

Liquid Filter Eliminates Maintenance and Downtime.

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Tekleen automatic self-cleaning liquid filters offer a unique and innovative solution to filtration and screening problems in the sugar industry. It provides a reduction in the time required to clean pipes, vessels, heat exchangers, evaporators, and screens.

A 100-micron Tekleen filter with 5 sq.ft. surface area has been tested on a 100 gpm raw beet juice stream (15 % DS) prior to membrane filtration. The screen was able to catch the particles that can potentially hurt membrane performance, such as small pieces of beets, fiber and sand. The screen performed quite reliably for a period of one campaign (180 days) at the Twin Falls plant of Amalgamated Sugar LLC. Most importantly, the back flushing was always able to restore initial 0 psid pressure drop, which indicates that the screen perfectly suits the application.

The Tekleen filters are virtually maintenance free. They have a multilayer (3) stainless steel screen mesh through which juice or syrup of up to 76°Bx can be filtered at a maximum pressure of 15 bar and at temperature of over 100°C without ever plugging the screen. Depending on suspended solids content, single filters can handle up to 200 gpm (50 m³/h) and unlimited flow rate with filters arranged in parallel. Filtration range is 10 μ - 400 μ . New rinsing technology, Tekrinse, will reduce rinsing flow rate by as much as 95% comparing to previously available models.

The operation and the cleaning of the Tekleen filter is very simple. Dirt build-up on the screen causes a pressure drop at the filter outlet, while the "Cake Effect" enhances the removal of dirt particles that are much smaller than the screen mesh. At a preset level of 7 psi, the flushing valve is opened to the atmosphere. An atmospheric pressure path is established causing an internal vacuuming mechanism to rotate and suck the dirt out with high velocity nozzles. The self-cleaning routine, lasts for 6-10 seconds without interrupting the main flow, nor does it require any external water source for flushing of the screen. The rinse liquid is sent back either to the clarifier, or to the beginning of the process or to a filter press or a membrane. The filtrate or permeate can be sent back to the clarifier or forwarded downstream depending on the process requirements.

There are many other applications for the Tekleen filter in the sugar mill including: boiler feed-water, cooling tower water, spray nozzle protection, irrigation, and more. The Tekleen filter can replace multiple labor intensive bag filters used as check filters in several applications such as standard liquor or molasses filtration.

Automatic Filters, Inc, the manufacturer of the Tekleen filters, offers a wide range of competitively priced stainless steel filters that are rated to 150 psi (10 bar) & 225F (110C).