

What Size Toolholder Do I Need?

The Diamond Toolholder is available in six sizes (8, 9.5, 12, 16, 20, and 25 millimeter). These sizes represent the optimal distance from the bottom of the toolholder shank to the lathe centerline.

Size Options with Imperial Equivalents

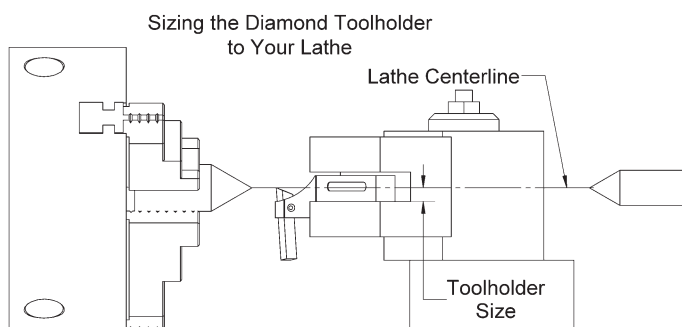
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|-------|--------|-------|-------|-------|-------|
| 8 mm | 9.5 mm | 12 mm | 16 mm | 20 mm | 25 mm |
| .315" | .374" | .472" | .630" | .787" | .984" |

Slight variations from these numbers can be accommodated by adjusting the tool bit and those with quick-change toolholders will have further means to adjust the height.

Selecting a Size

To select the correct size toolholder for your lathe, take a measurement from the base of the tool post or quick-change holder where the Diamond Toolholder will sit, to the centerline height of the lathe. Note that this measurement will define the largest toolholder your lathe will handle.

A smaller toolholder can be used in a large lathe simply by using a suitable shim under the shank to bring it up to the correct height. If you are using an adjustable quick-change holder, set it close to its lowest point before measuring.



Note: Toolholder size is measured from the bottom of the toolholder shank to lathe centerline. The tool bit and toolholder mounting will allow some adjustment.

Consider also what size tooling your lathe's tool post can handle.

Diamond Toolholder Shank Size

| Toolholder | Shank Height | Shank Width | Shank Length | Tool bit Size |
|------------|-------------------|------------------|--------------|---------------|
| 8 mm | 7/16" (11 mm) | .475" (12 mm) | 3" | 1/4" |
| 9.5 mm | 1/2" (12.7 mm) | .475" (12 mm) | 3" | 1/4" |
| 12 mm | .590" (15 mm) | .475" (12 mm) | 3" | 1/4" |
| 16 mm | .672" (17 mm) | 5/8" (16 mm) | 3-1/2" | 5/16" |
| 20 mm | 3/4" (19 mm) | 5/8" (16 mm) | 3-1/2" | 5/16" |
| 25 mm | 1" (25.4 mm) | .790" (20 mm) | 3-1/2" | 5/16" |

Toolholder Size vs Lathe Size

Because the tool post plays a vital role in determining the size of toolholder best suited to your lathe and because of the large number of variations in tool posts, it's not possible to tie toolholder sizes directly to a model or size of lathe. However, here are some general notes that may help.

| | |
|---------------|---|
| 8 mm | The 8 mm toolholder is the perfect size for smaller, 6-9" lathes, such as the South Bend 9 or Myford 8. This is the smallest toolholder we offer and is, unfortunately, too large for Sherline lathes. It takes a 1/4" tool bit. |
| 9.5 mm | The 9.5 mm tools are suitable for smaller, 9-12" lathes such as South Bend 9 or Logan 10. It takes a 1/4" tool bit. |
| 12 mm | The 12 mm is the perfect size for 7-12" lathes and it works well with tool post heights found on most Asian imports. It takes a 1/4" tool bit. |
| 16 mm | The 16 mm tools are designed for medium to large sized lathes of 12-19" of swing and capable of using 5/8" tooling. The 16 mm toolholders take 5/16" tool bits. |
| 20 mm | The 20 mm toolholders are designed for heavy-duty lathes capable of using 3/4" tooling. The 20 mm toolholders take 5/16" tool bits. |
| 25 mm | The 25 mm toolholder is designed for use on large lathes able to use 1" tooling. It uses exactly the same body as the 20 mm toolholder, but has an attached raising block to bring it up to the 25 mm height and to locate the center of the shank under the tool clamp screws. Takes a 5/16" tool bit. |

Bay-Com Enterprises, Inc.

Front or Rear Parting Toolholders

The FoR parting toolholders have an adjustment range of plus or minus .5 mm (.02") from the nominal size and come in five sizes (8, 9.5, 12, 16, and 20 mm).

| FoR Toolholder Shank Sizes | |
|----------------------------|-----------------------|
| 8 mm | 7/16" (11 mm) square |
| 9.5 mm | 1/2" (12.7 mm) square |
| 12 mm | 1/2" (12.7 mm) square |
| 16 mm | 5/8" (16 mm) square |
| 20 mm | 3/4" (19 mm) square |