Choosing a Lathe

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There seem to be frequent inquiries from new and prospective pen turners as to which lathe is best to purchase for this endeavor. This is my attempt to offer some thoughts that will hopefully be at least somewhat helpful.

First a few questions that may affect your choice of a lathe:

1. Are you fairly committed to pursue pen turning or might it be more of a passing interest? This might affect how much you are willing to spend on a lathe. If you are unsure, you might choose an inexpensive lathe rather than a higher end unit.

2. How much money do you have to spend on a lathe? It's important to realize that there are several other items that you will need to purchase that may amount to even more than the lathe itself (kits, bushings, drill bits, drilling equipment, sandpaper, finishing supplies, turning tools…)

While many pen turners are able to financially support their hobby through the sales of pens, please do not assume that this will be the case from the beginning. Wait until you are making excellent quality pens before you expect to sell them. If finances are tight for you, you might consider buying a lathe that you can realistically afford and then upgrade later when (if) you are selling pens. This is the course I took and I do not regret it.

3. Are you interested in turning items besides pens? Any lathe that will turn pens will likely turn small projects like bottle stoppers, but if you are interested in turning, bowls, boxes, etc., you should take that into account when looking at the features offered in a lathe.

Next, are several features and capacities of lathes that should be taken into account.

1. Overall capacity. "Swing" is the maximum size of an item over the lathe bed. For pens, this is a non-issue. For bowls, it is an important consideration. The distance between centers is another measurement. It will help you to determine how long of an item can be turned. Again, for pens, this is generally a non-issue. If you want to turn a baseball bat, for example, it becomes a big consideration.

Lathes are sometimes grouped into categories like 'mini' and 'midi,' These lathes are ideal for smaller projects (like pens as well as medium sized projects). Many pen turners use lathes in this size category. There are also many good full sized lathes that are excellent for pens all the way up to large bowls and longer turnings as well.

Consideration of shop size should be considered here. A mini or midi lathe can be placed on a bench top or stand in a fairly small space and only requires a standard electrical outlet in most cases. Larger lathes often cost substantially more, take up more shop space and sometimes require higher voltage.

2. Motor size and RPM range. It's worth noting the H.P. of a lathe motor, but most lathes will have little problem turning a pen. That said, a larger capacity will serve you in other turning and will not hurt in pen turning.

Look at the minimum and maximum RPM's that your lathe will turn at. Opinions will vary, but many pen turners work at a fairly high speed but perform other task like finishing at a slow speed. This is another area where people who want to turn other items like bowls will have additional RPM range considerations.

3. Changing Speeds. Most lathes allow you to change speeds (RPMs). Many lathes require a change in the belt on a series of pulleys to change speeds. If you are looking at this type of lathe, look at the setup and see how easy it is to change speeds. You will likely be changing the belt as you move through the pen turning process, although some turners avoid this.

Other lathes offer variable speed, which is a popular option but generally comes at an extra (sometimes substantial) cost. Some larger lathes offer what is known as a 'Reeves Drive.' This is a mechanical variable speed option. Some turners have had good service from these drives, but many others find that to have problems at times which may require a rebuilding of the system.

The most popular method of variable speed is electronic variable speed. This involves either turning a knob or pressing a button to change speeds. Variable speed is not necessary, but many turners, including myself, say that that after getting it, they would not be without it. You will need to weigh out whether you want to spend the extra money for this feature or not.

4. Reverse. Several lathes offer a reverse function which can be beneficial in sanding and some other functions.

5. Spindle and Taper Sizes for accessories. Your lathe will have both spindle threads that will accept a chuck, faceplate or other accessories that may be purchased for your lathe.

Additionally, and often more importantly for pen turners, the taper (hole in the head and tailstocks) will be either Morse Taper 1 or 2. (MT1 or MT2). MT2 is the more popular option and is found on the majority of higher priced lathes. Some lathes will have MT1.

Before you buy a lathe, look for what accessories are available for the threads and Morse Taper of the lathe. Also consider whether you will likely be changing lathes in the future and whether your accessories can migrate with you (through direct fit, adapters, or optional inserts).

There are various avenues that can be pursued to find a lathe. It is often wise to look around for a good quality used lathe. If you look at a used lathe, make sure to check it out thoroughly before purchase - for overall condition, accessories, whether the tapers are clean, the lathe spins true and the head and tailstock line up correctly. Craigslist, eBay, estate auctions and local turning clubs are all good places to look.

If you purchase a lathe new, there are several options including retail stores and online sellers. Look for price, support and service as well as the warranty offered by the manufacturer. A used lathe will likely carry no warranty.

It is advisable if possible to look at a lathe in person before purchasing. See how the quality of construction is, how easy it is to make adjustments, change speeds etc. If you know local turners, ask for guidance as well and they may offer you an opportunity to try a lathe that they own.

Many people will ask questions about specific lathe models from particular sellers. It is wise to seek out opinions from the owners of the specific lathe. Opinions will vary. Some people have great experience will lower priced lathes from stores like Harbor Freight while others find them quite disappointing. Likewise, on the used market, older Craftsman 'tube' lathes are often criticized, but there are others who have had positive experiences with them.

I started with an old Delta Rockwell lathe from the 1950's that was very solid and a good deal. It's almost always worth asking for opinions when you see a good deal on something used. It may be a great find or it may be junk. The considerations in this post along with the advice of other turners will hopefully help you decide.

When you are looking for a specific lathe, the following manufacturers are generally regarded favorably, although again, each lathe should be considered by its own merits and reviews.

- Jet (available as 1014 mini, 1221evs and other full size lathes)
- Rikon (a reasonably priced, robust mini)
- Nova (Comet and well as very highly regarded and higher priced full sized lathes)
- Grizzly (has many different lathes, some of which are regarded much more highly than others)
- Delta (currently only offers the 46-460 which is generally regarded as an excellent lathe)

As mentioned above, Harbor Freight offers two mini lathes as well as larger lathes. They are often the lowest priced new lathes and may be worth consideration for the budget minded turner.

My hope is that this information will be of some service to you as you look for a lathe to best serve you in this endeavor.