

The Application - *We listen*

Pharmaceutical active ingredient filter cake, the solids obtained from centrifugation of a suspension, can be over 60% solids. Prior to use in subsequent manufacturing steps, it requires redispersion into a solvent and/or a “wash” fluid to remove impurities and traces of the liquids used previously for the continuous phase of the suspension. This redispersion process requires the



breaking up of the cake (often pieces as large as 10 inches) into the new continuous phase to reform a suspension and ultimately return the solid to its primary particle size.

The major problems encountered with utilizing conventional tank agitation are:

- The size of the large pieces of cake is not easily reduced.
- If larger pieces are broken down, there is often insufficient shear to reduce the agglomerates to their primary particle size.
- Long mixing and/or soaking times are required to break up the cake.
- Liquids used as the initial continuous phase are not removed until all agglomerates are completely broken down and may result in a contaminant.

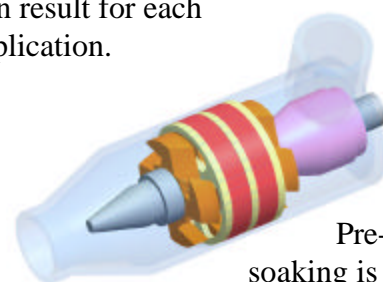
The Bematek Solution - *We solve*

A properly sized and configured Bematek In-line Mixer will easily break down the filter cake and often

disperse the primary particles into the new continuous phase in a single pass. The redispersion can be accomplished on a batch or continuous basis. For a batch process, the liquid is added to an agitated vessel and the inline mixer is started prior to the cake addition. For a continuous process, the cake and the liquid must be added to an agitated vessel at the appropriate feed rate. In either case, the agglomerates are pulled into the mixer head where they are subjected to the forces in multiple shear zones (from 1 to 12 depending on the application) and 100% of the product is processed.

The Bematek Edge - *We Deliver*

The patented design of the Bematek In-line Mixer allows for the number of shear zones and the shear within each zone to be configured to create exactly the correct amount of shear to provide the desired deagglomeration result for each application.



eliminated, reducing production time. Models are available for capacities from laboratory to full production, with precision scale up. The in-line design gives greater flexibility in either batch or continuous operation. The ability to run on a continuous basis will reduce the number of vessels, eliminate process steps and reduce production time.

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