BKG® HiCon™ V-Type

Double Piston Backflush Screen Changer for Continuous Operation with Power Backflush Technology

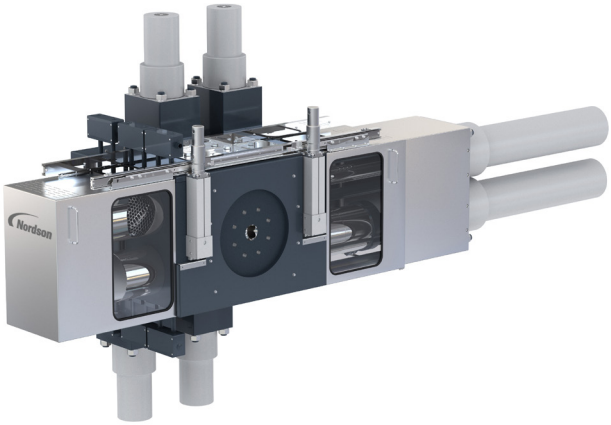
Normal operation: 4 screen cavities (100%) in the process

Backflush: 3 screen cavities (75%) in the process

Screen change: During a screen change, one of the screen cavities (25%) is removed from the process, allowing for three of the screen cavities (75%) to remain in operation

Applications

Suitable for almost all processes and materials. It is used in pressure constant processes (e.g. strap, film, fiber) as well as processes with insufficient back pressure for backflushing (e.g. strand pelletizing) and can manage processes with a high proportion of contaminates (e.g. recycling). The system enables process runs to continue without any system shutdowns while changing the screen.



Features

- Highly efficient backflush via patented power backflush technology, regardless of the extrusion pressure
- During the process steps “backflush” and “screen change,” 3 of the 4 screens remain in production at all times
- Optimized flow channels utilizing rheological data
- Wear-free metallic sealing system – no additional seal required
- Easily integrated into the line controls

Benefits

- Pressure, process and volume flow constant operation attributed to the patented and integrated power backflush technology, regardless of the extrusion pressure
- Fully automated backflush and venting procedure (via PLC) reduces operator intervention
- Significant reduction in operating costs (screen & labor costs) is ensured by up to 200 backflushes
- Four (4) screens enable a large filter area in a compact and small housing, while the backflush amounts during the self-cleaning process are minimal

Technical Information

Machine Type/Size	V-Type 125 - V-Type 380
Screen Dimensions	Ø125 - Ø340 mm (4.92 - 13.39 in)
Throughput	320 - 6,500 kg / h (705 - 14,330 lb / hr)
Screen Area	488 - 3,632 cm^2 (76.6 - 563 in^2)
Temperature	Up to 450°C (842°F)
Heating	Electric, Fluid, or Steam
Max. Operating Pressure	Max. 350 bar (5,076 psi)
Differential Pressure	Max. 150 bar (2,176 psi)

*These throughput values are only estimates. The actual rates are dependent upon the viscosity of the material, filtration fineness, application, and the contamination level of the material; therefore, the values may differ depending on the actual process parameters.

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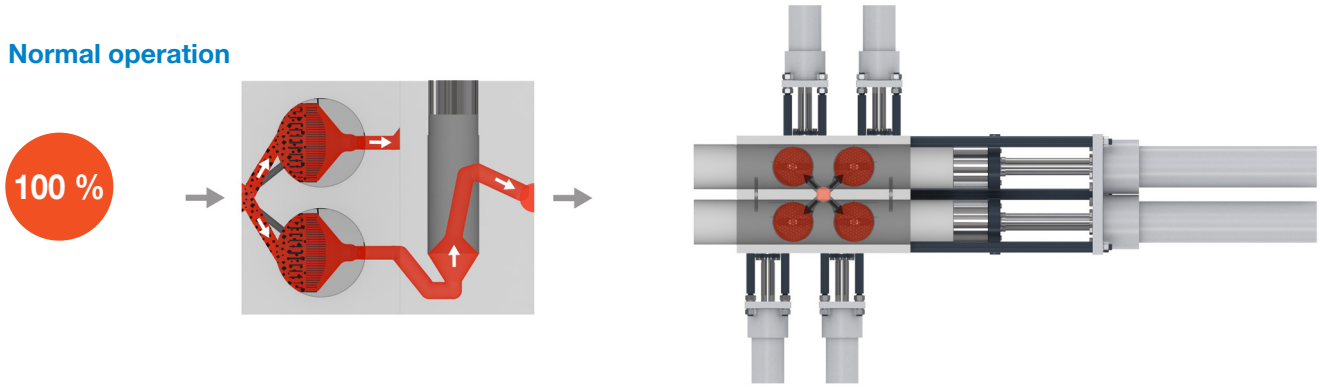
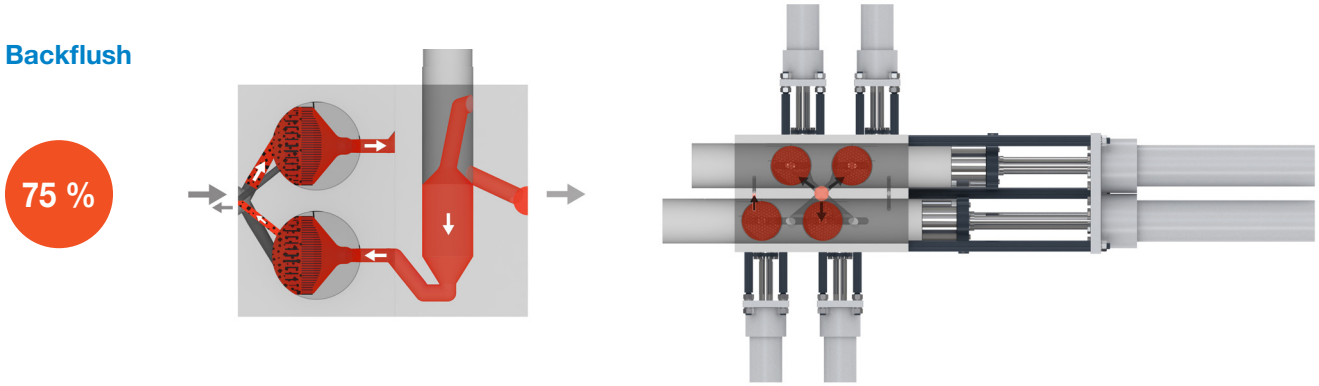
Normal operation



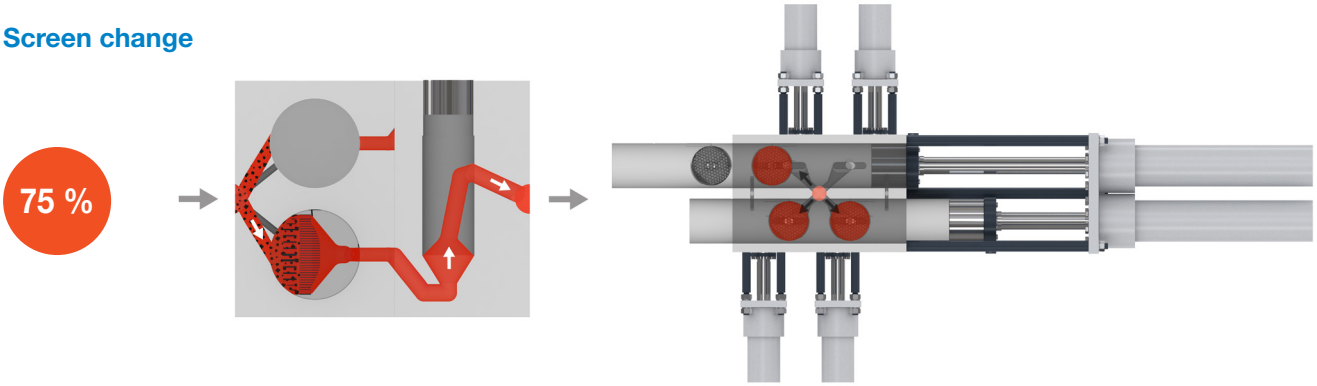
The heated steel housing allows for two screen bearing pistons, which contain two screen cavities each per piston. The melt flow is subdivided into four flow paths and is directed through each of the four screen cavities. Ongoing filtering leads to a rise in the resistance of the flow rate. When a defined pressure limit is reached, the screens are automatically cleaned by backflushing.

Backflush



If the pressure limit that triggers the backflushing is reached, one screen is driven into the backflush position first. A part of the filtered melt is deflected in order to be purged through the filter to be washed from the rear. In a fast forward movement, the displacement piston flushes the dirty screen with hydraulic support. The dirt particles on the screen are detached and are led outwards via a spillway. The corresponding screen chamber is completely separated during backflushing so that the process is not interrupted. After cleaning the filter element, the adjacent screen of the same bearing piston is cleaned in an identical manner. During each backflush, 75% of the screen area remains in production.

Screen change



The exchange of the screens is triggered when reaching a chosen differential pressure (Δp). The screen piston with the changeable filter element is moved out of the housing to allow for the screen pack of the piston to be removed and replaced with a new filter element. During the screen change the second screen cavity of this piston and the screen cavities of the other bearing piston remain in the production position and the melt flow is not interrupted. Seventy-five percent (75%) of the filter area is still used for filtration.

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