

# Pressure Filters



**WESTECH**<sup>®</sup>

# Pressure Filters



Your application requires a properly sized pressure filter and the right combination of media, overdrain, underdrain, and backwashing sequence. Allow WesTech's knowledgeable engineers to help select the right configuration and components for your project.

## Why Choose WesTech?

WesTech has been designing and supplying pressure filtration systems for more than 35 years in both the industrial and municipal markets. This broad experience base translates into extensive process knowledge that offers the best of both worlds, a robust filter which can operate in the harshest environments while consistently producing the highest water quality demanded by drinking water standards.

WesTech offers standards for both stand-alone and skid-mounted systems. In either case, the system piping, valves, controls, and instrumentation should be supplied by WesTech to maintain unit responsibility. As with all WesTech equipment, customization to your specific needs is our focus.



## Pressure Filter Applications

### Drinking Water

- Iron and Manganese Removal
- Arsenic Removal
- Groundwater Under the Influence
- Pretreatment to Reverse Osmosis
- Granular Activated Carbon
- Fluoride Removal
- Ion Exchange

### Industrial

- Cooling Tower Make-up
- Surface Water Treatment
- Pretreatment to Reverse Osmosis
- Plant Process Water
- Granular Activated Carbon



**Municipal Water Treatment**

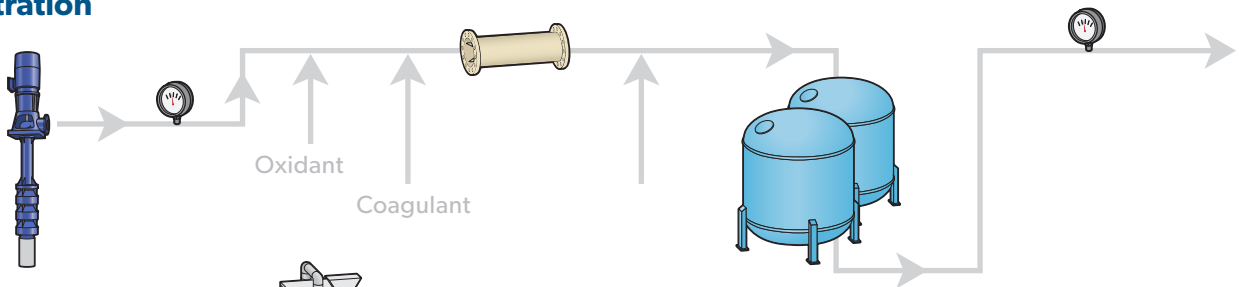


**Industrial Process Water Treatment**

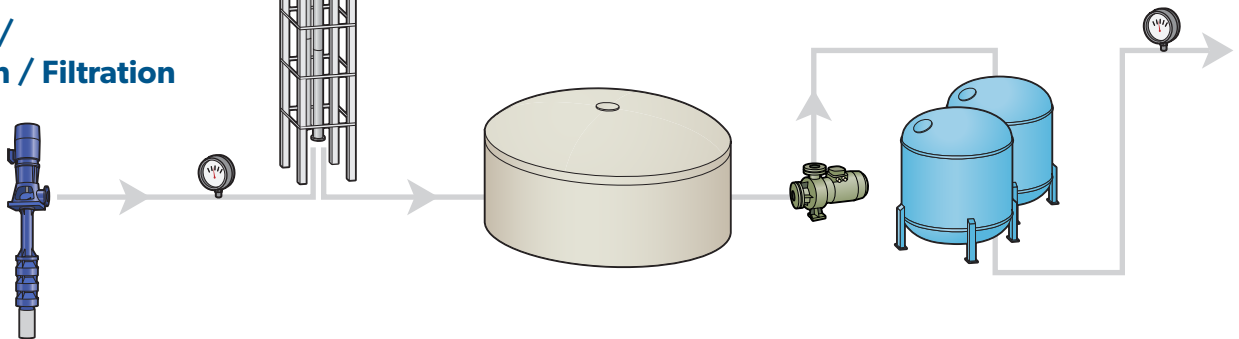
# Complete Systems

Pressure filters operate under the same principles as gravity filters, with a few distinct advantages — namely, no re-pumping after filtration, overcoming high headloss, and allowing for longer periods between backwashes. WesTech takes a holistic approach to filtration by offering a complete system.

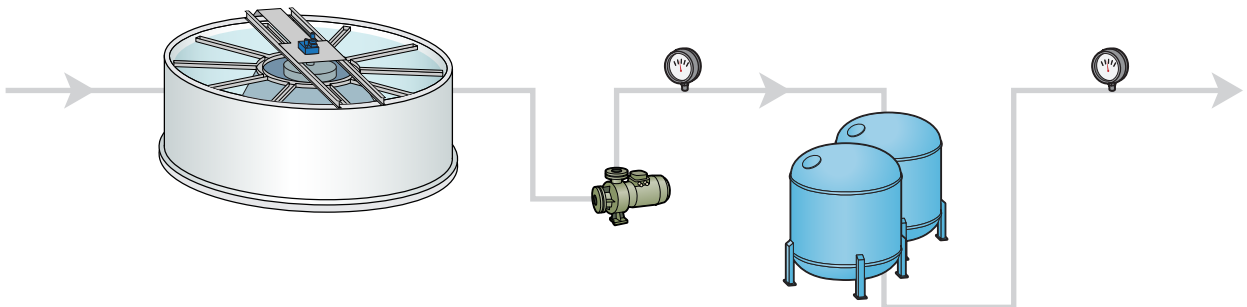
## Direct Filtration



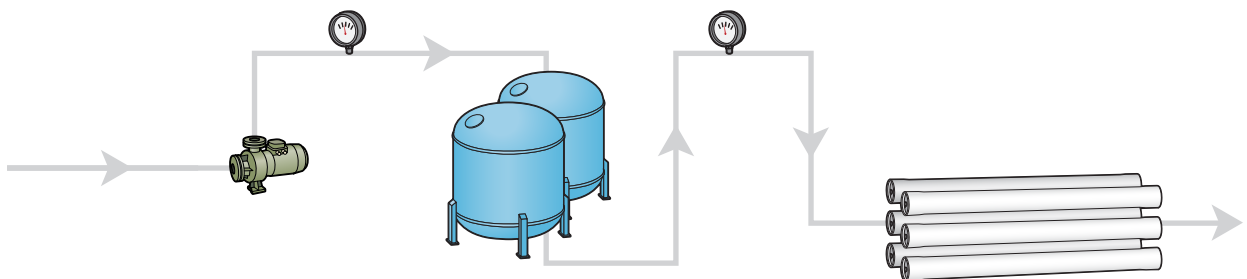
## Aeration / Detention / Filtration



## Pretreatment Followed by Filtration



## Pretreatment to Reverse Osmosis





# Vertical Pressure Filters



Vertical Pressure Filters are typically applied in small to medium sized plants. Individual, parallel operating vessels satisfy redundancy requirements and offer a modular design that is easily expanded with increasing water demand. Vertical Pressure Filters are ideally suited for deep bed filtration, ion exchange, and adsorptive medias such as GAC and activated alumina.

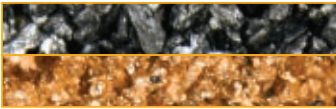
## Vessel Housing:

Standard vertical pressure filters are available in diameters ranging from 5' to 12' with varying side shells. Vessels are built per ASME code and can be designed with operating pressures ranging from 50 psi to 300 psi. Media, overdrains, and underdrains are selected based on your application and system.

## Media Options:



**Dual Media:** Anthracite and sand are commonly applied in municipal and low turbidity applications.



**Deep Bed Dual Media:** Anthracite and sand are commonly used for arsenic removal.



**Greensand™ or Manganese ANTHRA/SAND™:** Commonly used for manganese removal.



**Deep Bed Coarse Media:** Commonly applied in industrial and wastewater applications.



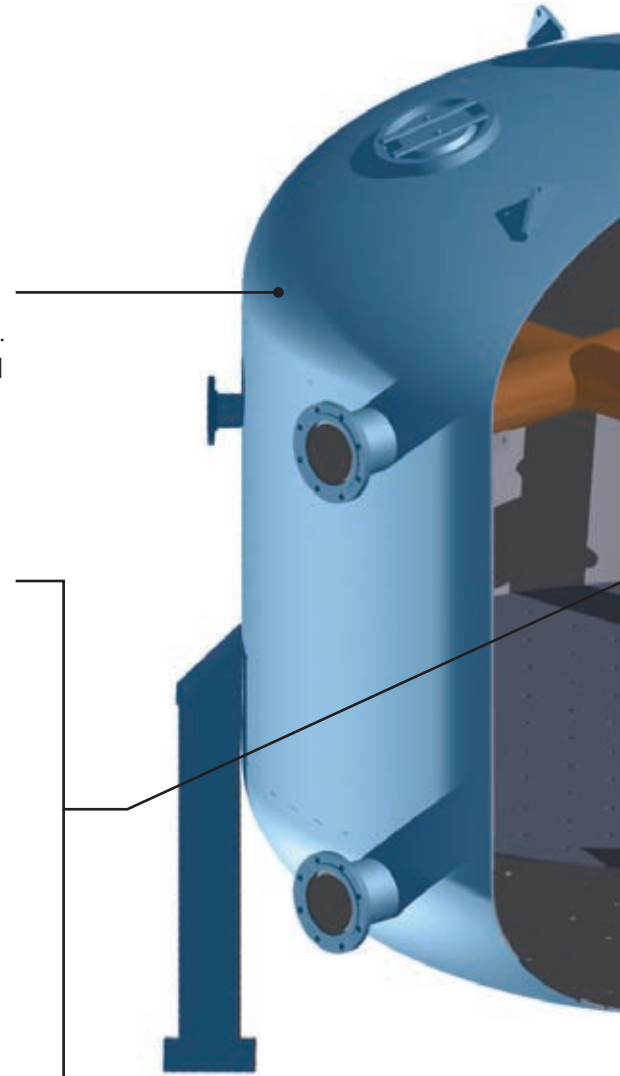
**Granular Activated Carbon:** Commonly used for adsorption applications, ie., taste, odor, TOC, SOC.



**Activated Alumina:** Commonly used for arsenic and fluoride removal.



**Strong Base Anionic Resin:** Commonly used for hardness removal.



## Overdrain Options



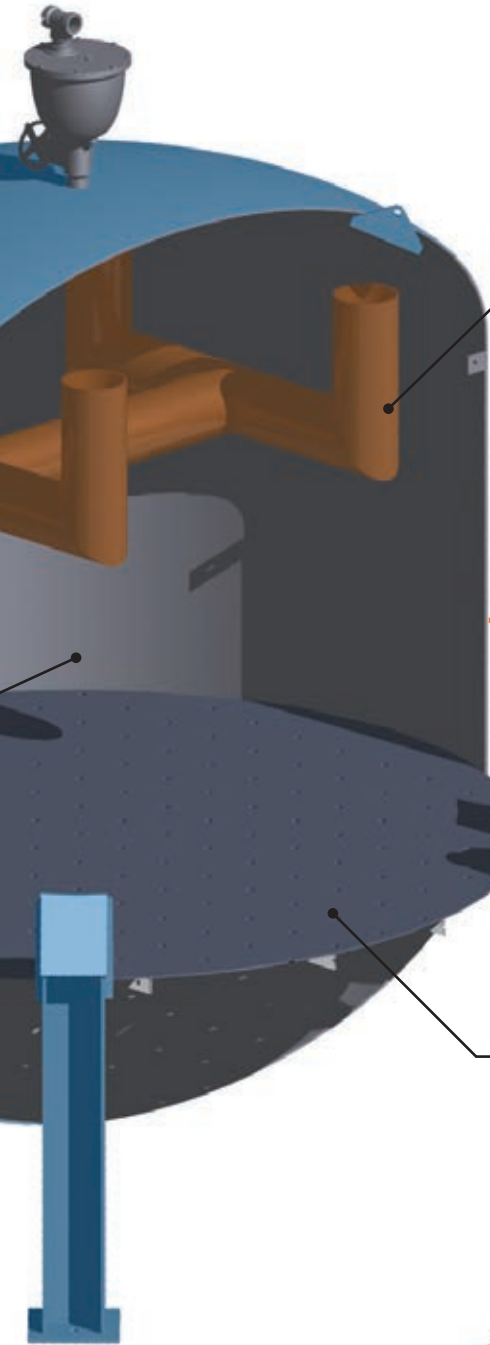
Four Point H Style



Single Point



Combined Air Water



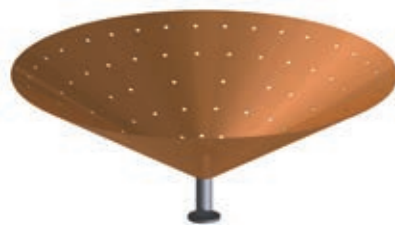
## Underdrain Options



Flat Plate False Bottom



Header and Lateral



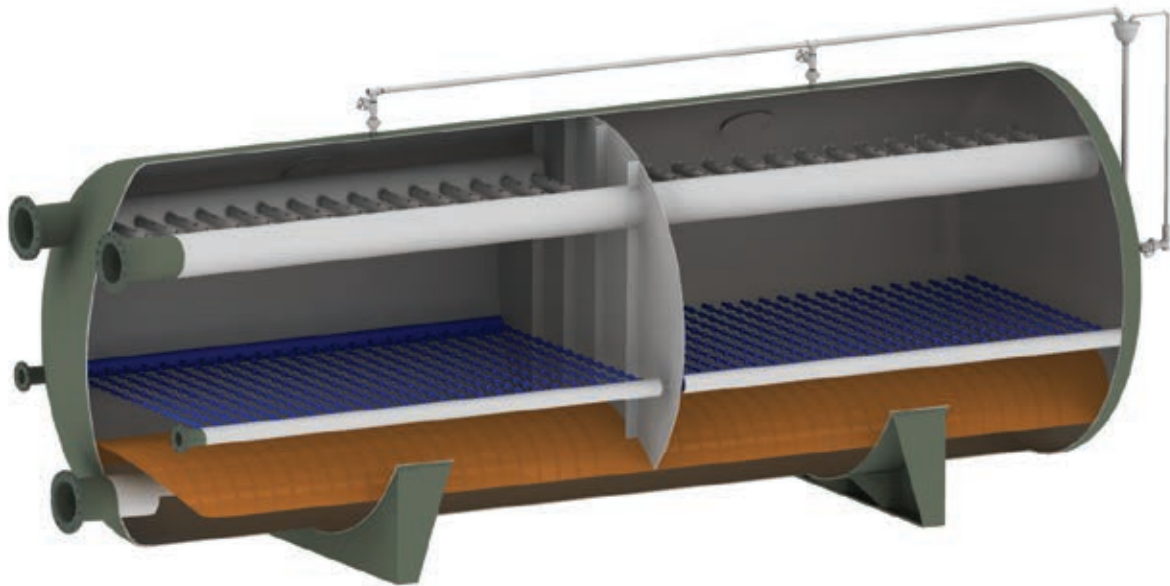
Conical Bottom

# Horizontal Pressure Filters



Horizontal Pressure Filters with multiple filter cells offer an economical design for medium to large flows. Multiple cells within a horizontal unit allow for self-generating backwashing. A self-generating backwash simply means that multiple cells in forward filtration produce the backwash water, which is fed directly into a single cell in backwash. This configuration eliminates the need for backwash supply pumps and large volumes of backwash water storage.

Standard horizontal pressure filters are available in diameters from 8' to 12' and lengths ranging between 15' and 50'. Vessels are built per ASME code and designed with operating pressures ranging from 50 psi to 300 psi. Media, overdrains, and under drains are selected based on your application and system requirements.



## Media Options:



Dual Media: Anthracite and sand are commonly applied in municipal and low turbidity applications.



Deep Bed Dual Media: Anthracite and sand are commonly used for arsenic removal.

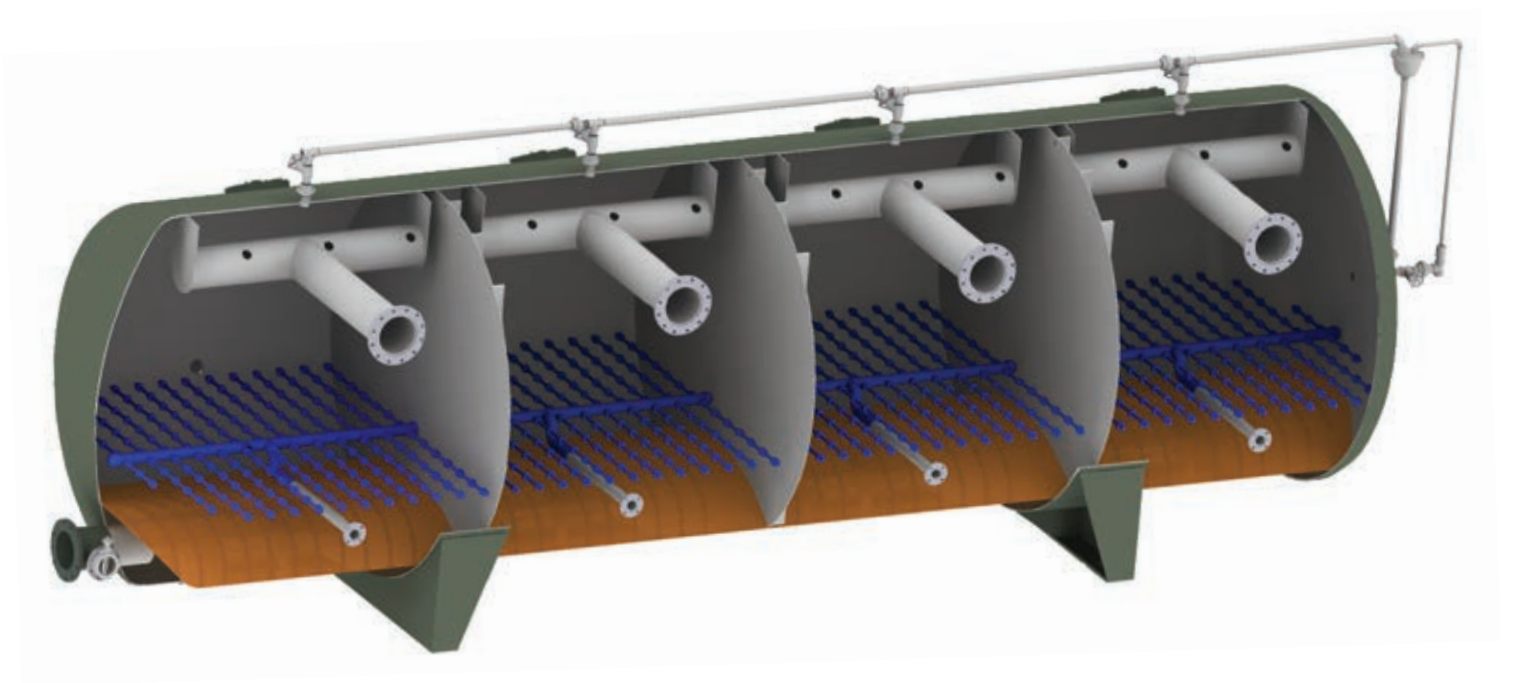


Greensand™ or Manganese ANTHRA/SAND™: Commonly used for manganese removal.



Deep Bed Coarse Media: Commonly applied in industrial and wastewater applications.

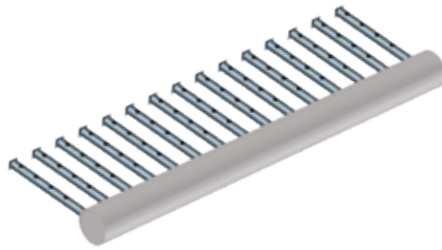




## Overdrain Options



Combined Air Water

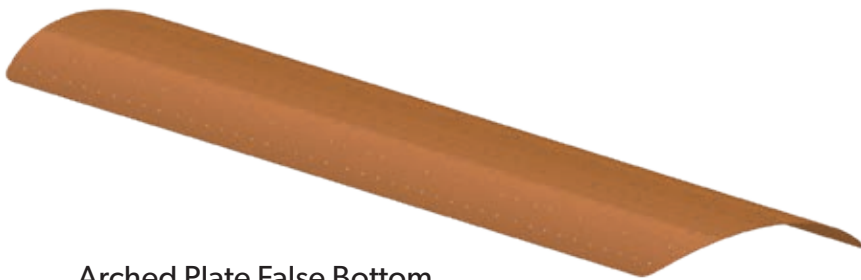


Header and Lateral

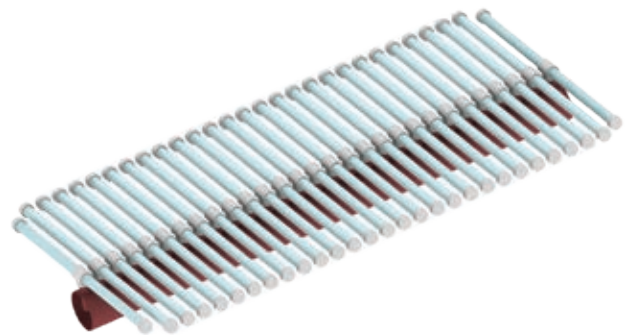


Orificed T Pipe

## Underdrain Options



Arched Plate False Bottom



Header and Lateral



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