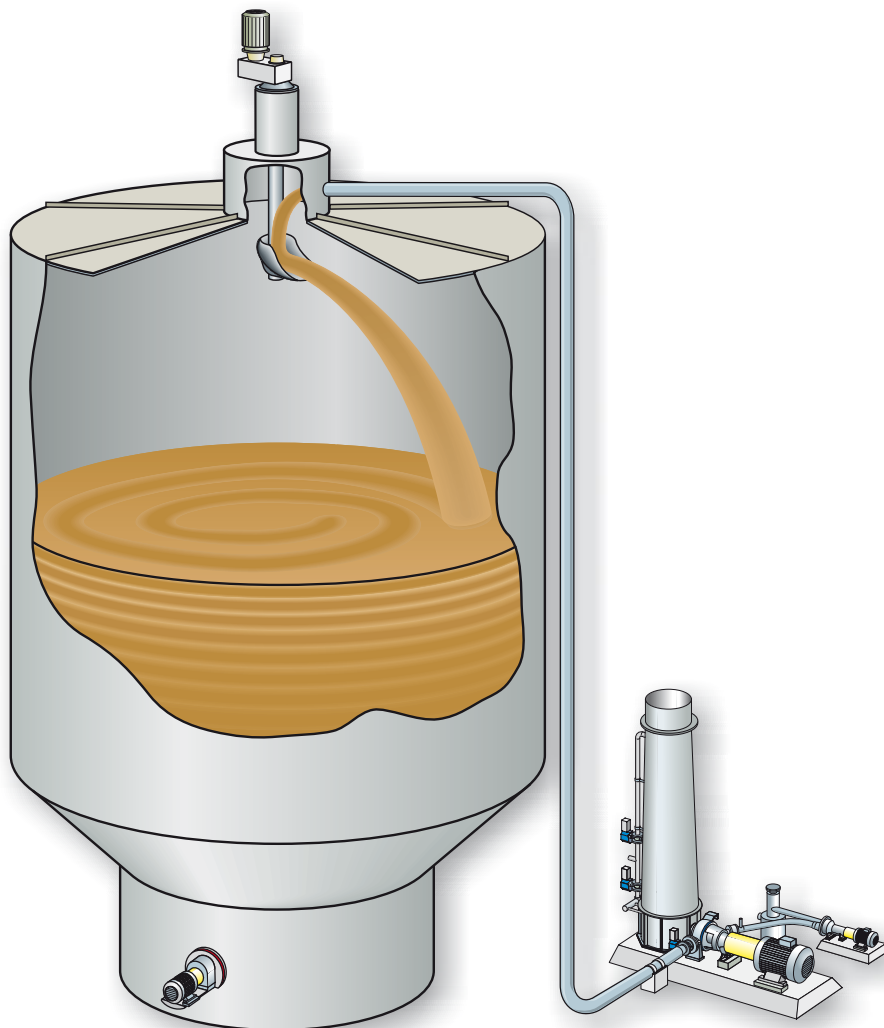


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SULZER

Sulzer Pumps SALOMIX® Top Entry Spreader



The **Heart**
of Your
Process

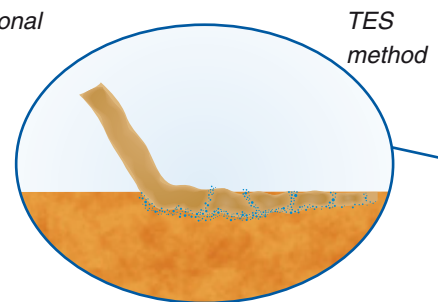
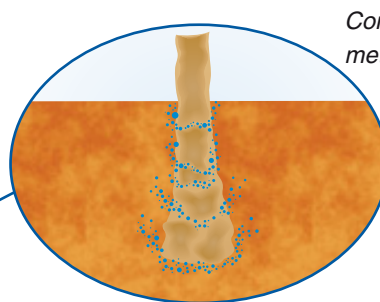
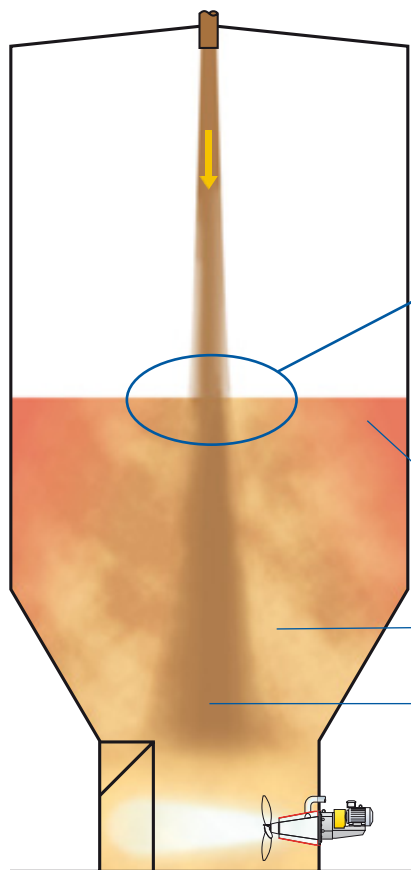
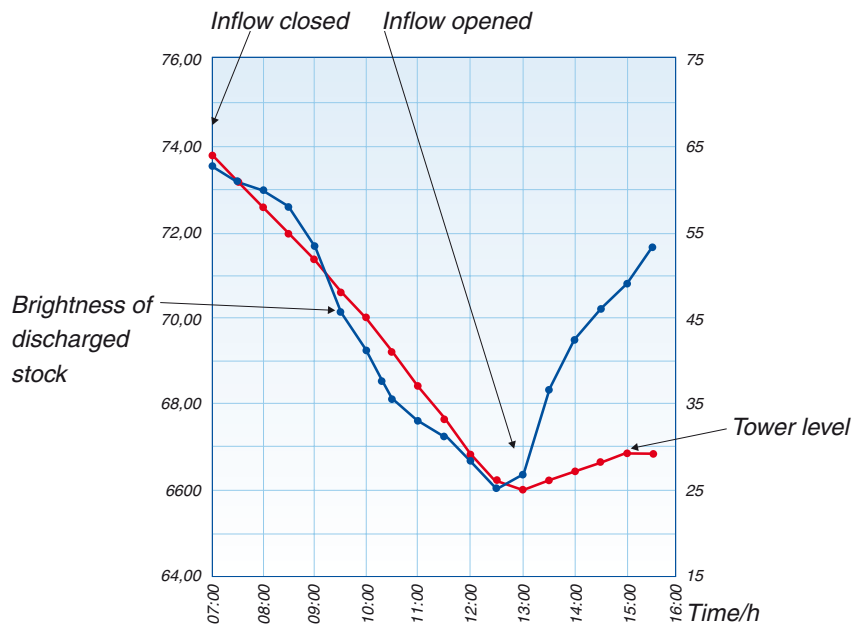
Is retention time of your storage tower reduced? Do you suffer from reduced brightness?

This kind of a situation is familiar to many mill operators. When the stock inflow is closed, the brightness of the discharged stock decreases as the tower level decreases. Totally decayed stock may even be discharged.

When a tower is charged through the roof, a zone develops where the stock flow is faster than the average downflow. Zones of slow flow and stagnant areas also develop. These stagnant areas can be hundreds of cubic meters in volume, containing tens of tons of stock.

Often a loss of brightness occurs when the tower level is lowered quickly from its normal operating level. This is illustrated in the brightness/level graph.

When stock is distributed evenly over the whole surface instead of being concentrated in one spot, then the stagnant zones can be eliminated or reduced.



No flow zone with risk of stock fermentation

Slow flow zone

Fast flow zone

Less air

In the conventional method, the stock downflow presses any air in the stock deep into the storage zone. Air cannot escape upwards; instead, it flows down and goes to the process.

With the TES method, the stock is laid in layers on the surface of the storage zone and the air can escape before a new layer is spread over the old zone.

SALOMIX® TES Top Entry Spreader

Sulzer Pumps has developed a system for charging the tower so that the stock is distributed evenly over the stock surface. The TES system eliminates stagnant zones in which stock tends to decay.

Eliminating the stagnant zones increases the actual useful capacity of the tower closer to the theoretical capacity, i.e. the volume of the storage zone.

The SALOMIX® TES system can be used at low and medium consistencies. It operates best in towers run at higher rather than lower operating levels.

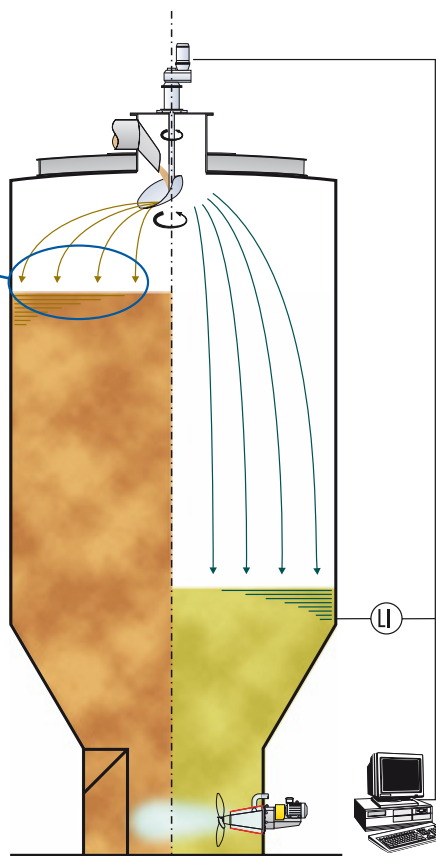


SALOMIX® TES system

- L-110 TES rotating unit and static stock spout
- Inverter drive
- Logic controller connected to a level indicator

The program selects the correct time/speed for the rotating unit according to the stock level in the tower. Stock is laid down in a uniform layer so that fresh stock is always uppermost.

SALOMIX® TES patent pending.



Real plug flow with TES

Mill X had problems with a 2000 cubic meter storage tower, upper diameter of the tower is 12 meters and bottom diameter is 6.5 meters. Theoretical retention time of the tower is about four hours with full pulp level. The actual retention time before installation of the TES was less than two hours. Test runs were made before and after the tower was equipped with the TES.

Results presented in the table below show clearly how TES helps tower to operate with real plug flow.

Tower level	Measured average retention time	Theoretical retention time
89 %	4 h 10 min	4 h 24 min
59 %	2 h 10 min	2 h 16 min

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