 BLENDING/OIL ENHANCEMENT/UPGRADING

Mix two or more components to obtain a homogeneous blend in a specific amount of time to defined requirements demands complete bottom-to-top-to-bottom “turnover.” This also applies to crude oil storage; especially in refinery tanks feeding direct to the process units, or when pipelines are enhancing sour crude with sweet crude.

HOMOGENEITY

Maintain homogeneity of refinery finished, intermediate products, or chemical plant feed stocks to ensure uniform specification. This demands complete movement throughout the tank with bottom-to-top-to-bottom “turnover,” as well as circulation around the tank. This ensures that the media at the bottom, middle, and top is uniform. This also applies to crude oil storage in refinery tanks feeding direct to the process units.

TEMPERATURE UNIFORMITY

Aid heat transfer while heating or cooling or to maintain temperature uniformity complete fluid motion where bottom-to-top-to-bottom “turnover” would normally be required. Positioning of the mixers relative to the heating elements is also important to obtain the desired process results.

Recommended fixed-angle mixer positions for effective homogeneity, blending/oil enhancement, and temperature uniformity

NOTES

- Depending upon application, mixers fixed at angle 10° left or 10° left/5° up. Details removed for clarity.
- If more than one duty applies then the most critical duty must determine the selection of mixer. Generally blending is the most critical duty.