SMART DVR MOTOR DELIVERS ENERGY EFFICIENCIES OVER CONVENTIONAL MOTORS

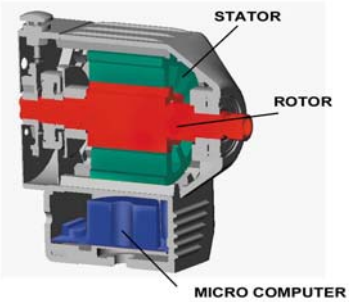
SMART TURNERS USE NOVA DVR XP LATHES

You've heard about "DVR technology" from us before, but do you really know what DVR technology is and what benefits it could bring to you and our planet?

The DVR efficiency is high compared to conventional DC and AC motors. The DVR motor can save up to 80% energy and emissions over conventional motors. According to US department of Energy, it's estimated that motors use 60% of the world's electrical power. Can you imagine how much energy can be saved if everyone used DVR motor?

HOW DOES IT WORK?

The DVR Motor works by pure magnetic attraction. When a magnet is switched on, an intense magnetic field is created and pulls the tooth to line up with the magnet, and then the next magnet switched on, which forces the spindle to rotate. A feedback loop senses the motors surroundings to actively monitor conditions and performance, including how much power is actually drawn from the socket to the lathe at any one time to complete the project on the spindle.



This is unlike a 'dumb' AC or DC motor where there is no connection between the power supplied and the actual spindle requirements. The actions of the DVR motor are controlled by a computer chip. It analyses (100s of times per second) both the spindle position and the power required to maintain a given speed.

(*Please note, the magnets used in the DVR motor are completely safe for those with Pacemakers and other such devices)*

HOW CAN IT SAVE ENERGY?

1) Smart Control

This computerized control delivers high energy efficiency through precise control of the spindle.

The spindle reports to the computer where it is and the computer compares this information with where the spindle is suppose to be. After the analysis, the computer will instantly adjust power drawn. This is all done instantaneously, you

wouldn't be aware of this adjustment occurring. For example, at 2000rpm, the computerised DVR motor controller is calculating spindle position at 400 x a second, and minutely adjusting just as fast!

The DVR motor only draws as much power as it needs for each particular turning project and provides more or less power as needed to maintain the spindle in the correct speed. At low speed, almost no losses in the rotor are generated.

2) Less Heat Generated

Ordinary DC and AC motors generate lots of heat in low speed or when under heavy load. This heat not only can burn out the wires but also wastes lots of energy needlessly.

DVR motor works by pure magnetic attraction. The motor can safely and efficiently work in very low speed and have high torque at the same time. This results in low heat generated and high component reliability.

3) Direct Drive System

Many other lathes also achieve variable speed by using an electronic or mechanism device. However, you may not know that these conventionally driven lathes are losing up to 20% of energy through the lathe belt or gear system.

This means a 2 HP motor can only deliver 1.6HP energy to the lathe spindle. Sadly, you still need to pay your power bill for the 0.4HP energy lost in your variable speed device.

Because the DVR motor is a direct drive system, it can work efficiently in low speed and with heavy loads. There is no power loss through the belting system and this system also eliminates the vibration caused by the belt and pulleys.

All these features combined together can result in up to 80% in energy savings and emission reduction over conventional AC motors.

NOVA delivers the world's only intelligent lathe.

www.teknatool.com

*The saving you can get by using DVR XP lathe compares to other 2 HP lathe is: approximately USD$1.2 plus 6.45KG CO2 emission plus 2.25KG carbon emission per 10 hours of turning. **

**Key statistic provided by UK Department of Environment, Food & Rural Affair. Base on 10C per KWh.*

Please note: savings will vary from case to case/country to country.