

# What are some simple or commonly overlooked ways to increase my screening rate?

The answer to this question varies depending on your application. For example, if you're removing fines during the screening process and the oversize is your product, you could use a high-efficiency centrifugal air classifier to preseparate the material and increase the screening rate. You want to remove the ultrafine particles, but be careful not to remove any product during the air classification process, especially when yield is a top priority. Although classifying is an extra process step, the small additional cost may be justified by the overall increase in your screening rate.

*Charlie Regenhard, president, CCE Technologies, 651-688-2656*

There are several common ways to increase your existing screener's screening rate. One way is to adjust the screener's vibration amplitude. Another is to use a screen mesh with the same aperture you're currently using but with a higher percentage of open area. For example, an 860-micron screen can have either a 67 or 46 percent open area, depending on the wire diameter. The higher the percentage of open area, the higher the screener's capacity. Also,

make sure your screen isn't partially or fully blinded (plugged). For circular vibratory screeners, you can use antiblinding devices, such as a ball-tray assembly or screen-cleaning ring assembly, to minimize or eliminate screen blinding. You can also retrofit an existing circular screener with an internal recycle deck to increase its capacity by 60 to 80 percent.

*Henry Alamzad, president, Kason, 973-467-8140*

You should monitor for blinding, control feedrates, and adjust your screener to maximize screening capacity. If your feedrates are constant and blinding is occurring, it usually happens at the same point each time. Plan a screen changeover or screen replacement to keep rates up. Feedrate fluctuations can cause your screener to be flooded with material, resulting in quick screen blinding. You can add ultrasonics to existing equipment to help combat blinding.

Screening equipment has different settings to generate different degrees of action to the screening surface. Different materials require different screen action, so adjust the setting to suit the material. Your supplier or equipment manufacturer can recommend a setting, but an in-plant trial will best determine how to set your screener for maximum capacity.

*Lee Hochadel, plant manager, HK Technologies, 330-427-2007*

Your screening rate can be increased in several ways, depending on your application. If efficiency is your main concern, changing to a higher open-area screen mesh may allow a higher feedrate without the risk of decreasing separator efficiency. Higher open-area cloths are a plus, especially when you're screening a lightweight nonabrasive material.

If your capacity is limited by a round separator's limited ability to convey or discharge materials from the screen's top surface, adding a second or third dis-

charge spout may increase capacity. If your undersize product can't escape fast enough, adding a scalping frame with a sloped pan or adding a second table-frame spout should increase the allowable feedrate.

If you're concerned that increasing your screening capacity will shorten screen life, you can install reinforced screens.

*Tom Bowen, vp sales and marketing, Sweco, 859-727-5116*

To increase your screening rate, make sure you maintain a consistent feedrate. If you have uneven material flow to your screener, your screening capacity will decrease. When possible, make sure the material being screened is covering the complete area of mesh - any mesh left free will not be screening, thus decreasing your potential screening rate. You can achieve this by adjusting the motor's weights to give better screen coverage. Also, make sure your mesh tension is correct. Sagging mesh reduces capacity, holds up screening, and gets blocked far more easily. A mesh that's tensioned properly and bonded to the frame with a high-quality glue will keep its tension far longer than a mesh secured with a clip. You should insist on good quality wire for your meshes because it has a direct impact on the aperture size and your screening capacity.

Deblinding discs or balls keep mesh apertures free from blockage and therefore increase the area used for screening. However, be conscious that wear will affect these discs and balls and parts of them may end up in your product. An ultrasonic deblinding system can keep your apertures free from blockage without any of the wear problems associated with discs and balls. Such a system uses a high-frequency transducer to send low-amplitude vibrations through the mesh, effectively making the wires friction free.

*Shaun Edwards, senior applications engineer, Russell Finex, 704-588-9808*

*Equipment suppliers are a valuable source of information about equipment and processes. In light of this, we occasionally ask suppliers a question of concern to our readers. Answers reflect the suppliers' general expertise and don't promote the suppliers' equipment. If you have a question you'd like suppliers to answer, send it to Alicia Tyznik, Associate Editor, Powder and Bulk Engineering, 1155 Northland Drive, St. Paul, MN 55120; fax 651-287-5650 (atyznik@cscpub.com).*