

Centra-flo vs. Traveling Bridge

Point of Comparison	Centra-flo	Traveling Bridge Filters
Direction of Flow	Down	Down
Media	Multi-grade single media, coarse-to-fine filtration in direction of flow (inside-out). Can customize media mix per application requirements	Dual media is standard to most traveling bridge designs. Some designs utilize triple media for high quality filtrate requirements.
Media Size	#8 to #35 Sieve 2.36 mm to 0.50 mm Finer media results in higher filtrate quality.	Unknown depends on application and equipment supplier.
Media Cleaning	Internal/Center Washbox utilizes filtered water to clean sand transported up airlift.	Units typically require air scouring and a surface washing system to effectively clean media. This requires high rate pumps and blowers that are eliminated with the Centra-flo.
Media Depth	40" standard (80" optional)	"Shallow" bed, typically 12" to 18" total media depth.
Footprint	Minimal due to higher loading rates per square foot of filter area. Typically size unit for 3 to 6 gpm/sq.ft.	Much larger due to lower loading capacity per square foot of surface area.
Level Control	Automatic level control systems - Pneumatic level controller and actuated valve	not applicable
Filtrate Screens	Injection molded polypropylene or SS wedgewire nozzles. 1 nozzle/ft ² of filter surface area. Very High Quality	Underdrains or porous plates for media containment
Secure Filtrate	Guaranteed - No cross connection between	Depends on operating mode, filtrate can be subject to pass

influent/reject and filtrate. through after backwash cycle.

Constant Reject	<p>Yes As the pressure drop increases across the filter, the level control systems maintains a constant level which insures constant reject flow in the washbox.</p>	<p>No Reject is not constant, causing surge flow to the treatment system. It is more difficult to control and maintain systems with fluctuating flows than constant flow systems.</p>
Constant Filtrate	<p>Yes Effluent control valve adjusts based on flow, headloss and reject flow rate to yeild a constant flow rate.</p>	<p>Yes</p>
Headloss Design	<p>24" required</p>	<p>24" minimum</p>
Power Requirements	<p>4 SCFM @ 40 psi per airlift Typically 1 HP = 5 SCFM</p>	<p>Backwash Pump = ? HP Surface Wash Pump = ? HP Air Scour Blower = ? HP Bridge Drive = ? HP</p>
Maintenance Req'd	<p>No moving parts.</p>	<p>Electrical Control Panel Bridge alignment, hood alignment with filter cell, drive wheels, seals on hood, pumps and control systems.</p>

Comments: Filtration with traveling bridge filters is predicated upon surface removal. Media depth typically ranges from 12 to 18 inches. This limits the units capability of high hydraulic and solids loading capacity. Traveling Bridge units are typically sized for 2 gpm/sq.ft. The continuous backwash Centra-flo is typically sized for 3 to 5 gpm/sq. ft. for water reclamation applications.

When upsets occur upstream of the filtration unit, plugging occurs in the filter, and it should be taken off line. When these conditions exist as they do in an secondary effluent applications, the traveling bridge may not be the best filter for the situation. Applications for traveling bridge filters are limited and should be carefully reviewed.

The operation of traveling bridge filters is solely dependent on a mechanical system that moves to each individual filter cell and backwashes on a timed interval. This complex mechanical system adds to the mechanical and operational

costs of the system. The traveling bridge filter can not compete with the advantages of continuous backwash systems such as the Centra-flo Gravity Sand Filter.

When evaluating the Centra-flo vs. Traveling Bridge Systems, you must keep in mind the entire operational costs, complex and continuous maintenance requirements, spare parts requirements, and the power costs.