



DESIGN DIFFERENCES Controls Procedure

All Tower-Flo® Water Filter Systems (except Series TFCL) follow a standard controls procedure that requires the filter system's pump to be stopped prior to valve actuation. The reason Tower-Flo® adopted this standard controls procedure is simple; to protect the collection laterals in the filter vessel which are solely responsible for letting the water out of the vessel while keeping the sand media retained in the vessel.

Collection laterals are buried deep under the sand near the bottom of the filter vessel. In filter mode, they are the exit point for filtered water leaving the vessel and they function to keep the sand retained in the vessel. When the filter system is in backwash mode, these laterals become the entry point for backwash flow and are responsible for evenly distributing that flow to thoroughly flush the media of captured solids.

Collection laterals are generally fabricated of either ABS Cycloc plastic or Schedule 80 PVC material to withstand water chemistry. Slots in these laterals are molded or machined at .0162" in width at 10 slots to the inch. Therefore, while performing one of the most critical functions, they are the single most delicate component of the filter system.

As a filter system conducts a backwash operation, flow is reversed through the vessel. Reversal of flow – without stoppage of flow – when valves change position into and out of backwash subjects collection laterals to varying degrees of flexure. The cumulative effect, over time, will create fatigue at points along the laterals that can eventually fracture or break. Further, flow reversal – without flow stoppage – as a filter ends a backwash operation and returns to filter mode creates the added stress of slamming several hundred to several thousand pounds of sand (400 lbs. in a 30" filter to 11,000 lbs. in a 96" filter) back down onto the collection laterals. If a collection lateral breaks, sand media from the filter will be pushed into the body of cooling water the filter serves and pushed throughout that cooling system and all of the equipment that cooling water contacts; pumps, heat exchangers, chillers, compressors, etc.

Tower-Flo® believes that it is sound and prudent engineering to require a controls procedure that protects the most delicate component of the filter system; the collection laterals. That means that when a Tower-Flo® filter backwashes, the pump – and therefore the flow of water – will be stopped as the valves are moved from filter to backwash position, restarted for backwash flow, and then stopped again as the valves are returned from backwash back to filter position.



United Industries, Inc.
P.O. Box 58
Sterling, KS 67579
800-835-3272 • 620-278-3160
Fax 800-500-3115 • 620-278-3115
www.towerflo.com

Member
Cooling Tower Institute
NSF Listed
Form TFDD-CONT: 01/02

Data presented here is the best available at the time of publication. United Industries and/or its representatives assume no liability for its use.