Mixer Charging Procedure

Erie Strayer Company

1851 Rudolph Ave.
Erie, PA 16502

(814) 456-7001 phone
(814) 452-3422 fax

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The quality and consistency of concrete produced in an Erie mixer is directly related to the charging sequence of the water, aggregates, cement and admixtures into the mixer drum. The charging sequence in the Erie control system is based on percentages, so no matter the mix design – the sequence will remain the same.

Water is the first material to charge into the drum. Aggregates are charged into the drum after 5% of the total water has entered. Cement is charged into the drum after 10% of the total aggregates have entered. The introduction of admixtures in the charging cycle of the mixer drum should be specified by the admix supplier. The materials finish charging the drum in reverse order. The cement finishes discharging when approximately 90% of the aggregates are in the drum, followed by the aggregates. Water finishes last, with 5% remaining. This type of discharge sequence is known as the "ribbon discharge method".

Good blending of materials into the drum will: minimize segregation of aggregates, provide uniform slump tests results (from the front to the back of the drum), provide a superior blend of mixed concrete, and minimize concrete build-up on the mixer drum interior and buckets and blades. Additionally, even blending of the sand and stone before entering the mixer drum will further enhance the resulting quality of mixed concrete. The best way for pre-blending aggregates prior to entering the mixer drum is by utilizing Erie's multiple aggregate batcher design. This allows for the control of each aggregate's discharge rate onto the conveyor belt, pre-blending the aggregates on the belt. If individual batchers are not available, most Erie plants feature two sets of aggregate gates with independent solenoid valves. This design aids in the control of aggregate blending onto the batch transfer conveyor belt.

The Erie mixer charging chute is designed to promote uniform mixer loading. Refer to drawing on the next page.

The adjustable cement chute extension allows the cement to flow further into the mixer drum for improved mixing action and reduced build-up around the chute area. This adjustable chute is shipped in the retracted position and can easily be once the mixer has been installed. To extend the chute, loosen the 4 retaining bolts, pull the chute extension downward and forward and then tighten the retaining bolts. Be aware that when the mixer tilts, the chute must not be out too far or the mixer drum will interfere.

The water nozzle has been factory positioned to entrain water into the mixer drum at the three O' clock position (as looking into the drum from the charge side). Insure the correct water nozzle location after the mixer has been erected.

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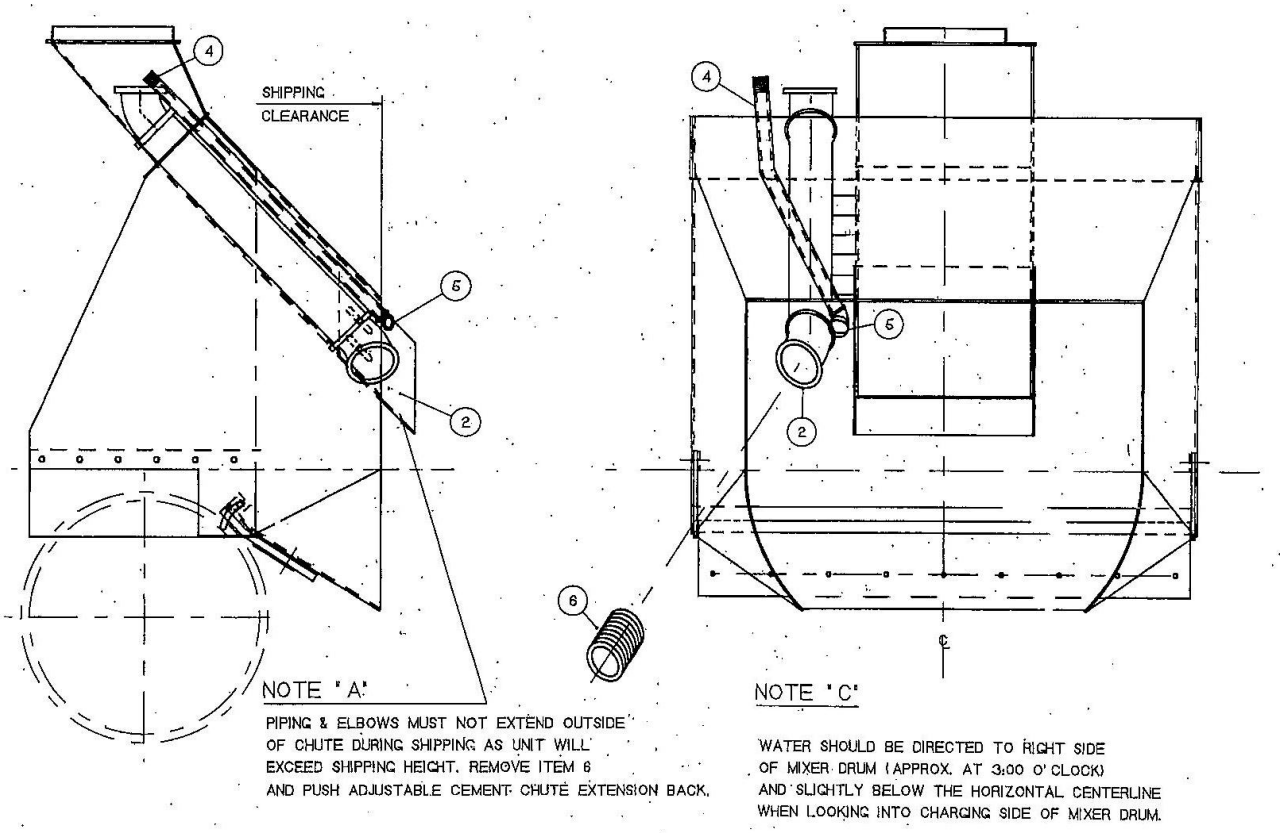
Additionally, a 4” pipe nipple must be threaded into the 45 degree elbow of the charging chute, after the mixer has been installed. (reference below drawing). The nipple must be removed for clearance during shipping. Make sure the drum does not hit the nipple when tilting.

Mounted adjacent to the main water nozzle is a 1” diameter pipe which is used for temper or slump water addition. This must also be directed toward the three O” clock position.

Excessive concrete build-up on the mixer interior, buckets & blades can occur if the water is incorrectly entrained into the mixer drum.