



# Whittier® High-Rate Downflow Filters

Custom-Designed Media Filters for Difficult Applications

**WATER TECHNOLOGIES**

# Quality Filtration Systems Configured with Industry Expertise



**Veolia Water Technologies offers a complete line of high-rate downflow filters. We combine innovation with industry expertise to provide economical and effective solutions for a variety of product filtration and water treatment applications. When a high-performance filtration system is needed, Veolia has the design experience to select the proper parameters and operating guidelines to achieve the desired results.**

## High-Rate Downflow (HRD) Filters

HRD filters offer high-performance filtration in difficult process applications. The flux rate is typically 5 – 20 gpm/ft<sup>2</sup>. The HRD filter has a proven distribution design to enable excellent hydraulic coverage during high-rate operation. The media bed is similar to that of a conventional filter, except that the high velocity can drive the solids deeper into the media bed, enabling HRD filters to handle higher solids loadings and extended run cycles.

Media beds can be single media, dual media or multi-media using sand, garnet, anthracite or other special media, depending on the application. Typical installations use vertical vessels with header lateral distributors or a strainer plate design. Horizontal units are also offered for larger flow rates for economy in cost and space. Most installations require the use of air scour for cleaning the media when applications have difficult solids to remove.

This design is well suited for water treatment applications such as removal of turbidity, softening process precipitates, and oxidized iron and manganese. In some cases, these filters are applied after a clarifier.

### *Applications*

- Seawater for injection
- Produced water from oil & gas exploration
- Refinery/Petrochemical wastewater
- General industry wastewater
- Steel mill caster water
- River water
- Pulp & paper feed water
- Clarifier effluent
- Mining leach solutions



## Easy to Operate

Our filtration systems are fully automated with instrumentation packages programmed to meet custom specifications. Typically flow balancing controls are used on high-rate systems with multiple filters, and differential pressure instruments are used to monitor performance. Air scour blowers and backwash pump systems are provided for proper cleaning of the media. When needed, our aftermarket service specialists are on standby with quality replacement parts to minimize equipment downtime.

## Custom-Designed to Suit Your Application

HRD filters are available in either vertical or horizontal configurations. Vertical sizes range from 6-foot to 15-foot diameter to accommodate flow rates up to 3,500 gpm per filter. Horizontal filters can be designed for higher flow rates.

Our filters can be constructed of materials for use in general or corrosive applications. Wetted materials can be carbon steel, coated carbon steel, stainless steel, specialty alloys or FRP, as required.



Resourcing the world

**Veolia Water Technologies**

Tel +1-800-487-3458 • [whittier.filtration@veolia.com](mailto:whittier.filtration@veolia.com)

[www.veoliawatertech.com](http://www.veoliawatertech.com)