

## Two-stage dry screening process produces 97.7% overall screening efficiency

- High speed, low amplitude screening eliminates Blinding
- Overall efficiency of 97.76%
- Two size separations on a single screen surface

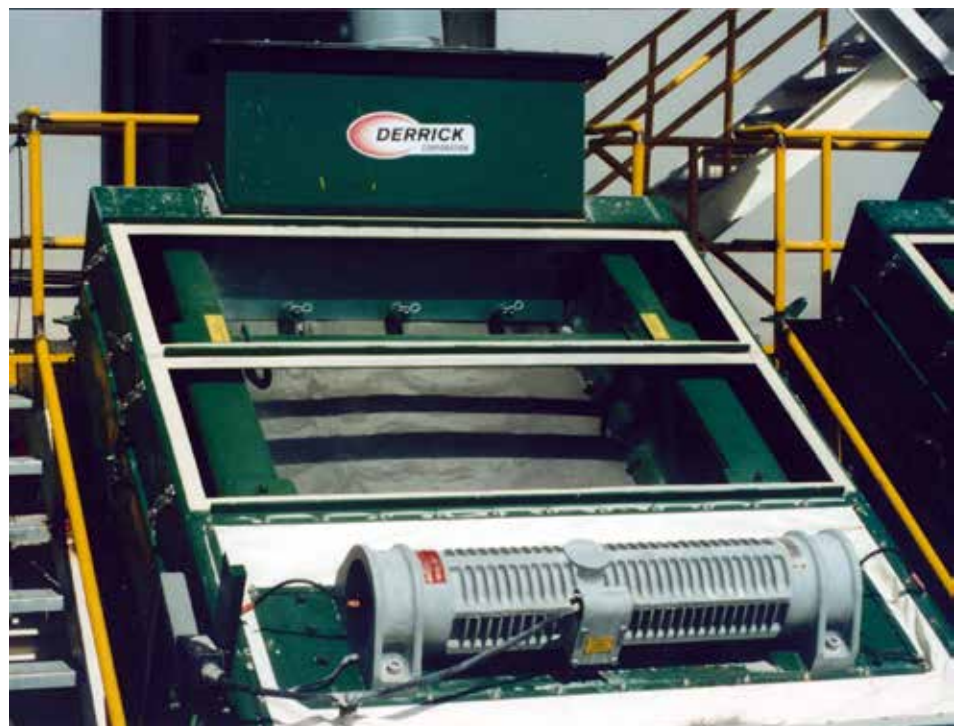
### Background

The phosphate processing plant began operations using conventional screening machines. However, even at 2mm separation the plant was unable to operate continuously without blinding.

### Solution

Derrick® installed compound angle machines that permit two size separations on a single screening surface. Operating as the primary stage of the process, the Derrick Dry Sizers achieved a 35 mesh US (500 micron) by 12 mesh US (1700 micron) separation. The machine's design permits two size separations on a single screening surface. Fines are removed at the feed end, and coarse separation is performed at the discharge end.

To produce the dual separations, the first three screen sections are fitted with a fine cloth that performs the 500 micron sizing requirement. The fourth section has a 1700 micron cloth for coarse sizing. Product collected from the primary stage is fed to multiple angle screening machines having 500 micron screens while undersize is pumped to a hydrocyclone stage for further processing.

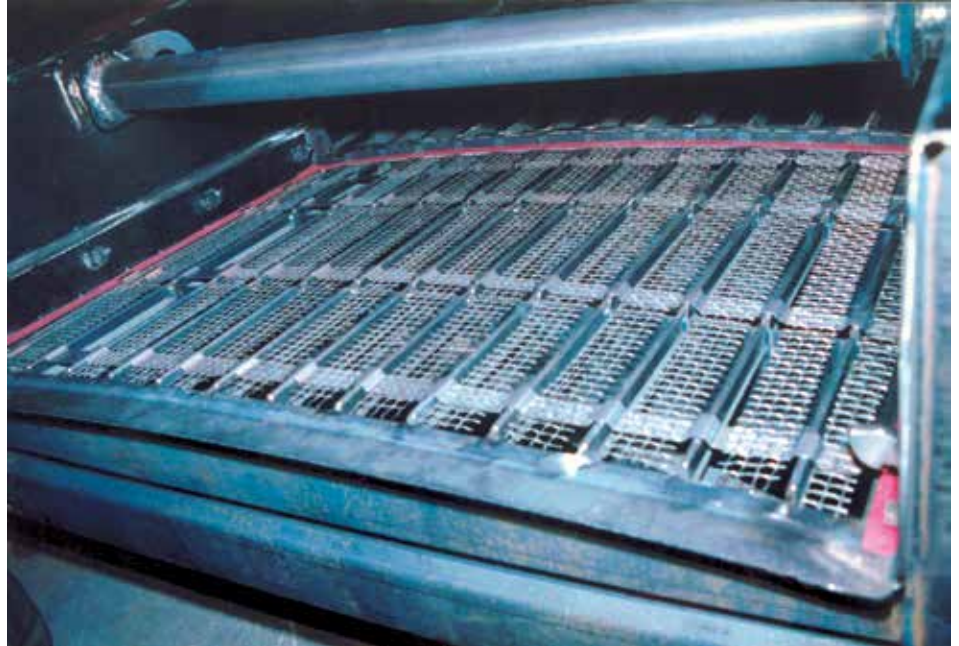


Derrick Dry Sizers producing -500 micron phosphate product

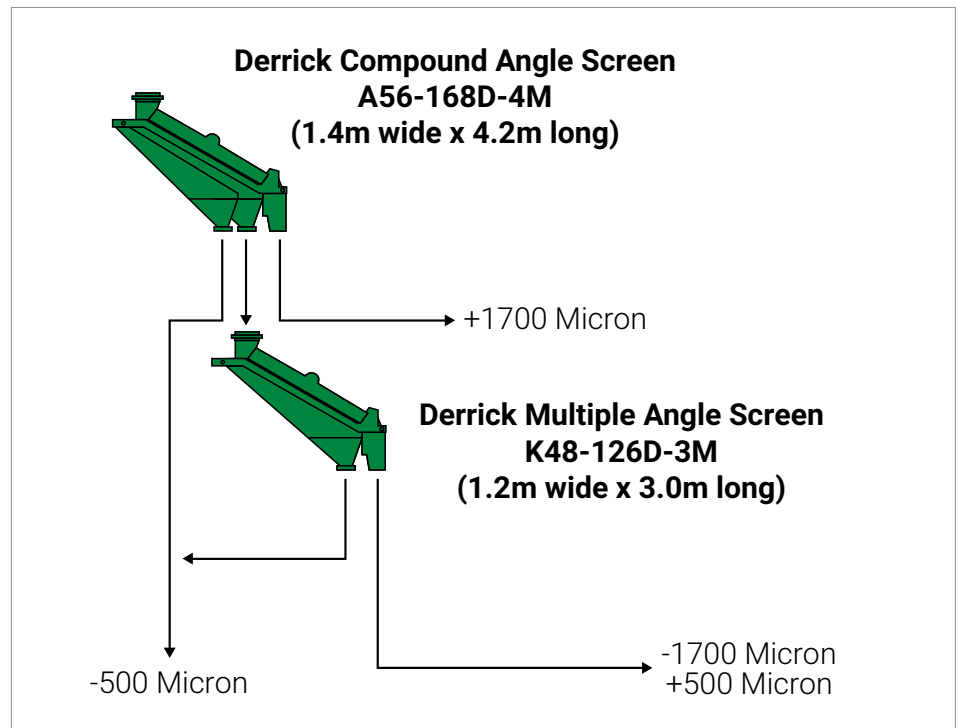
SPECIFICATIONS	
<b>Application</b>	Phosphate Ore
<b>Number of Production Lines</b>	3
<b>Undersize Efficiency</b>	99.61%
<b>Oversize Efficiency</b>	83.23%
<b>Overall Efficiency</b>	97.76%

## Conclusion

Derrick's high speed, low amplitude screening technology, along with floating backing wire panels, have eliminated screen bridging and blinding.



Derrick Floating Backing Wire



Phosphate process simplified flow diagram

**For more information, please contact your local Derrick sales representative.**

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