

Addition of spray bar to a pressure leaf filter:

Schenk began using spray bars in their PVPP regeneration filter in the early 1980, the reason for this was that the PVPP is a polymer that will expand when wetted and at the same time is a relatively soft particle that can be deformed.

This led to problems with particles actually getting stuck in the filter screen, enough flow or pressure could not be applied by back flushing the screens to remove the particles and there would be a slow build up of particles, resulting in partial blockage of the screens.

The need for a form of mechanical force to clean the screens was indicated and work was started to develop a flush "forward" method. "Forward" as this allows relatively high forces to be used as the screen was pushed down on the drainage support and thus could withstand the pressure applied, in contrast with back flush where the screen is lifted up and has no support.

Extensive testing proved the point and a spray bar was built into every PVPP filter. This led to testing of the spray bars in other applications, they became an option on the ZHF/S filters (D.E. filters)

A few years later with the development of the ZHF/Z-Primus filters, spray bars became standard with all beverage filters, and have since worked its way into all our filters for all applications.

The spray bar allows a high unrestricted "mechanical" cleaning force on the filter screens, it assures good cleaning of the shaft area, where the centrifugal force is minimal, making it a hard to clean area. The spray bar can also aid cake discharge by adding a mechanical factor to the centrifugal force applied to the spent cake (blowing the cake off the elements).

With optimization of the cleaning program and use of the spray bar, a far better cleaning of the filter screens/leaves/shaft is achieved than previously possible, at the same time saving water and time. The latest modification is to allow a short burst of water into the top vent valve to assure full cleaning of the top section of the filter. This eliminates having to fill the vessel with water to reach this area.

Experience with the use of spray bars has also indicated, pending on procedures, that the removal of the filter elements to power clean the screen can be greatly reduced or eliminated.

(Any change in the removal cycle of screens to power clean them should be confirmed with observation during extended periods).