



PROCESS STEPS

Four process steps, one goal: clean products.

CAKE DELIQUORING



Further processing of the filter cake formed during filtration requires low residual moisture in most applications. The solids should be as dry as possible. Liquid that remains in the filter cake often has to be removed by thermal drying. The energy consumption is up to ten times higher than with a mechanical deliquoring of the filter cake on the filter apparatus.

In the last process step, after the filter cake wash or already after the solids separation, the filter cake is deliquored by air flowing through it. It is often the goal to produce a filter cake that is as dry as possible. This can have two reasons: the further processing of the solid requires the lowest possible residual moisture content, or the liquid phase is the valuable product and should be recovered as completely as possible.

Too high residual moisture in the filter cake can cause high post-treatment or energy costs. Frequently, liquid remaining in the filter cake has to be removed in a downstream dryer with an energy consumption that is almost ten times higher than would be possible mechanically with a modern filter of intelligent design and correct operation.

After deliquoring, the filter cake is removed from the filter fabric via a corresponding cake discharge device and fed to the subsequent process as well as the resulting filtrates.

As with solids separation and cake washing, the success of cake deliquoring depends on product parameters, process parameters as well as apparatus parameters.

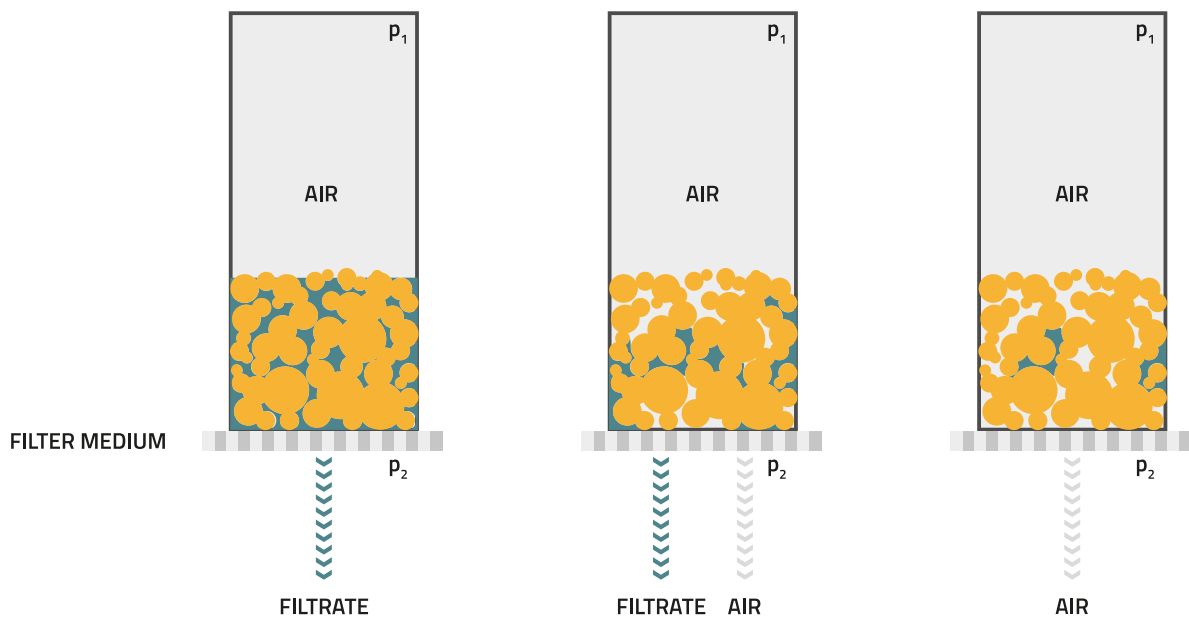
Homogeneous filter cakes are a prerequisite for the fact that the drying air flows evenly through the filter cake, penetrates as many pores as possible and does not flow off ineffectively through a few large pores (fingering).

The finer the particles, the higher the flow resistance of the formed filter cake and the higher the required pressure differences p for cake demoisturing. Thus, pressure filters usually achieve lower residual moisture than vacuum filters.

Particularly low residual moisture is achieved with BoHiBar steam pressure filtration. In this hybrid process, the filter cake is steamed in a special steam hood. Synergy is released through the combination of mechanical and thermal energy. The deliquoring process is accelerated



and intensified.



PRESSURE DIFFERENCE: $\Delta p = p_1 - p_2$

$p_1 > p_2$

