



1 MACHINE TYPE

Identify the type of machine the chuck will be used on: lathe, VTL, milling machine, table or indexer?
Got a special application? We can help!



2 CHUCK TYPE

Identify the type of a chuck that will work best for the application.

Scroll (Self-Centering)

All chuck jaws move simultaneously and center the workpiece against the spindle nose center. These chucks offer accuracy and convenience for jobs machining round bar stock and requiring frequent changeovers. They come with 2, 3, 4 & 6 jaws. All scroll chucks can be ordered as direct mount for the most popular spindle types or as plain back with an adapter to go on a lathe, or a baseplate for table or indexer applications.



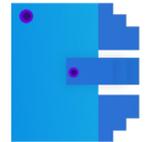
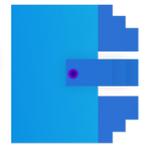
Independent

All jaws move individually. Chucks are used in applications where the work piece is irregular in shape, and also for the round bar stock. Independent chucks come with 4 jaws and can be ordered as direct mount or plain back with an adapter.



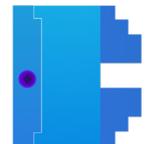
Adjustable Body

Also known as fine adjustment, tech tru, set tru, zero set, etc. An adjustable body chuck is a scroll chuck with fine adjustment screws, which move the chuck body against a special adapter (or a baseplate) to "zero in" the TIR. Adjustable chucks come with 2, 3, 4 & 6 jaws with flat back only, and they are mounted with adapters or baseplates on lathes, VTLs, tables, or indexers.



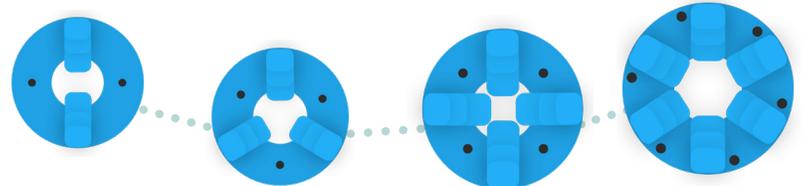
Combination (Self-Centering + Independent)

This is a combination of a scroll and independent chuck in one body. It allows jaws to either move simultaneously or independently. This design allows the operator to grip irregular-shaped parts using the independent jaw gripping option, and then use the self-centering gripping mechanism for production machining of multiple parts that are the same size. Combination chucks come with 3 & 4 jaws. Combination chucks are plain back only and can be matched with adapters and baseplates for mounting on lathes, tables, or indexers.



3 NUMBER OF JAWS

- Scroll chucks 2, 3, 4 or 6 jaws
- Independent chucks always 4 jaw
- Combination chucks 3 or 4 jaws
- Adjustable chucks 2, 3, 4 or 6 jaws



4 CHUCK BODY MATERIAL

Semi-Steel (Cast Iron)

- Medium duty applications
- Affordable (about 30-40% less expensive than Forged Steel)
- Accuracy diminishes at a faster rate than Forged Steel

Forged Steel

- Medium to heavy-duty applications
- Durable - accuracy is retained up to 3 times longer than Semi-Steel body chucks
- About 30-40% more expensive than Semi-Steel option

Cast-Steel

- Medium to heavy duty applications.
- Usually reserved for larger diameter scroll and independent chucks

5 CHUCK MOUNTING SELECTION

Plain Back

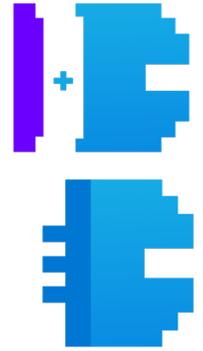
Always requires an adapter or baseplate. This provides flexibility to use the same chuck on a number of machines.

Baseplates are for VTL, CNC machining centers, rotary table & indexer applications. Here, the baseplate is first mounted on the table (or indexer) and then the chuck is mounted on the baseplate.

Adapters are for lathe applications, where the finished adapter (D & L Type) is either attached to the chuck and then mounted on the lathe, or finished adapter (A Type) is mounted on the lathe spindle nose and then chuck is attached to it. In most cases, the adapter for plain back chucks (semi-finished or rough) must be machined to match the chuck mounting dimensions. Additionally you may also need to drill and counter bore the mounting holes in semi-machined adapters. Adjustable chucks are an exception, as they always use fully-machined adapters or baseplates.

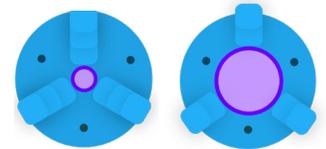
Direct Mount

Direct mount is used for lathe applications only. With the adapter integrated into the chuck, direct mount chucks provide convenience and ease of initial setup. No additional machining is required. Recommended for lathes where spindle run out is close to zero.



6 THRU-HOLE

The size of the thru-hole is a critical consideration for applications where the material/bar stock must feed through the chuck and spindle thru-hole.



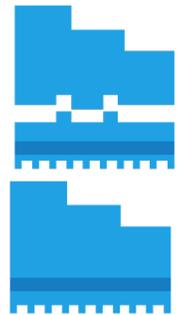
7 TYPE OF JAWS

Reversible (2-Piece)

Allows you to use a variety of soft or specialty top jaws, offering more versatility and convenience. Changing from an ID to OD application is as simple as unbolting the top jaws from the master jaws, inverting them, and reapplying the bolts.

Hard Solid (1-Piece)

Provide more rigidity & accuracy but will require more time to convert from OD to ID gripping. Scroll & Adjustable chucks require a second set of jaws to convert from ID to OD, while Independent & Combination chucks are supplied with just one set of hard solid reversible jaws that work for both ID and OD applications.



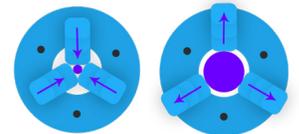
8 LOAD CAPACITY



Before selecting the chuck, make sure it is rated to handle the weight of the workpiece. Load capacities are available for supported and unsupported applications. Please contact Global Tooling Solutions (see contact info below) for load capacity information.

9 CLAMPING RANGE

Operating a lathe chuck outside of the MIN/MAX Clamping Range could pose a serious safety threat, and damage the chuck. More info can be found in the Gator product catalog.



10 RPM



All manual lathe chucks have a listed Maximum RPM rating. Exceeding this rating could create a serious safety risk and resulting in a chuck and machine tool damage or operator injuries.

11 FRONT MOUNT APPLICATIONS

Scroll chucks are available in Back Mount (using an adapter for lathe applications), or Front Mount for table applications (with, or without a baseplate).

* CUSTOM SOLUTIONS

Do you have a special application that is not covered in this Chuck Selection Guide? Gator specializes in custom applications. We can supply a chuck for any configuration or application that you need a solution for. We specialize in large diameter solutions.