

## B. W. SINCLAIR INFORMATION UPDATE

### PADDLE ROTOR “MINGLER” USED TO MIX RAW SUGAR AND SYRUP IN SUGAR REFINERY

BWSI has recently installed two primary sugar “minglers” at an East Coast sugar refinery, replacing units originally manufactured in the 1920s!

For the sugar industry, a mingler is a slurry mixer used to commingle raw sugar and affination syrup to begin the process of transforming cane sugar into refined granulated product. Retention time and intense mixing are critical at this stage.



The new minglers feature a 24” diameter sectional flight inner helix within a 30” diameter reverse paddle outer rotor. The dual design thoroughly combines the sugar slurry while rotating at a slow speed. A discharge bulkhead and weir arrangement prevent the viscous slurry from evacuating the 36” U-trough housing, extending the retention time to match the refinery’s process requirements. The height of the weir is adjustable to maintain product viscosity over a range of volumetric rates.



The reinforced stainless steel mesh clamped top covers allow continuous inspection of the process. The mingler construction is primarily heavy seal-welded carbon steel, as this process occurs so early in the refining that stainless is not required.



Special features of these machines include:

- Flanged rotors with “body-bound” coupling bolts
- Super heavy-duty intermediate “free-flow” hanger frame with machined bronze support bearing
- Double offset side-mounted discharge spouts
- Adjustable packing gland shaft seals with Teflon™ braided packing
- Dodge SAF-XT™ spherical roller bearing pillow blocks
- Falk Quadrive™ flange-mounted helical gear drive with inverter-duty Marathon Blue-Chip™ motor

*Heavy-duty design and equipment innovation – the hallmark of **SINCLAIR**.*

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