

Filter-Ag is a silica, crystalline quartz media which can be used as highly efficient filter media for the reduction of suspended matter.

Filter-Ag®

ADVANTAGES

- There is less pressure loss through a bed of Filter-Ag® than through most other filter medias
- Light weight requires lower backwash rates than those required for other filter medias
- High service rates result in lower equipment costs and a savings in space
- High sediment reduction capacity results in longer filter runs, with a substantial savings in backwash water and time out of service
- Reduced shipping cost due to light weight/cu. ft.
- Replacement of sand with Filter-Ag in existing installations may increase filter capacity 100% or more. (Caution should be taken upon start-up that the lightweight Filter-Ag is not washed to drain.)

PHYSICAL PROPERTIES

- Color: Light grey to near white
- Bulk Density: 24-26 lbs./cu. ft.
- Specific Gravity: 2.25 gm/cc
- Mesh Size: 12 x 30
- Effective Size: 0.67 mm
- Uniformity Coefficient: 1.8
- Hardness: 6 (Mohs scale)

CONDITIONS FOR OPERATION

- Water pH range: wide range
- Maximum water temperature: 140°F/60°C
- Bed depth: 24-36 in.
- Freeboard: 50% of bed depth (min.)
- Service flow rate: 5 gpm/sq. ft., although considerably higher rates are often used
- Backwash flow rate: 8-10 gpm/sq. ft.
- Backwash bed expansion: 20-40% of bed depth
- Upon installation allow bed to soak overnight before backwashing

Filter-Ag® has many outstanding advantages over the more common granular filter medias used for suspended solids reduction. Its fractured edges and irregular surface provides a high surface area and complex flow path for efficient removal of suspended matter throughout the filter bed, typically reducing suspended solids down to the 20-40 micron range. Filter-Ag's larger particle size creates less pressure loss through the filter and allows deeper sediment penetration into the bed for higher sediment loading and longer filter runs. The large and irregular shape prevents the screening and caking of sediment in the top several inches of the filter bed as happens in the typical sand filter, thus preventing a rapid buildup of headloss and blinding problems. Filter-Ag's light weight means lower backwash rates and better bed expansion to release trapped sediment and rinse the filter media during the backwash cycle. The combination of particle shape, size and density make it a good choice where quality water filtration and water conservation are important.

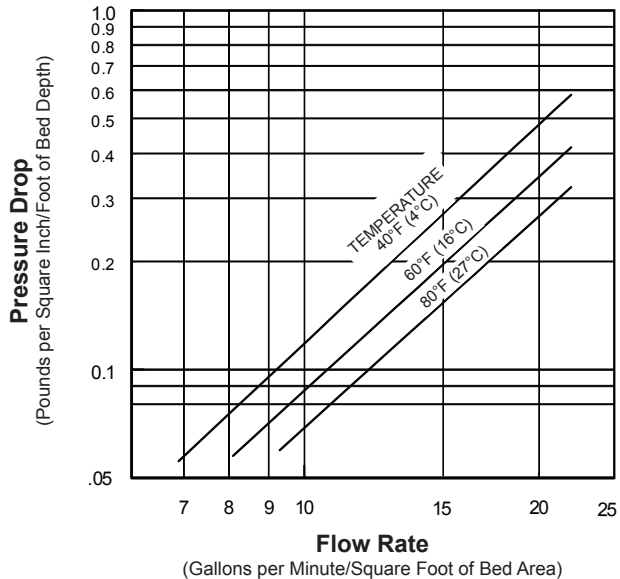
Although not intended to be an iron reduction media, extensive field experience has shown Filter-Ag's rough and jagged surface to be very good at entrapping the fragile iron floc that forms after dissolved iron has been oxidized. Typical oxidation methods include aeration, ozonation and chlorination.

Substantial savings can be realized when designing a system using Filter-Ag. Its low pressure drop, high service flow rates and high bed loadings combined with lower backwash rates allow economy in equipment downsizing and reduced pumping requirements. Its light weight also saves on handling expense and shipping costs.

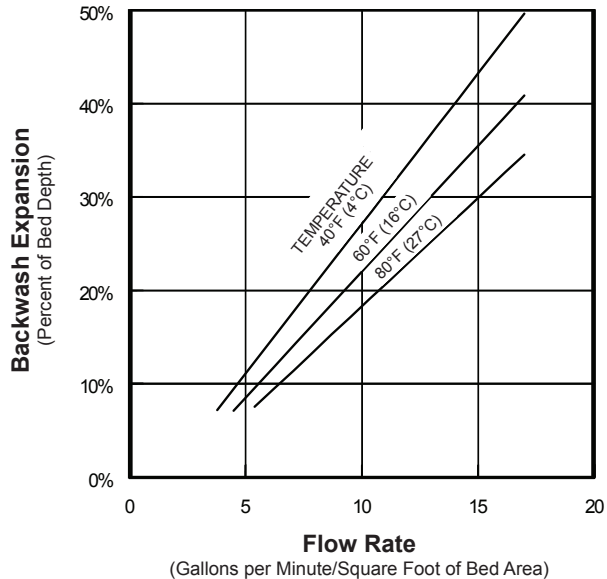
Filter-Ag can be applied to systems designed for either pressure or gravity flow. Because of its unique density, Filter-Ag can also be used in multi-media (graded density) filter designs allowing a more flexible approach to difficult filtration problems.



Service Flow Pressure Drop



Backwash Bed Expansion



Filter-Ag Plus® is a clinoptilolite natural media with a large surface area and microporous structure, which can be used as a highly efficient filter media for the reduction of suspended matter.

Filter-Ag Plus®

ADVANTAGES

- Deep bed filtration results in superior water quality and reduces the load on downstream equipment.
- High sediment removal capacity results in longer filter runs, with a substantial savings in backwash water and time out of service.
- High service flow rates result in lower equipment costs and a savings in space.
- Reduced shipping cost due to lighter weight/cu.ft.
- Replacement of multimedia with Filter-Ag Plus in existing installations may increase filter capacity.
- Filter-Ag Plus is an all-natural, environmentally safe product.

PHYSICAL PROPERTIES

- Color: Light tan to near white
- Dry Bulk Density: 50 lbs/cu.ft
- Specific Gravity: 2.2 g/cc
- Mesh Size: 14x30
- Effective Size: 0.55mm
- Uniformity Coefficient: 1.8
- Hardness: 4-5 (Mohs Scale)

CONDITIONS FOR OPERATION

- Water pH: Wide range
- Max. Water Temp.: 140°F/60°C
- Bed Depth: 24-36 inches
- Freeboard: 50% of bed depth
- Backwash Flow rate: 15-20 gpm/sq.ft.
- Backwash Bed Expansion: 30-40% of bed depth
- Service Flow rate: 12-20 gpm/sq.ft.
- Local conditions may require lower flow rates
- A gravel support bed is required
- Allow bed to saturate before initial backwash

Filter-Ag Plus is a unique natural ore called clinoptilolite that has many outstanding advantages over common granular filter sands and multimedia used for suspended solids reduction. Viewed under an electron scanning microscope, the granules reveal an angular shape, rough surface and microporous void spaces as small as 3 microns. This creates a surface area over 100 times greater than silica sand. The angularity of the granules and the tapered internal pore spaces allow for reduction of dirt, silt and organic matter suspended in water by bridging, straining and adhesion. The rough surface and internal porosity provide a high surface area for efficient reduction of suspended matter. Utilizing deep bed filtration can typically reduce suspended solids down to the 5 micron or less range. Filter-Ag Plus' structure typically creates less pressure loss through the filter and allows deeper sediment penetration into the bed for higher sediment loading and longer filter runs. The deep bed filtration capacity of

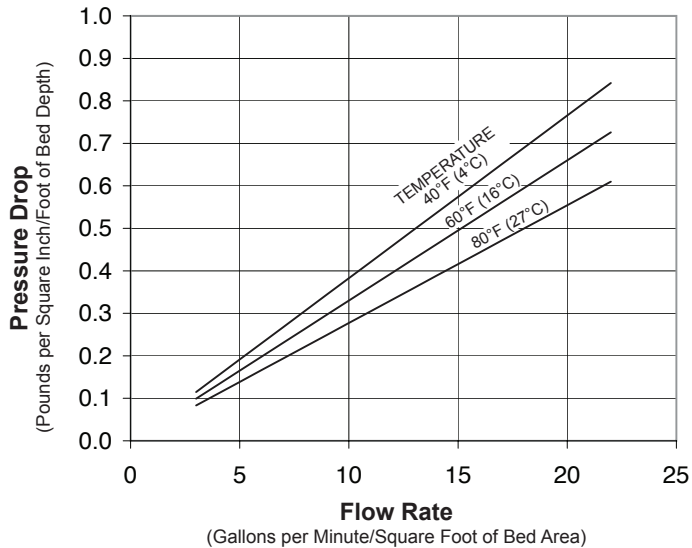
Filter-Ag Plus prevents a rapid buildup of head loss and blinding problems that are associated with typical sand filters. The longer filter run times reduce backwash frequency, which provides conservation of water. This ideal combination of particle shape, texture and porosity make it a good choice where quality water filtration and water conservation are important.

Substantial savings can be realized when designing a system using Filter-Ag Plus. Its low pressure drop, high service flow rates and high bed loadings combined with lower backwash frequency allow economy in equipment downsizing and reduced pumping requirements. Its low density also saves on handling expense and shipping costs.

Filter-Ag Plus can be applied to systems designed for either pressure or gravity flow. Because of its unique physical characteristics, Filter-Ag Plus can be used to replace multimedia (graded density) filter designs.



Service Flow Pressure Drop



Backwash Bed Expansion

