



## PROCESS STEPS

Four process steps, one goal: clean products.

### CAKE WASHING



**The washing of filter cakes is a process operation of great importance, as the requirements for the purity of products steadily increase. It is important to ensure a high washing efficiency with low wash liquor consumption and a sharp filtrate separation in order to minimize the costs of energy and washing liquid.**

In many cases, the filter cake formed is washed with a washing liquid. The purpose of a filter cake wash is to remove unwanted substances from the filter cake in order to increase the purity of the solids or to recover desired substances. The recovered filtrate, the so-called wash filtrate can either be separated or removed together with the mother liquor. If the mother liquor is the desired product, in most cases it should not be diluted with the washing liquid.

One effective method of optimizing wash liquor consumption is countercurrent washing because the wash liquid is reused in multiple washing stages. The fresh washing liquid is added to the last washing stage, in which the filter cake is already prewashed. The wash filtrate from each stage is collected separately and returned to the previous wash step. The washing medium is thus moved on the filter cake against the direction of rotation of the filter. The sharper the separation of the wash filtrate in each wash step, the more efficient the use of the fresh wash liquid in the last step and the less wash liquid is needed.

**The main requirements for effective countercurrent cake washing on rotary filters are:**

- homogeneous filter cake, to prevent washing liquid from flowing through few large pores without any washing effect (fingering)
- an optimal washing water distribution over the filter cake
- rapid and complete filtrate drainage from filter cells and filtrate pipes to prevent carryover of filtrate to the next process zone
- a reasonable number of filter cells, which allow for a precise distribution of the process zones.

A particularly intensive washing of filter cakes is achieved with BoHiBar steam pressure



