

Dream Machines

Upgrade Your Lathe

Kurt Bird

Woodturners are fortunate because for the past fifteen years, lathe manufacturers have listened to our suggestions for redesign and have subsequently produced a wonderful array of machines. New ideas are showing up on a regular basis, allowing turners and artists to design and produce lathe-turned objects with few limitations.

Buying a high-end machine today is all about choices. No longer is it a case of one-machine-fits-all. Now you have the option of selecting a lathe that fits your style of turning with all of the capabilities you require.

To narrow our review, we chose to include lathes from two categories: dual-

purpose lathes that can handle spindles and bowls, and dedicated bowl lathes. The lathes that are included are 20" (50cm) swing and larger. (The Robust Sweet 16 was included because it can turn up to 32" [80cm] inboard.) All of the lathes reviewed have common features you would expect to see in machines of this price: beefy construction, higher horsepower (HP) ratings, reverse drive, variable speed, heavy-duty bearings, and torsional rigidity. In addition, the list of options is extensive throughout the study.

The categories

Swing and between-centers lengths

A lathe's capacity to turn larger pieces inboard is one of the main measuring tools turners use to judge the usefulness of a particular lathe. And while many of us will not typically use that full capability, there may be enough occasional use to warrant its consideration. The center-to-center length is typically the maximum length piece that can be turned. Bed extensions are options available from many of the manufacturers.

Spindle size

The best time to consider spindle size and thread is when replacing your old lathe with a new one. Many turners have multiple accessories already

threaded for their present lathe; the purchase of spindle adapters and chuck inserts to adapt to a new size may require a significant investment. While the most common size is 1.25"/8tpi (32mm), other sizes are sometimes used. In the case of the VB36, the triple bayonet spindle mounting system is unique, and may offer some significant advantages (Left).

Horsepower

Although a couple of the lathes are offered with a 1.5HP motor, we chose to review all of the lathes based on a minimum of 2HP. Where 3HP is standard, it is listed as such.

Weight

For turners who like to turn large, out-of-round pieces, lathe weight becomes a significant feature. As expected, the beefier construction methods increase the ▶



Powermatic 3520B lathe



PM3520B optional bed extension.



VB 36 lathe

Bayonet mount for the VB36.



Headstock positioned for turning large-diameter bowls.

Robust 25 lathe



Oneway 2436 lathe

weight of lathes significantly. In the case of the Serious lathe, weight is a major design feature. Its 1,500-plus pounds (680kg) is unique among the group.

Indexing

The ability to accurately index a piece for secondary operations is desirable. The majority of these lathes offer 24- or 48-position indexing. The Oneway 20" (50cm) and 24" (60cm) offer 48-position as standard, and 96 as optional.

Quill travel

This feature becomes useful for a couple of reasons. The length of a lathe's quill is a measure of capacity, and when the quill has a graduated scale on it, drilling becomes accurate. But in many cases, the length of the quill may be simply an indication of how far away from the piece you can get, allowing more working room with the tools.

Sliding headstock

Only two machines offer a sliding headstock: the Powermatic 3520B and the Robust American Beauty 25. The design allows the user the increased turning capacity of outboard turning when a headstock-mounted motor does not allow outboard use. The 3520B, with the optional bed and toolrest post extensions, will allow up to 36"-diameter (90cm) turning with an onboard toolrest (Page 21, right). The Robust lathe has an

outboard turning attachment option that securely attaches to the lathe to provide a toolrest in the outboard position allowing turning up to 60" (152cm) (Above left).

Digital readout

While the debate still rages on about whether anyone needs this option, it is appearing on more and more lathes. Typically used as a reference point, the digital readout may not be the same from one machine to the next, so caution may be in order.

Stainless steel ways

Most of the lathes in the group rely on the mass of cast iron to maintain torsional rigidity. The Robust and Oneway lathes, using square and round tubular construction, build their ways onto the body of the lathe. The Robust lathes offer stainless steel ways as standard. This is unique. The Oneway lathes offer the stainless steel ways as an option (Above right).

Adjustable height

Recognizing that turners are not all the same height, most of the lathes offer some type of height adjustment: from optional factory preset heights, to onsite adjustment. Although the general rule of thumb for spindle height is your elbow height, Trent Bosch recommends 2" (50mm) higher. Being able to adjust the

height may be the difference between a sore back or hours of pain-free turning.

Dynamic braking

A number of the lathes slow down more quickly than simply coasting to a stop. This may be of interest to production turners.

Safety spindle lock

Some of the machines have the ability to disengage the motor when the spindle lock is engaged. This would prevent turning on the lathe with a locked spindle, creating, as John Jordan calls it, the smoke signal.

Reverse turning

All of the lathes in this article operate in reverse. This feature comes with a caution: determine whether or not the lathe you purchase has some sort of positive lock to keep chucks and faceplates from unscrewing when the lathe is in reverse. Some chucks have setscrews for this; make sure that the lathe has a spindle groove or smooth area for the screw to securely fasten the chuck or faceplate in place.

Speed ramp up/down

The variable frequency drive (VFD) on lathes with variable speed can be reprogrammed for different time delays for speeding up or down. Both the VB36 and the Oneway lathes come



Stubby 750 lathe



Vega 2600 bowl lathe

Vega tailstock



EBO, Inc. Bowl Elephant lathe

with a toggle-type switch that allows the user to choose slow speed ramp or fast speed ramp. Please review the VFD owner's manual or contact the manufacturer of your lathe before making these adjustments.

General comments

Bowl lathes are inherently different in design with regard to their stated purpose. As mentioned earlier, the VB36 has a number of unique features. The bed design of the Stubby 750 is singular, with a patented sliding and rotating bed and an auxiliary bed that can be attached in different locations with various orientations. When combined, the Stubby can be set up in a variety of configurations to suit (*Above left*). The Vega 2600, with its concrete-filled headstock, is a different design that is well liked by many turners. It has a relatively small footprint (*Above middle*). The Vicmarc VL300 lathe is made in Australia, and is available in long- and short-bed versions. Craft Supplies sells the Vicmarc VL300CS lathe made to their specifications, with slight differences between it and the Vicmarc VL300 that is directly imported. If you are considering purchasing a Vicmarc lathe, it would be in your best interest to compare the two versions. The Oneway lathes are also available in long- and short-bed configurations. New to the market is the Bowl Elephant lathe by

EBO, Inc. The basic model is a bowl lathe, but with optional accessories it can be changed to a spindle lathe with up to a 96" (245cm) capacity. As a bowl lathe, the onboard swing is 40" (100cm). With spindle accessories, the swing is 25" (65cm) (*Above right*). The Laguna Pinnacle lathe has optional attachments that greatly increase its capabilities, appealing to production and architectural turners. The Grizzly is the only lathe in the group to have an outboard toolrest supplied as standard.

Conclusion

The choice of a lathe, perhaps more so than other pieces of machinery, can be subjective. The options are extensive and warrant your investigation. Above all, try to find a turner who has the lathe you want and is willing to let you try it out. Or visit one of the larger symposiums that have lathes on display with a factory representative on hand to answer questions. Whether based on many years of turning experience, or the desire of certain features above all, the selection of a lathe is critical as a result of the interaction between the turner and the lathe. For many turners, buying a lathe from this category will satisfy most, if not all, of their turning needs. This material is presented with the hope that it will help you zero in on the lathe that might be your "last lathe."

Thanks to Mike Mahoney, John Jordan, Keith Burns, Trent Bosch, John Lucas, Brent English of Robust Tools, Greg Jensen and Roger Buse of VB Manufacturing, Roger Durst of Craft Supplies, Scott Trumbo of Serious Lathes, Norman Frampton of General, Gary Herrman for his photo, Gary Wassing of Oneway, Ray Peck of EBO, Inc., and the technical staff of Powermatic for their assistance in presenting this article. ■

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Manufacturer's websites:

oneway.ca
 turnrobust.com
 general.ca
 grizzly.com
 hegner.co.uk VB36
 wmhtoolgroup.com Powermatic
 vicmarc.com
 woodworker.com Woodtek
 seriouslathe.com
 http://omega.2pp.in/ Stubby, (USA
 Rep is johnjordanwoodturning.com)
 vegawoodworking.com
 lagunatools.com
 eboinc.net

A metric chart is available on AAW's website: woodturner.org/products/aw/lathe_metric.pdf

The Dream Machines Features Comparison Chart

Dual Purpose Lathes Spindle/Bowl

	Swing	Centers Length	Spindle In/Out	HP	Weight	Indexing	Quill Travel (inches)	Sliding Headstock	Digital Readout	Strls. Steel Ways	Warranty	Adjustable Height	Dynamic Braking	Safety Spindle Lock	Street Pricing (USD)	Comments
EBO, Inc. Model 40-25x48	40	48	1.25/8	2	630	OPT.	4	N	Y	N	1.5 Electric 2-Material	N	Y	N	6999	Unique design allows conversion to spindle lathe with optional accessories.
General 26020VDR	20	38	1.25/8	2	562	N	2	N	N	N	2	N	N	N	5099	
Grizzly G0694	20	43	1.25/8	3	578	24	3.5	N	Y	N	1	N	Y	N	2650	Outboard floor supported tool rest included.
Laguna Pinnacle MTP105	24	52	M45/4.5	3	1500	24	6	N	N	N	1	N	Y	N	9175	Optional copy and spiral attachments. Spindle adapters available.
Oneway 2036	20	36	M33/3.5	2*	800	48 96 Opt.	4	N	Y	OPT.	5	Y	Y	N	**5825	Tailstock removal option. Extensive options.
Oneway 2436	24	36	M33/3.5	2*	850	48 96 Opt.	4	N	Y	OPT.	5	Y	Y	N	**6153	Tailstock removal option. Extensive options.
Powermatic 3520B	20	35	1.25/8	2	630	48	4.5	Y	Y	N	5	Y	Y	N	3300	Optional bed and tool post extension will allow 36" turning. After market tailstock removal option.
Powermatic 4224	24	42	1.25/8	3	848	24	4.5	N	Y	N	5	Y	Y	N	4825	
Rikon Woodfast 70-500	20	36	1.25/8	2	596	24	4	N	Y	N	2	N	N	N	2800	
Robust 25	25	28	1.25/8	2	628	48	4	Y	N	STD.	7	Y	Y	Y	5995	Tailstock removal option.
Robust 16	16/32	40/52	1.25/8	2	480	48	3.5	N	N	STD.	7	Y	Y	Y	**5020	Unique bed design allows turning up to 32".
Serious SL2542	23.6	42	1.5/8	3	1530	48	6	N	Y	N	2	Y	Y	Y	6975	Spindle position digital readout.
Vicmarc VL300LB	23.6	24	1.25/8	3	850	24	3	N	N	N	1-Electric 2-Material	N	N	N	4999	
Woodtek No. 1	20	20/38	1.5/8	3	750	48	5	N	Y	N	1	N	N	N	4489	

Bowl Lathes

EBO, Inc. Model 40	25	NA	1.25/8	2	620	OPT	4	N	Y	N	1.5 Electric 2-Material	N	Y	N	4799	Unique design allows conversion to spindle lathe with optional accessories.
VB36	36	24 or 36	Bayonet	3	689	24	6	N	N	N	2-Electric 10-Material	N	Y	Y	7999	Unique bearing design and bayonet spindle mount. Tailstock removal method standard.
Vega 2600	26	17	1.25/8	2	500	N	9	N	N	N	1	Y	Y	N	3095	Compact footprint.
Stubby 750	30	34	1.25/8	2	600	24	4	N	Y	N	2	Y	Y	N	5975	Unique bed design allows multiple placement options. Compact footprint.
Oneway 2016	20	16	M33/3.5	2*	600	24	4	N	Y	OPT.	5	Y	Y	N	**5684	
Oneway 2416	24	16	M33/3.5	2*	650	24	4	N	Y	OPT.	5	Y	Y	N	**5996	

*Reflects 2HP Pricing.

**Based on 2HP.

Note: Prices may or may not include shipping.