

# SMART DVR MOTOR DELIVERS OPERATIONAL ADVANTAGES OVER CONVENTIONAL MOTORS

## SMART TURNERS USE THE NOVA DVR XP LATHE

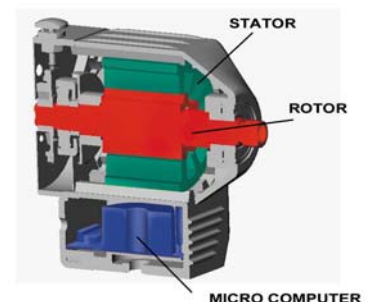
You've heard about "DVR technology" from us before, but do you really know what DVR technology is and what benefits it could bring to you and your turning?

Did you know, for instance, that the computerised controller on the worlds only Intelligent Woodlathe, the NOVA DVR XP, features ADAPTIVE CONTROL SOFTWARE™ which enables the DVR lathe to optimise performance to deliver the best platform to complete your project?

### 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.

This is unlike a 'dumb' AC or DC motor where there is no active management of conditions and the motors performance. The actions of the DVR motor are controlled by a computer chip. It constantly analyses (at 400 times per second for example, when running at 2000rpm) 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 HELP YOUR TURNING?



#### 1) Safety Sensing

This computerized control constantly and instantly monitors conditions and can sense when there is unusual load applied.

The DVR computer can sense when abnormal, sudden loads are applied to the turning which are outside its preset parameters and instantly reacts to shut power to the spindle. For instance, it can sense a chisel dig in and instantaneously shut

power to the spindle. **A normal motor would just carry on, with possibly dangerous consequences for the turner.**

The DVR lathes are the only lathes in the world with this incredible 'people protection' function.

## 2) The 5 Favourite Speeds Function

Customisable speeds can be preset before beginning a project to increase efficiency. A production turner explains why he loves the 5 Favourite Speeds Function:

*"The favourite speeds are a breeze to set and they can be changed while the lathe is running. I set the speeds to 400, 2500, and 1500 rpm. Making a clock using a 200x50mm piece of hardwood: Starting at the #3 speed of 2500rpm, I trued up the back and edge, then shifted to #4 speed (1500 rpm) to drill the 80mm forstner bit hole for the mechanism then back to #3 (2500) to finish turning the back, down to #2 (400rpm) to sand the back and edge.*

***I didn't need to stop the lathe once until the sanding and oiling was finished! This has reduced my production time considerably. I would estimate that I am saving 20% over the original DVR and probably 50% over the old belt driven Nova 3000 lathe. This would equate to 2 or more bowls extra per day. It would repay it's investment very quickly.*** Trevor Gillbanks

## 3) Adaptive Control

The DVR XP computer senses the weight of the workpiece and reviews this against the power supplied. It can sense when a work is out of balance and adjusts its performance. **It automatically adjusts the motor performance to handle the workpiece.**

## 4) Direct Drive = Incredibly Smooth Turning = Less Finishing Required

Without any belts or pulleys to cause vibration and pulsing, the DVR XP lathe delivers an incredibly smooth turning experience. This delivers you the ability to turn faster and more efficiently, cutting down on sanding and finishing time.

## 5) Smart Sensing Fault Detection

The DVR motor will sense an abnormality, for instance, it can tell if the spindle lock has been applied prior to the lathe starting. It will instantly and automatically shut down power to the spindle and advise via the LCD screen the abnormality so the turner can correct it. Conventional 'dumb' lathes don't have the ability to monitor the conditions and user error, and would continue to power up, thereby potentially causing expensive damage to the spindle.

## 6) Energy Efficient

The DVR spindle reports to the computer where it is and the computer compares this information with where the spindle is supposed to be and what the load is. After the analysis, the computer will instantly adjust power drawn. In addition, being a direct drive lathe, the DVR has no belts or pulleys to lose power. 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. Combined, these unique features can result in up to 80% power savings over conventional motors.

**All these features combined together results in a unique turning experience, making your lathe your true turning partner.**

**NOVA delivers the world's only intelligent lathe.**

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