

# Centra-flo Continuous Backwash Sand Filters



The Centra-flo™ Filter has been designed with one thing in mind: "performance". In virtually every application that involves granular media filtration, the Centra-flo™ continuous backwash sand filter is the BEST choice for the removal of suspended and colloidal solids. Designed as an upflow dynamic bed filter, the Centra-flo™ filter, provides a continuous supply of filtered water without interruptions for backwash cleaning cycles.

## Superior, Consistent Performance

The combination of the upflow water and the deep bed enables the Centra-flo™ filter to offer the best performance available in upflow filter designs. High quality filtrate can be achieved at varying flow rates depending on influent feed solids loading.

## Low Pressure Drop

Upflow filter designs typically require two to three feet of driving head upstream of the filter. This design allows the majority of the captured solids to remain in the lower portion of the filter bed and removed from the filter very quickly. Consistent low headloss is normal for the Centra-flo™ filter.

A continuously cleaning washbox utilizes filtered water to clean the media before it returns to the top of the filter bed. One meter and two meter filter beds are available with very little difference in headloss.



Water Reuse Installation

## Low O & M Costs

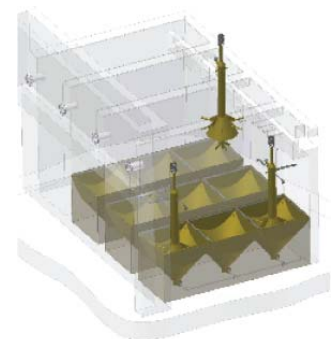
Operation and maintenance costs are minimized. The Centra-flo™ upflow filter has NO moving parts in the filter. There are NO screens, level controllers or valves to maintain. The only air requirement is the airlift pump. The air consumption typically ranges from 1 to 4 scfm at 40 psi per airlift. Scheduled operator attention and service is all that is required.

## High Quality Construction

The Centra-flo™ filter meets the strictest construction requirements in the industry. Standard tank materials are FRP (fiberglass reinforced plastic). Heat tracing and insulated tanks are available for outdoor applications in cold climates along with Seismic 4 designed tanks.

FEATURES	BENEFITS
Upflow, Continuous Operation	No shutdown for backwash cycles No ancillary equipment requirements No flow control valves
No Internal Moving Parts	Reduces operator attention and maintenance
Low Pressure Drop	Gravity or pump fed with pressure drop typically less than 24 during normal operation Reduced power consumption
Single Media	No screens or under drain systems
High Loading Capacities	Can accommodate upstream upsets
Continuous Backwash	Steady continuous reject stream eliminates upsets No reject pumps or tanks are typically required
CA Title 22 Accepted	Water Reuse

Concrete basin designs are available for higher flow applications.



For more information, please contact Blue Water:

Blue Water for a Green World®



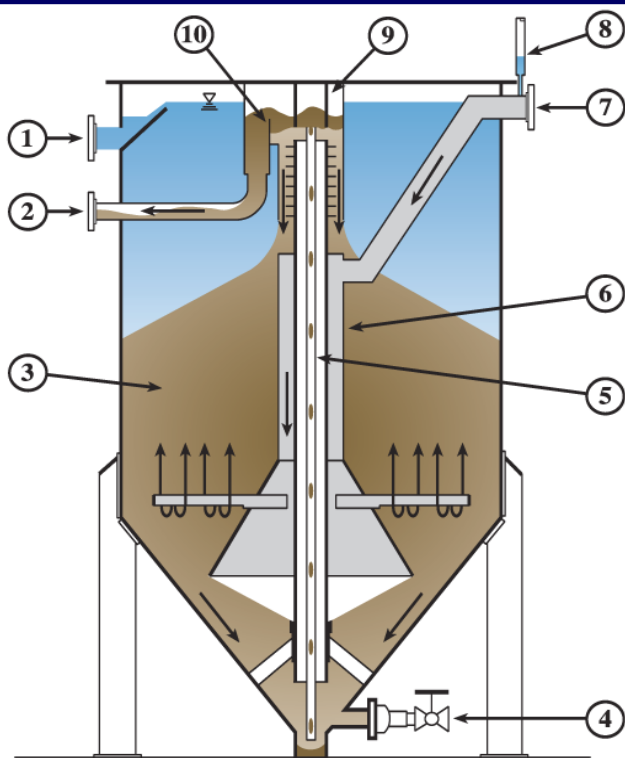
(888) 710-2583, sales@blueh2o.net, www.blueh2o.net

### Filter Operation

Influent enters the center of the filter through a central feed chamber. The central feed chamber has a series of radial arms to evenly distribute the influent flow to the media bed near the bottom of the filter. As the water flows upward through the filter, media is suspended and colloidal solids are removed. Filtrate exits the filter near the top and flows over a fixed weir plate that maintains a constant level.

Solids captured in the filter media are drawn downward into a recessed chamber located below the lower cone by the suction of the airlift pump. The high energy, turbulent upward flow inside the airlift provides a scrubbing action that effectively separates the sand and the captured solids before discharging them in the washbox at the top of the filter.

The washbox is a baffled chamber that allows for counter-current washing and gravity separation of the filter media and the captured solids. Media cleaning is accomplished utilizing filtered water from the upper chamber of the filter. Regenerated filter media is returned to the top of the filter bed as it falls by gravity through the washbox. An adjustable V-notch weir directs the reject flow out of the filter carrying concentrated captured solids to a suitable disposal point.



- 1. Filtrate
- 2. Reject
- 3. High Quality Silica Media
- 4. Drain
- 5. Airlift
- 6. Central Feed Chamber
- 7. Influent
- 8. Headloss Sight Gauge
- 9. Splash Guard
- 10. Adjustable V-Notch Weir

### APPLICATIONS:

#### Municipal

- Water Reuse - CA Title 22
- Tertiary Filtration
- Algae Removal, Lagoons
- Phosphorus Removal
- Potable Water Filtration
- Denitrification

#### Industrial

- Metal Hydroxides
- Mill Scale
- Pre-RO Direct Filtration
- Laundry Waste
- Brine Waste
- Pulp & Paper Process Water
- Surface Water
- Oil/Emulsion Waste
- Cooling Towers
- Incinerator Blowdown
- Mining

### Circular FRP Models

Model No.	Area ft <sup>2</sup>	Diameter ft	Height ft	Throughput gpm	Reject Rate gpm	Headloss in.	Bed Depth in.	Air scfm
CF-7 UF	3	3	10'-1"	10-35	3-4	6-24	40-80	1-2
CF-12 UF	12	4	10'-8"	15-60	3-4	6-24	40-80	1-2
CF-19-UF	19	5	11'-5"	30-95	5-6	6-24	40-80	1-2
CF-28 UF	28	6	12'-4"	42-140	5-6	6-24	40-80	2-4
CF-38 UF	38	7	13'-4"	60-190	6-8	6-24	40-80	2-4
CF-50 UF	50	8	14'-0"	75-250	6-8	6-24	40-80	2-4
CF-64 UF	64	9	14'-8"	100-320	8-10	6-24	40-80	2-4
CF-78 UF	78	10	15'-8"	120-390	8-10	6-24	40-80	2-4
CF-113 UF	113	12	17'-4"	150-500	8-10	6-24	40-80	2-4

### Rectangular Concrete Models

Model No.	Area ft <sup>2</sup>	WxL ft	Height ft	Modules	Throughput gpm	Reject Rate gpm	Headloss in.	Bed Depth in.	Air scfm
CF-50 UF	50	7.1x7.1	17'-6"	1	75-250	6-8	6-24	40-80	2-4
CF-100 UF	100	7.1x14.2	17'-6"	2	150-500	12-16	6-24	40-80	2-4
CF-200 UF	200	14.2x14.2	17'-6"	4	300-1000	24-32	6-24	40-80	2-4

Blue Water is proud to offer a broad platform of water treatment technologies, from primary wastewater treatment to advanced effluent polishing steps to environmental remediation processes. We strive to meet our customers' needs cost-effectively, considering both capital expense and ongoing operations and maintenance costs. Additionally, we keep an eye on the future by looking for sustainability in our technologies, including environmentally friendly materials and energy conservation.

