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Variable Speed Drives Optimize Your Precision Grinding Application

Simply said: The slower the wheel rotates the softer the wheel acts. The lower the S.F.P.M. (Surface Feet Per Minute), the lower the friction. And the reverse is also true. The faster the wheel rotates the harder it acts. The higher the Surface Feet Per Minute the higher the friction. The higher the friction the higher the heat. Now couple this with the kind of grinding wheels you use:

Aluminum oxide, silicon carbide, diamond, CBN BORAZON®, etc., and the changes in speed are necessary. Grit size, hardness, porosity, and bond all add to make a difference. but the basics remain the same. Keep records of the change in action in order to compare results.

The Variable Speed Drive has a readout in RPM and Hertz. Some of the controls also read out in Amps, Watts, and Volts. Track your findings and results when precision grinding your various materials. As the wheels wear and get smaller in diameter it will be necessary to adjust to a higher speed. Transversely, when using a new full size (Aluminum Oxide) conventional abrasive wheel it may be necessary to reduce the base S.F.P.M. until the wheel acts too soft.

Then slowly increase R.P.M.'s as required to optimize the grinding ratio. Variable Speed Drive capability is also beneficial when form grinding, slot grinding, face and side wheel grinding. You will also benefit when trying to achieve extreme flatness and low surface finishes by having this additional control over the grinding rate. Now, more than ever before, with the advent of harder, tougher materials, the demand for greater flexibility in precision grinding requires the grinding wheel to grind over a tremendously greater variety of applications.



NOTE: When using conventional abrasive wheels check their balance more frequently. In optimizing production, slight changes will adversely effect S.F.P.M. and grind. Even coolants need to be checked out with a refractometer for lubricity, PH, cleanliness, proper volume and filtration. Coolant nozzles and their placement is critical as well as breaking the air flow around the wheel.

Another interesting factor also happens when using different bonded CBN BORAZON® grinding wheels. Some require low S.F.P.M. of 1,000 to 2,000 S.F.P.M. and yet even others require much higher S.F.P.M. in the area of 7,000 to 15,000. You can now understand the reasons for this variable speed drive capability.

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