

Product News

Pugmill Mixer Selection Guide - Pugmill Mixers and Factors that Impact their Performance

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Pug mill mixers are versatile machines for the mixing of a number of materials and often found in the cement, pottery and ceramics industries. In the following article the author presents several points to ponder when selecting one's best fitting pugmill.

The best option when searching for a pug mill mixer may be to consider six factors:

- agitation,
- drive assembly,
- inlet,
- discharge,
- cost, and
- maintenance.
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When analyzing these options, take into account the ideal design features and decide which variables upon which it may be necessary to compromise. Finding a

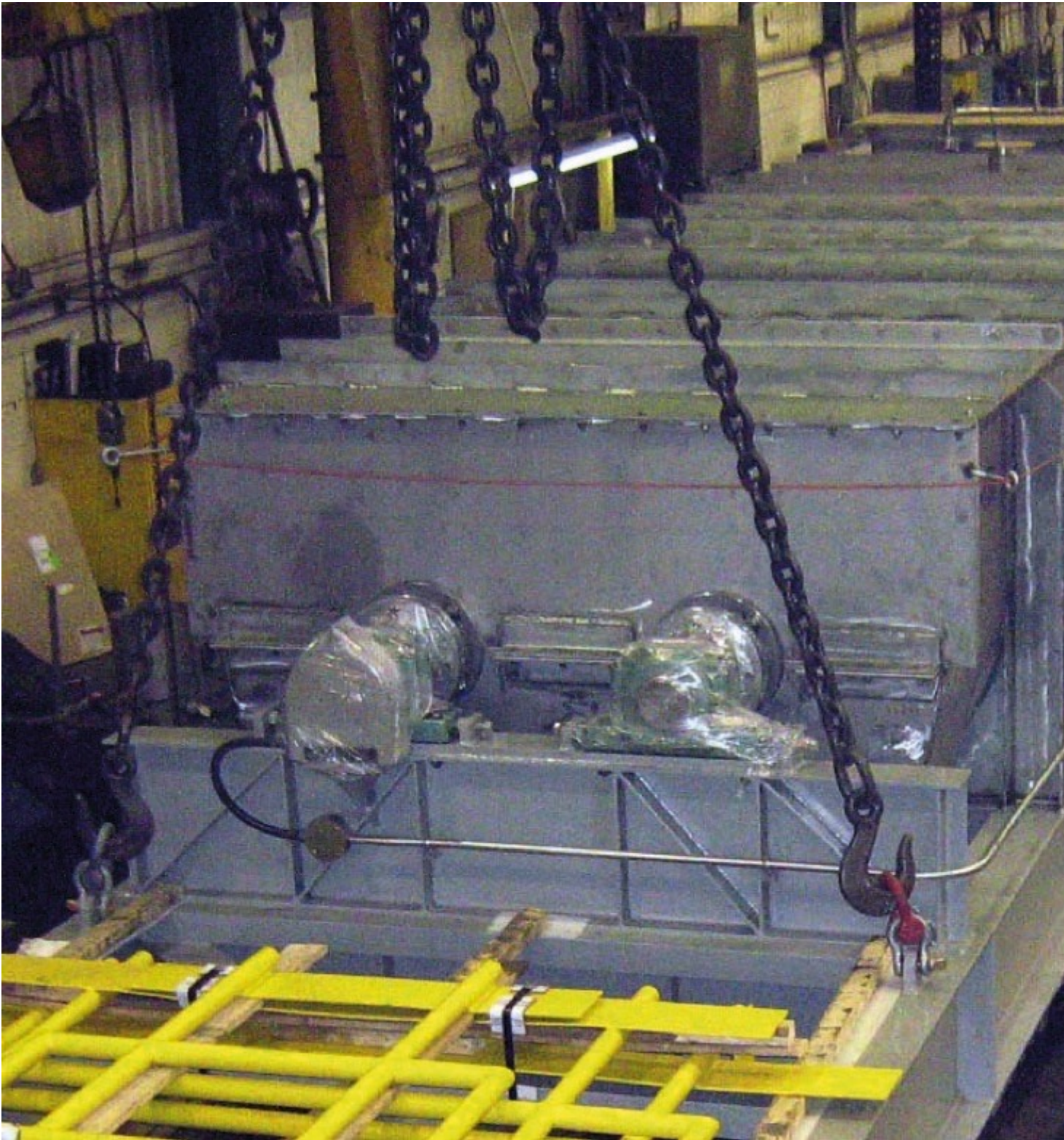
pug mill mixer that exactly fits an entire list of criteria may be impossible, because even if a custom solution is an option, then the cost could end up breaking the budget.



Pugmill mixers in production at Heyl Patterson

Pug mill mixers, also known simply as pugmills, are tasked with mixing materials together in order to make a homogeneous finished product. Pug mills are most commonly used in the pottery, brick, cement, concrete and asphalt industries. Most people would be surprised to learn that best-in-class pug mills are able to mix materials into a homogeneous state sometimes in as little as a few seconds. Several key factors will impact the performance of a pugmill mixer,

primarily the method of agitation. This often comes in the form of paddles, and their size, number and swing arc all play an integral role. Depending on the consistency of the material being processed, a special paddle array could be beneficial. It is always a good idea to discuss each specific situation with an equipment expert, to make sure that the equipment correctly fits the application. The method of agitation must be correct for not only the initial ingredients but also the finished product. The best course of action is to request a test demonstration from an equipment manufacturer, check with their suppliers and seek advice to discover what has worked well for others.



Pugmill ready for delivery

The proper drive assembly is essential to reduce processing time, ensure consistent quality and mitigate complications. A drive assembly that is too powerful may be a waste of money, in that it is overpowered and using too much energy for the process. On the other hand, having one that is too weak will end up costing extra cash in the long run, by increasing processing time, running up the staffing budget, possibly ruining batches and eventually leading to complications with more frequent repairs and maintenance from sizes and types

of batches. Having the flexibility to mix various batches can be a major advantage. The power of the drive assembly should not be the only consideration, but also the design, dimensions and components. The type of material and size of batches should guide any decisions on the design of the inlet. Once again, flexibility is key. The ability to process various batches with one pugmill mixer will come in handy, and the only way to accomplish that is with an inlet that will allow it to handle different jobs. The machine's discharge should match the specifications for any receptacles, while allowing for some variation based on the batch being processed or the environment that the batch is being discharged into. A mixer that provides the opportunity to discharge finished product into several different areas could provide an advantage. The next major factor to consider is cost, which is arguably the most important area where a company is willing to compromise. An organization may find it necessary to bend a bit on price in order to get what it needs and wants, and distinguishing between the two is critical. Cutting costs by using an inferior drive assembly could create a pug mill with a few different options for discharge. One creative method of compromise is to potentially shift funds from other departments that will benefit from a new pug mill mixer. For example, a superior pug mill mixer might lead to significant cost reductions for departments such as transportation or maintenance. Involving maintenance staff in the purchasing decision-making process could pay big dividends. Not only will they be able to identify potential areas of concern, but they can also help analyze ways to reduce manufacturing downtime, which in turn will help in discussions about finances. A modular design that is easy to clean and disassemble might be a smart choice if an application's maintenance needs are more cumbersome than the average.

Wide Manufacturing Program

Puggmills - For any Kind of Material Heyl Patterson manufactures large, robust pugmill mixers to continuously mix large volumes of material, such as powders, slurries and pastes. This equipment recovers valuable elements such as lead, iron and copper and returns them to your process stream. Mixing intensity, retention time and product appearance can be controlled by changing the agitator speed. Heyl Patterson has engineered pug mill mixers to process materials as varied as gold ore, remediated soil, sugar, waste brine from oil sands, ilmenite ore, granular superphosphate and diammonium phosphate (DAP). Aside from these examples, pugmill mixers can also be used for clay, asphalt and a variety of other bulk materials.