

### ***Removable Ribbon Shaft Help Worker to Clean and Easy Maintenance***

One of our polymer manufacturer found us to design a suitable ribbon blender which can easily take ribbon shaft out to fully clean inside part of it because they need often changeover product and clean inside part thoroughly in order to avoid cross-pollution. "Additive blends must be pure and homogenous because we have multiple products, we have to ensure the highest quality possible with absolutely no contamination between product runs." says the product manager Mr. Michael. So, it means that they have to do thorough cleaning between each batches and this need take much time on blender cleaning. Furthermore, this company also needs to avoid the risk of worker climbing into the blender for cleaning and maintenance. The product manager told us that safety is the life for their company and they want to avoid any risk of people hurting during blender operation.

After gathered information on what drawbacks the company was experiencing with its other production line's blender during product changeovers and what capacity the company was hoping to achieve, Vortex start to design a suitable solution for customer and also make some customize design.

Firstly, the ribbon blender must be placed under the platform but not be put too low which will make operator difficult to lift the ribbon shaft. The top of cover shall beyond the platform. The removable ribbon is hoisted out using an overhead crane so operators can quickly and easily clean both the ribbon and the inside of blender.

Secondly and the most important is how to design ribbon agitator shaft. In order to keep and ensure working efficiency of ribbon mixer, we design a flat-flange, clamshell coupling which allows operator to lift ribbon agitator shaft out of the blender without moving two end plates and seal assembly.

The final custom-designed ribbon mixer with an agitator ribbon that can be easily and quickly removed without moving any of the drive parts and seal parts, saving much time of changeover and cleaning at every batch. "Since this blender's agitator can be taken out between batches, it's extremely easy to clean," says product manager and he is very happy with our mixer's running. At past, their company take a lot of time in cleaning and also can not finish fully clean although take much hours and labors.

We can learn from this case that removable ribbon agitator is good for changeover product customers and it can reduce contamination as possible. The operator can easily take shaft out by crane or manual hoist. This kind of ribbon blender can be promoted widely in chemical industry customers in the future.

Sources: <https://www.incmachine.com>