

Teknatool Lathe Specifications	Nova Mercury	Nova 3000	Nova DVR 3000
Power	1/2HP DC Motor	1HP AC Motor Recommended Note, other motors can be added at users discretion.	DVR High Torque Direct Drive, 1.75 HP 115v Single Phase 15 amp supply 2 HP 220v Single Phase 15 or 20 amp supply
Capacity - Swing (Bowl diameter turning capacity)	8" (200mm) over bed. 10" (250mm) Recommend Outboard (using optional Outtrigger Unit). Technical Capacity up to 14" (350mm)	16" (400mm) Over bed 29" (740mm) Outboard (using optional Outtrigger Unit and head swivelled to 90 degrees)	16" (400mm) Over bed 29" (740mm) Outboard (using optional Outtrigger Unit and head swivelled to 90 degrees)
Capacity - Between Centres (Spindle Turning capacity)	11" (280mm) Between Centres, extendable in 12" (300mm) units using Optional Extension Bed	24" (600mm) Between Centres, extendable in 20" (510mm) units using the Optional Extension Bed	24" (600mm) Between Centres, extendable in 20" (510mm) units using the Optional Extension Bed
Spindle Size	1"8 Tpi RH	1 1/4"8 TPI RH M30 x 3.5 RH 2MT	1 1/4"8 TPI RH M33x3.5 RH 2MT
Internal Morse Taper (MT)	2MT		
Spindle Index/Lock	Spindle Lock Only	24 Division Spindle Index	24 Division Spindle Index
Speed Range	Electronic Variable Speed 3 Speed Range 140-1750 rpm 320-3670 rpm 470-5350 rpm	8 Speed Manual 178-3000 rpm (Rest of World) 215-3600 rpm (USA & Canada)	Electronic DVR Drive Variable Speed 250-3500 rpm
Warranty	1 Year Motor and Electronics 5 Years all other componentry*	1 Year Motor 5 Years all other componentry*	2 Year Motor and Electronics 5 Years all other componentry*
Swivel Head	NO	360 degree full swivel and lock at any position, plus detent locating positions at 0,22,45 and 90 degrees. High accuracy and ease of swivel	360 degree full swivel and lock at any position, plus detent locating positions at 0,22,45 and 90 degrees. High accuracy and ease of swivel
Weight	59 lb (24.58kgs)	145lb (66kg) without motor	181 lb (82kg)
Standard Equipment (with the lathe)	60mm Faceplate, 6" (150mm) Toolrest, 2MT Live Centre, 2MT Spur Centre, Manual and Fastenings	150mm Faceplate (not in all countries, check with your reseller) 12" (300mm) Toolrest, 2MT Live Centre, 2MT Spur Centre, Manual and Fastenings.	3" (80mm) Faceplate (not in all countries, check with your reseller) 12" (300mm) Toolrest, 2MT Live Centre, 2MT Spur Centre, Manual and Fastenings.
Construction	Solid cast iron throughout, special vibration dampening web design on bed, heavy duty bearings.	Solid cast iron throughout, special vibration dampening web design on bed, heavy duty bearings.	Solid cast iron throughout, special vibration dampening web design on bed, heavy duty bearings.

* Limited warranty. See reseller, website or manual for further details.

Lathe Accessories

A wide range of accessories is available for Nova Lathes: Nova, SuperNova, Compac chucks, specialist jaw options, 2MTCentre System, toolrests, faceplates, handwheels and vacuum adapters, specialist attachments, extension beds, outtrigger turning units for larger turning.



Mercury Optional Accessories, the Outtrigger Unit and the Extendable Bed Unit. These accessories help to extend the Mercury's capacity from a mini to a midi lathe.



Optional Outtrigger Accessory for the Nova 3000 and Nova DVR 3000 lathes. Enables up to 29" (740mm) diameters to be turned.

How does the DVR Motor work?

The DVR (Digital Variable Reluctance) is the simplest of motors. There are essentially three parts to it, the Micro-computer, the Rotor and the Stator.

Stator: Electricity carrying component, containing copper coils. This provides the intense magnetic force to turn the spindle.

Rotor: Extension of the headstock spindle. Solid steel laminations, no wires to burn.

Micro-computer: controls switching of coils, intelligent sensing (knows exact spindle position at all times and constantly computing where spindle should be - at 2000rpm it is computing spindle position at 400 times a second or 24,000 per minute!)

When you enter a speed command (1), the computer switches on the coils in the stator (2). An intense magnetic field is created, and the rotor tooth is pulled to line up with the magnetic force (3) then the next coil is switched on, (pulling the spindle at the desired direction and speed range) and so on. All this is done very fast and accurately using computerised electronic switching.



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Reseller Details

Publication Code 101-0505-004
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www.teknatool.com

Innovative technology to power your woodturning

Nova Lathes



Why a Teknatool Lathe?

• **The Innovators:** Teknatool consistently shapes future directions in woodturning equipment. Our latest major innovation - the new DVR3000 lathe with its revolutionary DVR motor technology –is one of the most groundbreaking improvements to woodlathe design since the electric motor. Teknatool pioneered chuck design back in 1988 with another world first – the Nova Chuck. Since then our innovation ‘tradition’ has continued with a host of products - turning tools, compact modular lathes with swivel headstock, extendable beds, adjustable tailstock, Compac Chuck, ‘Cole Jaws’, Ornamental Turner – Teknatool innovation has helped extend woodturning horizons in many directions.

• **Quality Construction:** All the Teknatool lathes are made from solid cast iron throughout which is well recognised for strength and is specially webbed for extra vibration dampening. All the components are designed and tested for optimum durability and tensile strength. All our lathes are manufactured to high standards of fit and accuracy.

• **5 Year Warranty :** We back our quality with a 5-year extended warranty on all lathe castings and mechanical components*. Motors electronics are covered under separate 12 & 24 month warranties.

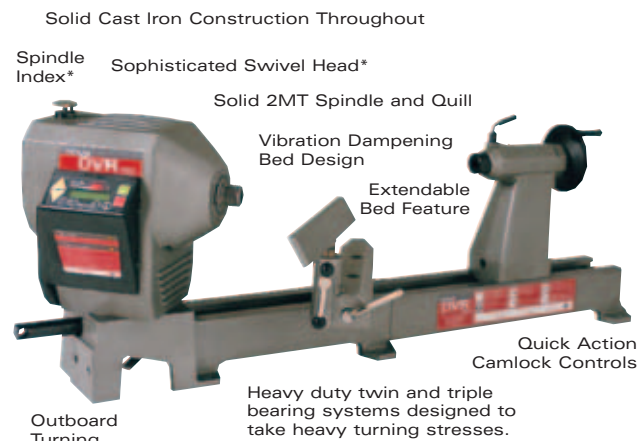
• **Comprehensive Accessory Range:** Chucks, special jaws, centers, toolrests, outboard turning....there are a wide range of optional accessories available and special sizes or projects present no problem.

• **Easy to Use:** Teknatool lathes are tested by woodturners for woodturners – our aim is to keep things simple, accessible, easy to use – so the lathe enhances the space between you and your woodturning.

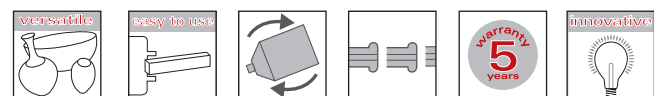
• **Feature Packed:** Swivel heads, indexing, extendable beds, adjustable tailstocks - these are just some of the features that combine to make Teknatool lathes great value.

* See reseller, website or manual for further details.

The Features and Benefits of Teknatool Lathes



*not applicable to Mercury



The Range

Nova DVR 3000

The DVR 3000 has truly unique cutting edge, computer controlled motor technology, far ahead of any other woodlathe on the market. The new direct drive motor (no belts or pulleys) provides constant high torque power and electronic variable speed control at the touch of a button. Combine this with the same features that makes the Nova 3000 such a great lathe (swivel head, extension beds, 16" capacity inboard) and you have the best woodlathe value package available.



Close up of DVR electronics

High Torque Power

Driven by a new and unique direct drive variable reluctance motor technology, which has superior performance over AC & DC Motors (see table at bottom right). The DVR3000 has high torque power (1.75HP 115V, 2HP 220V) throughout the speed range, is highly efficient (only uses as much power as necessary), has overload sensing and intelligent monitoring functions to allow it to very accurately maintain selected speed. Power is not lost through belt & pulleys (on some lathes, this can be as high as 20%). The compact and powerful DVR headstock has no separate motor housing, and is specially shaped to allow maximum turning access and space utilisation.

Ultra Smooth Cutting

The smoothest lathe I have ever used – period!’ *(Professional User comment)*

The DVR 3000 produces incredibly smooth turning conditions compared to other lathes. The unique DVR technology closely maintains speed and the DVR control actively works to dampen and smooth out vibrations. Traditional lathe designs can experience vibration from belts and pulleys. The radical DVR design eliminates these sources of potential vibration (no belts, no pulleys).

User Friendly DVR Design

Computer Controlled Variable Speed

LED readout – dial in the exact speed you want and the controller exactly maintains selected speed. You have a very wide choice of speeds incrementally from 250 through to 3500 rpm. This means it's always possible to dial in just the right speed for the job.

Intelligent control – the DVR controller monitors the exact position of the shaft 400 times per sec (at 2,000rpm) and compares that with target spindle position according to speed set. This allows it to ‘micro manage’ conditions to maintain the exact speed within a few percent (see how the DVR motor works section for more details). Operator can also set the speed ramp up – shorter dwell time for smaller diameter turning and longer dwell times (up to 18 seconds) for larger or out of balance pieces.

Easy to Use – Plug & Play

The DVR doesn't require any complex motor set ups or adjustments – just place it on a stand or bench, plug it in to a power point and off you go! This is because the DVR Motor is built around the lathe spindle and is an integral part of the headstock, which gives a direct drive with no belts or couplings. Operation is simple – dial in the right speed for your project – start turning - no time is wasted changing belts.

Safety Sensing Feature

The DVR Controller also senses abnormal spindle conditions e.g. a chisel dig in or index left engaged – and shuts power down. This provides the operator with better safety conditions than those of other motors and controllers (However normal safety provisos would still very much apply – see safety sections of manual and on machine)

Power Saving

Unlike other electric motors, the DVR only inputs enough power to maintain the set speed - giving you potential for power savings over conventional motors.

Dependable DVR Performance

Low Maintenance

The DVR drive is rugged and dependable – the brushless, solid steel rotor, heavy duty stator windings, industrial grade electronics all combine to make for a low maintenance, trouble free drive.

TRIMAX Triple Bearing System

The unique Trimax bearing system is a triple bearing design (using the same well proven Nova 3000 bearing design) to provide a smooth, heavy duty load bearing support for the spindle which can easily absorb large turning stresses.



Nova Mercury 1/2HP

Superbly suited to smaller projects, the generously powered 1/2HP Mercury has the flexibility to also handle midi sized projects with ease (up to 10" bowls and 23" spindles, using the optional outrigger and bed extension accessories).

The Mercury is a true mini – at 59lbs and 21" long it is easily carried and stored - this extends your turning horizon outside the confines of the traditional workshop. Larger traditional midi type lathes are much heavier and less portable.

The Mercury electronic variable speed function offers a new turning dimension not found in manual speed mini lathes. With a wide speed range (no need to put up with a restricted speed options) at the turn of a knob.

The Mercury delivers excellent power, performance and flexibility in a compact package – better than any other midi lathe on the market.



Nova 3000

A well respected, widely used mid range lathe, the Nova 3000 has the features & quality package that you would expect from a much more expensive lathe. The Nova 3000 is a true ‘Future Proof’ machine - the basic design framework is the same as for the DVR 3000 lathe, so the Nova 3000 can be upgraded to the DVR technology.

16" (400mm) diameter swing over bed, 29" (740mm) swing outboard (using optional outrigger) puts the Nova 3000 well above the capacity of smaller lathe options. The Compact version is ideal for a small workshop but the extendable bed means that this lathe can handle large spindle work too if required. The swivel head allows positioning work so its comfortable for you to turn.

The Nova 3000 has an 8 speed range, the very low speeds are superb for larger and out of balance work - and the higher speeds are great for finishing cuts and smaller work.

The Nova 3000 delivers a great value/feature package for woodturners. The speed range, capacity, durability of the Nova 3000 compares favourably with many larger, more expensive lathe options. Against lathes in the lower price range, the 3000's compact size, more comprehensive speed range and larger capacity appeals when compared against the more limited options available.



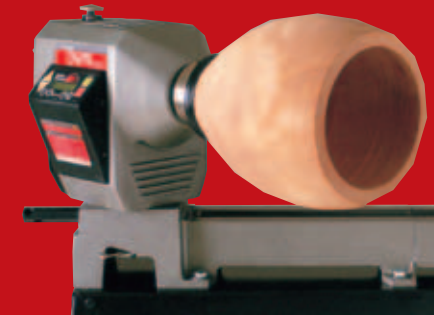
Upgradable Technology Path

Own a Nova 3000 conventional lathe but want the DVR technology? It's easy - you can update your lathe by adding the DVR headstock (or even the tailstock!) at any time. Both fit onto the existing Nova 3000 bed unit.

Swivel Headstock

This simple design feature will change your turning life forever! Perfect for all bowl or free end turning, large or small - no more leaning over the bed (reduces back strain) – you can turn in the most comfortable position for you. The swivel head increases your useable workshop space, you can use same inboard chisel cutting technique and it eliminates the need for lefthand spindle fixtures.

Rock solid stability and precision alignment make the Nova DVR 3000 and the Nova 3000 swivel head one of the best - ensuring a stable, accurate and trouble free turning platform. Talk to any turner who has experienced our swivel head feature – they would never go back to a fixed head lathe.



Extendable Beds

Want to turn longer spindles? Nova lathes deliver this flexibility.

By simply adding just one bed extension*, the between centre capacity of the Nova 3000 and the Nova DVR 3000 can be extended to 44" (1117mm). That's longer than most fixed bed lathes - and you can add as many bed extensions to the standard lathe as required.

The Mercury also has an extended bed function.

* Extra bed extensions are optional accessories.



Advantages of DVR Motor over conventional motors

Does the Drive.....	Conventional AC Drive	Conventional DC Drive	New DVR Drive
Have Brushes to wear and fail?	✗	✓	✗
Have Rotor windings to fail and overheat?	✓	✓	✗
Use Pulleys, adding to friction and vibration	✓	✓	✗
Have efficient power reducing stress and wear on components?	✗	✗	✓
Use Belts, causing friction, vibration and wear?	✓	✓	✗
Deliver maximum torque to the spindle over the entire speed range?	✗	✗	✓

Note, if you want to learn more about why the DVR Drive is so advantageous over traditional drive designs, visit our website on www.teknaatool.com to download full technical specifications.