

## Metallic Sealless Magnet Drive Pumps Handle Solids

Can mag-drive pumps handle this pumpage?



Magnatex has the answer!



*Rear casing with anti-vortex baffles*

Many users of standard sealed, process pumps become frustrated with the high cost of frequent seal replacement and downtime when handling solids. A suitable flushing arrangement might help a sealed pump, but the advantages of sealless pumps are now available for many of these applications!

Like the faces of seals in a sealed pump, sealless pump sleeve bearings and thrust rings are lubricated with the process fluid. Magnatex has developed provisions to allow solids pumping, making the total cost of mag-drive pump ownership lower than sealed pumps.

Magnatex's metallic, standard design pumps are typically limited to 1% by weight of 500 micron solids or up to 4% of 100 micron particles. The simplest way to limit larger solids and higher concentrations is to use a 40 mesh strainer on the suction. Unfortunately, this can result in the strainer plugging, which can result in "starving" the pump suction and subsequent failure of the pump.

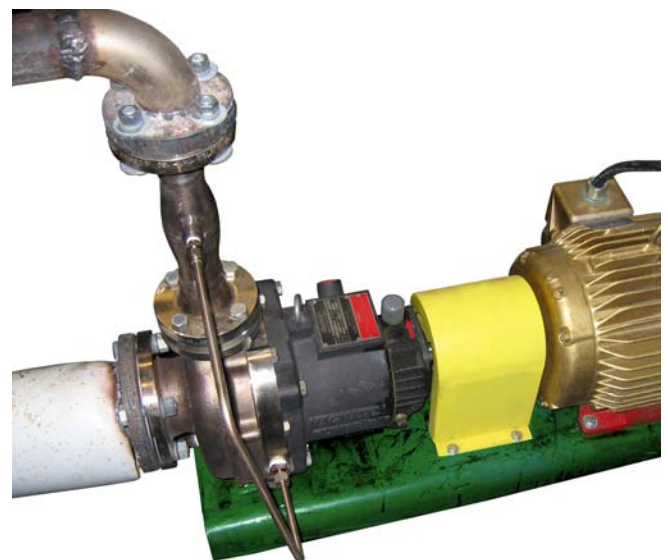
What happens if higher concentrations of solids go through a mag-drive pump? If solids percentage or size exceeds our recommended values, provisions must be made to allow use of our pumps because:

1. Solids laden pumpage is not a good lubricant and can foul bearing flutes, resulting in inadequate bearing flush
2. Solids can also become caught in vortices that form near the bottom of rear casings, acting like a small machine tool, ultimately resulting in a containment breach (see photo below).

- Magnatex utilizes a "Baffle-plated," anti-vortex rear casing that breaks up solid laden vortices, that can lead to a rear casing breach; this option is available with our MPL/MML/MPH and MAXP/MAXC product lines
- Either self-cleaning strainers or cyclone separators can be mounted in the discharge line with a side stream of clean liquid product flush introduced to a port in the rear casing. With this configuration the internal flush ports are plugged to keep solids out of the rear casing. This option is available with the MAXP/MAXC series of pumps. This system will not disrupt the process as there is no product dilution and solids simply continue down the discharge pipe in the same concentrations as they entered the pump
- Another option in conjunction with plugging of the internal flush ports is to introduce a clean, compatible liquid to the rear casing, but care must be taken to avoid product dilution that could upset the process



*Rear casing breach caused by solids-laden vortices*



*Installation with self-cleaning strainer on discharge which provides clean liquid to the rear casing ceramic bearings system*

