Moulded Breaker for Small Tools

Excellent chip breaking. Ideal for continuous un-manned operations on automatic lathes.

A combination of a curved cutting edge and the protrusion type breaker promotes efficient chip breaking.

- **Effective chip disposal range**
  - Good chip breaking with small depths of cut and low feeds
  - The breaker design is optimized to suit the cutting conditions for precision parts.
  - SMG type breaks chips into fine pieces and reduces tangling.

- **High quality surface finishes**
  - Unique curved cutting edges offer sharp cutting action.
  - The entire periphery of the inserts are finish ground (G class accuracy) to produce sharp cutting edges.

G class inserts
- Peripheral ground (G class) inserts enable accurate cutting edge positioning, making it ideal for high precision machining.

Nose radii designed with minus tolerance
- Suitable for precision parts applications that often require minus tolerance dimensions.
- The order number is shown with the letter “M” that indicates minus tolerance.
- Order number) DCGT11T302M-SMG
  - 02M - R0.18mm (R0.15 – R0.20mm)
  - 04M - R0.38mm (R0.35 – R0.40mm)

- The radius value is printed on the side of the insert label for easy recognition.

**Cutting conditions**
- Workpiece: JIS S20C (Turning)
  - Cutting speed: 80m/min
  - Depth of cut: 0.5mm
  - Feed: 0.03mm/rev
  - Non-water soluble coolant

- Workpiece: JIS SUM22 (Turning)
  - Cutting speed: 80m/min
  - Depth of cut: 0.1mm
  - Feed: 0.1mm/rev
  - Non-water soluble coolant

**Printing example**
- SMG Breaker
- Competitor’s ground type breaker

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**Fast chip disposal range**

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- SMG Breaker
- Competitor’s ground type breaker
### Inserts

<table>
<thead>
<tr>
<th>Shape</th>
<th>Order Number</th>
<th>Stock Dimensions (mm)</th>
<th>Geometry</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><strong>D1</strong></td>
<td><strong>S1</strong></td>
</tr>
<tr>
<td>CCGT060202M-SMG</td>
<td>060204M-SMG</td>
<td>● 6.35</td>
<td>2.38</td>
</tr>
<tr>
<td>DCGT070202M-SMG</td>
<td>070204M-SMG</td>
<td>● 6.35</td>
<td>2.38</td>
</tr>
<tr>
<td>11T302M-SMG</td>
<td>11T304M-SMG</td>
<td>● 9.525</td>
<td>3.97</td>
</tr>
</tbody>
</table>

● : Inventory maintained.

### Application Examples

<table>
<thead>
<tr>
<th>Insert</th>
<th>DCGT11T302M-SMG (VP15TF)</th>
<th>DCGT11T302M-SMG (VP15TF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workpiece</td>
<td>JIS SUS304</td>
<td>JIS SS400</td>
</tr>
<tr>
<td>Cutting Speed (m/min)</td>
<td>85</td>
<td>60</td>
</tr>
<tr>
<td>Feed (mm/rev)</td>
<td>0.35</td>
<td>0.07</td>
</tr>
<tr>
<td>Depth of cut (mm)</td>
<td>2.4</td>
<td>1.4</td>
</tr>
<tr>
<td>Coolant</td>
<td>Oil</td>
<td>Oil</td>
</tr>
</tbody>
</table>

#### Results

- **SMG Breaker**
  - No. of machined parts 600
  - The SMG breaker delivered good chip control and 1.5 times longer tool life.

- **Competitors**
  - No. of machined parts 450
  - The SMG breaker finely broke the chips that conventionally wrapped around the workpiece.

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For Your Safety:
- Don't handle inserts and chips without gloves.
- Please machine within the recommended application range and exchange expired tools with new ones in advance of breakage.
- Please use safety covers and wear safety glasses.
- When using compounded cutting oils, please take fire precautions.
- When attaching inserts or spare parts, please use only the correct wrench or spanner.

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Mitsubishi Carbide Home page: [http://www.mitsubishicarbide.com](http://www.mitsubishicarbide.com) (Tools specifications subject to change without notice.)