TAC Toolholders for Super High Feed Turning

TURNFEED

Significant Reduction in Machining Time through Super High Feed Capability
Remarkable High Feed Capability through the new Cutting Edge Geometry!

Super High Feed
TAC Toolholder "TurnFeed (Turning X)"

Features

Double clamping
Double clamping technology with through insert clamping screw plus an additional clamp to secure the insert firmly in position, realizing a highly rigid turning tool.

Unique cutting edge geometry
Disperses the cutting load across a wide area.

ML type chipbreaker
Letter “L” is marked on the rake face of left hand inserts, allowing easy distinction of the hand of inserts.

ML chipbreaker provided with both low cutting forces and high impact resistance.
The 7mm thick insert can withstand high load at high feeds.

Super High Productivity

Comparison of cutting performance

TurnFeed
Vc = 150 m/min
ap = 2 mm
f = 2.5 mm/rev
Work material: Mild steel (SS400)

Conventional toolholder
Vc = 150 m/min
ap = 2 mm
f = 0.3 mm/rev
Work material: Mild steel (SS400)

Productivity can be improved by 8 times with Super High Feed machining.
Toolholders

External turning and facing
XWXP R/L

Cutting edge style X

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Stock</th>
<th>Dimensions (mm)</th>
<th>Applicable inserts</th>
<th>Clamp set screw</th>
<th>Clamping</th>
<th>Wrench</th>
</tr>
</thead>
<tbody>
<tr>
<td>XWXP/L2525M09</td>
<td></td>
<td></td>
<td>WPMT090725ZPR/L-ML</td>
<td>CSY-20</td>
<td>CSPB-5</td>
<td>IP-20T</td>
</tr>
<tr>
<td>XWXP/L3232P09</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>XWXP/L4040S09</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Inserts

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Accuracy</th>
<th>Honing</th>
<th>Stocked grades</th>
<th>Dimensions (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WPMT090725ZPR-ML</td>
<td>M</td>
<td>With</td>
<td>T9015, T9025, AH120</td>
<td>A: 9, B: 15, T: 7, rε: 2.5</td>
</tr>
<tr>
<td>WPMT090725ZPL-ML</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: There are left and right hand inserts. Care should be taken not to confuse the hand of inserts. For details, see the instruction manual on our web site.

Application areas

First choice

- **T9025**
  - For low to medium speed machining. Can also be used for interrupted cutting.
  - Exceptional chip and impact resistance.

- **T9015**
  - For continuous cutting at medium to high speeds.
  - Excels in both wear and impact resistance.

- **AH120** (Complementary grade for stainless and mild steels)
  - When machining stainless and mild steels, if chipping or breakage occurs change inserts to AH120.

Standard cutting conditions

<table>
<thead>
<tr>
<th>Work material</th>
<th>Grades</th>
<th>Chipbreaker</th>
<th>Cutting speed Vc (m/min)</th>
<th>Depth of cut ap (mm)</th>
<th>Feed f (mm/rev)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild and low carbon steels</td>
<td>T9025</td>
<td>ML</td>
<td>100 - 150 - 250</td>
<td>0.5 - 2.5</td>
<td>0.5 - 1.5 - 2.5</td>
</tr>
<tr>
<td>SS400, S25C (C25) etc. &lt; 180 HB</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carbon and alloy steels</td>
<td>T9015</td>
<td></td>
<td>100 - 150 - 250</td>
<td>0.5 - 2.5</td>
<td>0.5 - 1.5 - 2.5</td>
</tr>
<tr>
<td>S50C, SCM440 (C50, 42CrMoS4) etc. &lt; 300HB</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stainless steels</td>
<td>T9025</td>
<td></td>
<td>100 - 150 - 250</td>
<td>0.5 - 2.5</td>
<td>0.5 - 1.5 - 2.5</td>
</tr>
<tr>
<td>SUS304, SUS316 (X5CrNi18-9, X5CrNiMo17-12-2) etc. &lt; 250 HB</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grey and ductile cast irons</td>
<td>T9015</td>
<td></td>
<td>100 - 150 - 250</td>
<td>0.5 - 2.5</td>
<td>0.5 - 1.5 - 2.5</td>
</tr>
<tr>
<td>FC250, FCD400 (GG25, GGG40) etc.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Practical Examples

<table>
<thead>
<tr>
<th>Name of workpiece</th>
<th>Construction equipment parts</th>
<th>Automotive parts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toolholder</td>
<td>XWXRPR2323P09</td>
<td>XWXPR2525M09</td>
</tr>
<tr>
<td>Insert</td>
<td>WPMT090725ZPR-ML (T9025)</td>
<td>WPMT090725ZPR-ML (T9015)</td>
</tr>
</tbody>
</table>

### Workpiece material

- **Workpiece material:** Carbon steel (S45C / C45)
- **Cutting speed:** 1500 ~ 2000 m/min
- **Depth of cut:** 2 mm
- **Feed:**
  - **2.5 mm/rev**
  - **1.5 mm/rev**

### Cutting Conditions

<table>
<thead>
<tr>
<th>Cutting Conditions</th>
<th>Construction</th>
<th>Automotive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cutting speed: Vc (m/min)</td>
<td>160</td>
<td>160</td>
</tr>
<tr>
<td>Feed: fz (mm/rev)</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Depth of cut: ap (mm)</td>
<td>2</td>
<td>2.5</td>
</tr>
<tr>
<td>Coolant</td>
<td>Water soluble (External supply)</td>
<td>Water soluble (External supply)</td>
</tr>
</tbody>
</table>

### Result

- **When using competitor tool, the feed was limited to f = 0.3 ~ 0.35 mm/rev. By switching to “TurnFeed (Turning X)”, the feed could be increased to 2 mm/rev with no chatter. This contributes to a dramatic productivity increase when roughing.**
- **Compared to previous CNMG inserts with wiper edges, the machining cycle time could be reduced by 40%. The tool life was equal to, or improved upon competitor products despite the cycle time reduction.**

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