### Pilot Mill:
Is a downhole milling tool designed with an extended pilot or central stinger section that is inserted in the bore of the packer, tubular or equipment being milled. This design helps ensure that the mill follows the desired path and does not damage the casing or liner wall as the milling operation progresses.

![Pilot Mill Image](image1)

### Watermelon Mill:
Watermelon mill is used to mill through collapsed casing, polish liner polished bores, or clean up perforation sections. This mill has a tapered top and bottom to allow reaming both up and down. A connection on the bottom allows a stringer to be run blow the mill to keep it centered. This centering prevents cutting out of the casing or sidetracking. Typically 4 ½” to 8 ½”mills are available.

![Watermelon Mill Image](image2)

### Section Mill:
A section mills is used to mill a section of casing for cementing prior to plugging and abandoning or for sidetracking. Pressure is applied by circulating down the drill string causing knives to deploy and make a cut on the casing. Then weight is slowly applied and typically between 8-20m of casing may be milled.

![Section Mill Image](image3)

### String Mill:
String mills are similar to watermelon mills except that they generally do not have smooth ODs. String mills provide a smooth drilling pattern, making them useful in a variety of construction and cleanout applications.

![String Mill Image](image4)

### Inserted Mill:
Common Specifications; Negative Rake, Face Mill, Inch Version – 12 teeth

![Inserted Mill Image](image5)

### Junk Mill – Typical Sizes:
- 8 Tooth - 9 1/2” to 12 1/4”
- 6 Tooth - 8” to 8 3/4”
- 4 Tooth - 5 1/2” to 6 3/4”
- 3 Tooth - 4 3/4”

Junk mill is used for bridge plugs, reamer blades, slip inserts and other smaller objects that are dropped or lost in the well.
<table>
<thead>
<tr>
<th><strong>Tapered Mill:</strong> Tapered Mills are ideal for milling through collapsed, r pinched casing. The tapered nose guides the process and determines gage. Taper mills can also be used for deburring after a whipstock procedure, removing corrosion, etc. Sizes from 3 ½” to 8 ½” are typically available.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Deep Throat Mill:</strong> Deep Throat Cement Mill is used primarily to drill cement where small amounts of contamination exist. This mill is specifically designed for maximum circulation and cutting speed.</td>
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<tr>
<td><strong>Piranha Mill:</strong> Used for milling cemented pipe and in situations where there are large amounts of junk in the hole that requires a mill with a longer life. This mill is specifically designed with a deep “V” for maximum circulation of fluid and to hold large amounts of tungsten carbide dressing. Sizes available 3 ½” to 8 ¾”.</td>
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<tr>
<td><strong>Skirted Mill:</strong> Used inside casings or as a junk mill, skirted mills use the skirt both as a guide and as protection of the surrounding casing from the milling process.</td>
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<td><strong>Straight Blade Stabilizer:</strong> Straight blade stabilizer is integrally made of high strength alloy steel AISI 4145H, usually with 3 blades or 4 blades. The working surface of straight stabilizer is provided with carbide insert, diamond compound insert, or overlay welding to add durability and prolong the outside diameter.</td>
</tr>
<tr>
<td><strong>Concave Cone Buster:</strong> Concave Cone Buster Mill is used for milling bit cones or other large objects where it is advantageous to keep the fish centered under the mill for the greatest milling effectiveness.</td>
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<tr>
<td><strong>Bladed Super Mills:</strong> Super mills are the basic tough tools used to dress off and mill all types of drilling materials-bit cones, bridge plugs, packers, downhole tools and /or pipe. Super mills typically have stabilizer lugs to stabilize the mill for longer life and for use in cased hole applications, to prevent casing damage. These mills, when designed for cement milling, have fewer blades and larger flow passage areas to prevent clogging.</td>
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