

# CBS-390

## Modular slurry mixing system

### APPLICATIONS

- On-the-fly mixing of cement slurries or other fluids
- Recirculation of cement slurries or other fluids

### ADVANTAGES

- Close-coupled SLURRY CHIEF\* cement mixing equipment and SlurryAirSeparator\* mechanical cement slurry defoamer to maximize mix energy and avoid dead spots
- Recirculating SLURRY CHIEF equipment
- Recirculating mix tub to keep solids in suspension
- Modular design that enables onsite configuration
- High-energy mix tub that is 90% self cleaning
- Bulk blend control valve
- Quick cement slurry shutoff
- 6-bbl (working volume) mixing tub
- 19-bbl (working volume) averaging tank
- Guided-radar level sensors
- 4-in Promass mass flowmeter
- Top-rail design to enable accessory mounting on averaging tank

The CBS-390 modular slurry mixing system provides an efficient and flexible method of generating homogeneous cement slurries at their designed densities, solids fractions, and pump rates. Slurry mixing rates of up to 11 bbl/min are achievable, depending on the bulk cement delivery rates and cement slurry design.

### Mixing process

The dry cement blend is delivered to the Mark III SLURRY CHIEF cement mixing equipment by gravity feed or pressurized delivery from the CUS-122 surge tank via a metering knife-gate. It is mixed directly with the water delivered to the mixing tub by a dedicated 5×6 centrifugal pump on the cement pump unit. The cement slurry is discharged through a SlurryAirSeparator mechanical cement slurry defoamer to remove entrained air, prevent foaming, and increase shear. The slurry is jetted into a 6-bbl mixing tub and continuously recirculated through the Mark III mixer and a 4-in Promass mass flowmeter, which measures density and flow rate. The centrifugal pump is not included in the CBS-390 system. The cement slurry in the mixing tub can be controlled manually or automatically to ensure that a constant density or solids fraction is maintained.

### Uninterrupted pumping

The slurry from the 6-bbl mixing tub spills over into a 19-bbl averaging tank, where it is both recirculated and transferred to the cement pump unit using a second centrifugal pump. The combination of the mixing tub and averaging tank enables a fast response time at the mixer when bulk delivery issues or any discrepancies in slurry quality are observed, while maintaining a large buffer volume of premixed slurry that meets design criteria to continue pumping operations at the designed rate.



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## CBS-390 Specifications

### Mark III SLURRY CHIEF Cement Mixing Equipment

Length (diagonal)	54 in [1.372 m]
Width	30 in [0.762 m]
Height	27 in [0.689 m]
Dry weight (without mixing tub)	297 lbm [135 kg]
Maximum mixing capacity	60 sacks/min [2,560 kg/min] of dry cement
Density range	11.6–22 lbm/galUS [1.4–2.64 relative density]

### Mixing Tub (includes SlurryAirSeparator defoamer and nonradioactive densitometer)

Length	67.8 in [1.722 m]
Width	51 in [1.295 m]
Height	106 in [2.692 m]
Weight	2,926 lbm [1,221 kg]

### Averaging Tub

Length	102 in [2.590 m]
Width	51 in [1.295 m]
Height	91 in [2.311 m]
Weight	3,093 lbm [1,402 kg]
Operating weight, excluding mixer	27,019 lbm [12,256 kg] assuming 20-lbm/galUS fluid in both tubs

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