

## Agitator July 2019

### 200 litre Closed Top Drum Mixer

How to mix the contents of a closed top 200 litre drum ? A standard 200 litre drum has an internal diameter of 572mm but only a 2" NPT threaded bung hole located near the edge of the lid for access.

Basic mixing rules tell us that a 50mm diameter impeller is not going to mix the contents of the drum, Mixtec - Western Engineering's solution for this is to use an impeller with collapsible blades that can fit through the bung hole and then open out to 200mm diameter when in use providing effective mixing within the drum.

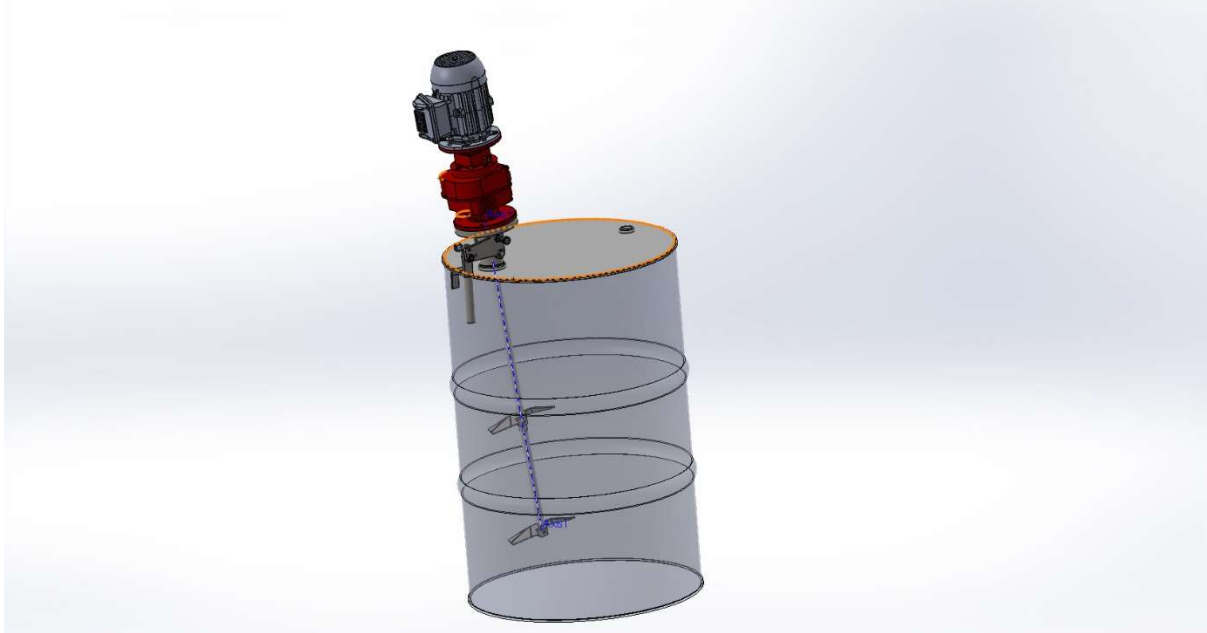
The next problem is the location of the bung hole, it's center is less than 100mm from the edge of the drum which would mean a 200mm impeller would strike the side of the drum if operated with the shaft in the vertical position. Mixtec - Western Engineering's solution is to run the shaft off the vertical plane such that the impeller can not strike the side of the drum.

This is achieved using a threaded insert which screws into the threaded bung hole in the vertical plane then the mixer shaft is moved off the vertical plane to a predetermined angle and locked in position with 2 spring loaded locking pins - see photos.



Top photos show detail of threaded collar which screws into the drum, operating position on Right. Bottom left shows mixer in running position in drum. Bottom right shows mixer with impeller blades retracted and extended.

Below is 3D image of mixer in running position in a drum.



### **New Technical Articles Available Online**

This month we have added 2 technical articles for your reference, one regarding the types and applications of mixers used in the wine industry and one regarding the art of straightening mixer shafts by the old school oxy-acetylene torch and water cooling method.

These can be found at: <https://www.westernengineering.co.nz/index.php/downloads/articles>

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