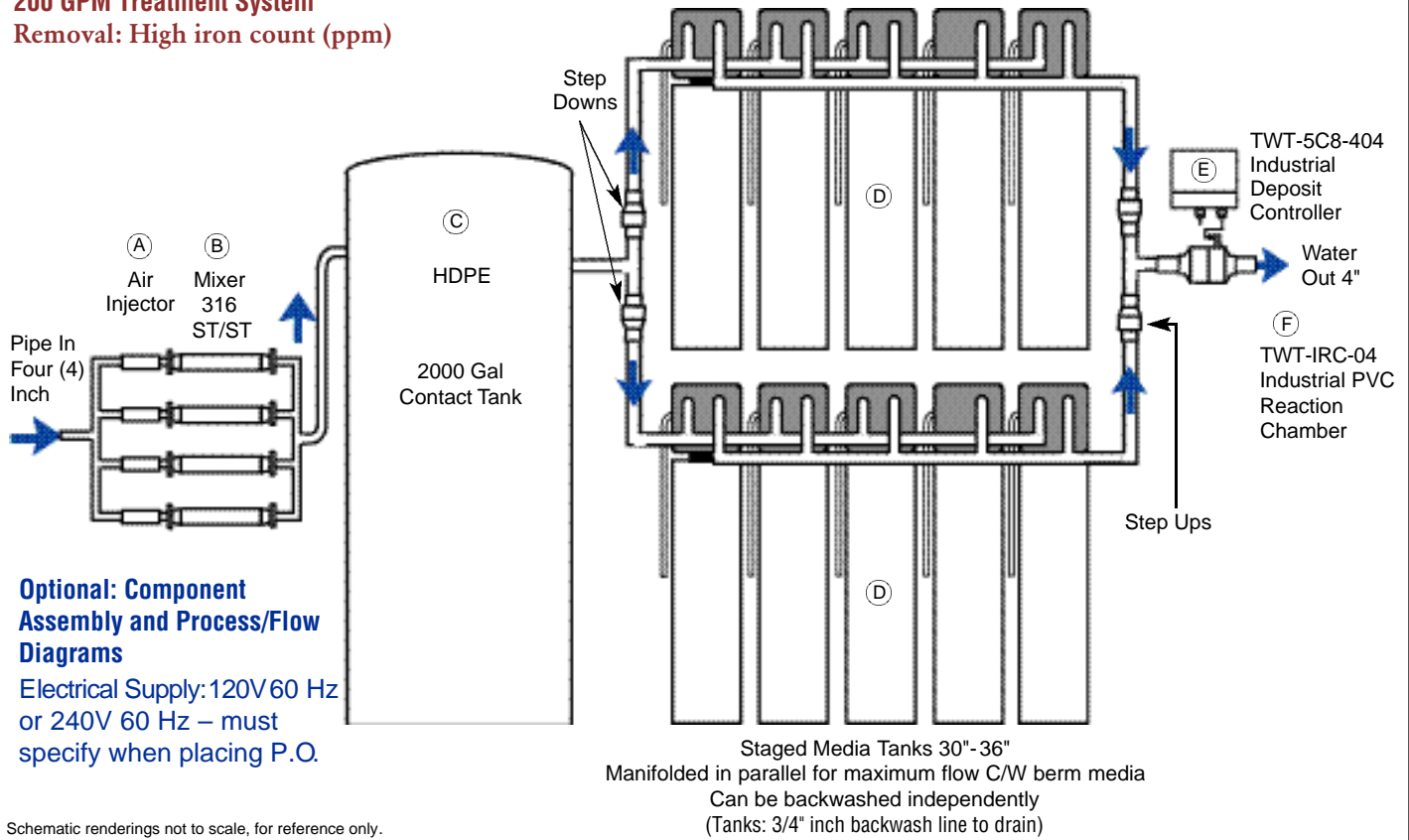
Pumps, piping, fittings, valves, and other related material needed to and from system owners responsibility. Installation not included.

Water: pH should be 7.0 or higher for effective use and operation.



# Iron Reduction/Removal Filtration Systems

**200 GPM Treatment System**  
**Removal: High iron count (ppm)**



**Optional: Component Assembly and Process/Flow Diagrams**

Electrical Supply: 120V 60 Hz or 240V 60 Hz – must specify when placing P.O.

- |  |  |
|--|--|
| <p><b>A.</b> Air injectors: Purpose - To inject large volumes of air into the water stream, attaching air molecules to the iron.</p> <p><b>B.</b> Mixer: Purpose - To further mix the ingested air into the water, allowing greater oxidation effectiveness.</p> <p><b>C.</b> Contact Tank: Purpose -To allow contact time for iron to precipitate out of the solution. HDPE tank material.</p> <p><b>D.</b> Media Tank: Purpose - Equipped with media with specific affinity for iron to remove oxidized iron from solution.</p> <p><b>E.</b> TWT Deposit Control: Purpose - Hard water conditioning and treatment system to mitigate heat exchanger and other biofouling problems.</p> | <p><b>F.</b> TWT Reaction Chamber: Industrial stainless steel chamber through which fluid flows and is exposed to the Triangularwave signal. The complex modulated signal field provides the necessary molecular agitation for the scale and bio-film prevention and removal.</p> <p><b>Please Note:</b> System engineering design, weight, size and system component assembly may vary based on TWT engineering review, water conditions, GPM, application, industry and/or customer specific needs.</p> <p>Pumps, piping, fittings, valves, and other related material needed to and from system owners responsibility. Installation not included.</p> <p>Water: pH should be 7.0 or higher for effective use and operation.</p> |
|--|--|

**Have An Industry Specific Fluid Problem?**  
**Have An Industry Specific Tube and/or Pipe Configuration Problem?**  
**Contact Our Engineering Staff Who Will Be Pleased**  
**To Work Closely With You To Determine The Optimal Solution**  
**To Meet Your Industry Specific Needs.**  
**To Find Out Even More About Us, And How**  
**We Can Help You, Contact Us At: Email: [Info@triangularwave.com](mailto:Info@triangularwave.com)**  
**Visit Triangular Wave Technologies, Inc. Comprehensive Website.**  
**The Valuable Technical Resource For All Involved In**  
**Water And Fluid Management. [www.Triangularwave.com](http://www.Triangularwave.com)**

