NEW HIGH FEED 7793VX012 DOUBLE SIDED INSERT MILLING CUTTER SYSTEM
Double Sided High Feed Milling Cutters

**Silver satin plated surface & Improved heat treatment**
- Improved body strength
- Better core strength
- Enhanced wear resistance of the body surface

**High variability due to the different cutter bodies**
- Modular heads ⌀ 32 mm
- Cylindrical shank ⌀ 32 to 40 mm
- Shell mills ⌀ 50 to 125 mm

**New chip flute design**
- Improved chip ejection

**Highest performance**
- Due to Stellram patented X-grades
- Extremely powerful standard grades like SP6919

**Size and geometry**
- Newest geometrical High Feed concept XOGU12…-GU52
- Maximum metal removal rates
- Superior wall and floor surface finish capabilities

**8 Double sided cutting edges**
- Maximum productivity with economical cost per edge
- Cost reduction per component
  - \( ap \text{ max} = 2.50 \text{ mm} \)

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This is a permanent screw required for coolant hole flow designed for cylindrical shanks and modular head. Please don’t remove this screw.
HIGH FEED CUTTER WITH DOUBLE SIDED INSERTS

7793VXO12 is our newest, patented, high feed cutter range. Featuring double sided inserts with eight cutting edges, providing a cost effective machining and maximum efficiency.

This range is specifically developed for face milling applications providing high feed rates for maximum productivity.

The unique geometrical design concept and insert positioning is ideal for achieving maximum metal removal. This combined with our premium grade and positive geometries, these cutters are an ideal solution for face milling applications when used on 'high performance' materials.

Additionally, due to the wiper facet incorporated in the insert geometry, we are able to provide superior wall and floor surface finished capabilities through roughing operations in comparison with other high feed solutions.

Applications:
7793VXO cutters are particularly qualified to machine all known metals such as Unalloyed Steels, Alloyed Steels, Tool Steels, Stainless Steels, High Temperature Alloys and Titanium, when utilising our GU52 double sided insert with 8 cutting edges. Due to its positive geometry design and reinforced edge, this geometry provides a smooth cutting action and longer tool life in all challenging machining applications. The 8 effective cutting edges result in lower cost per edge and maximum efficiency.
### 7793VXO12 Cylindrical Shank

<table>
<thead>
<tr>
<th>Order No.</th>
<th>Item Description</th>
<th>D</th>
<th>L/H</th>
<th>l1</th>
<th>d1</th>
<th>ap max</th>
<th>No. of Teeth</th>
<th>Order No.</th>
<th>Order No.</th>
<th>Screw Tightening Nm</th>
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### 7793VXO12 Shell Mill Fixation - Medium and Fine Pitch

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### 7793VXO12 Modular Head

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<th>Screw Tightening Nm</th>
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Note: For cylindrical shank extensions in high density alloy with through coolant, refer to page 5.

### 7793VXO12 Technical Information (mm)

<table>
<thead>
<tr>
<th>Order No.</th>
<th>Item Description</th>
<th>Flat Face</th>
<th>Max RPM</th>
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</table>
GU52: This NEW square style, double sided 8 cutting edges High Feed Geometry with positive rake face, is designed for rough face milling applications.

Due to its positive geometry design and reinforced edge, this geometry provides a smooth cutting action and longer tool life in all difficult machining applications. The 8 effective cutting edges result in lower cost per edge and maximum efficiency.

This geometry is specifically designed for high feed machining in all materials such as High Temperature Alloys, Titanium, Stainless Steel, Steel, Steel Alloys and Cast Iron.

X500 Premium Grade
Coating Type: CVD, TiN-TiC-TiN – High level of shock resistance; operates at low to medium cutting speeds; high metal removal rates.

SP6519 Universal High Performance Grade
Coating Type: PVD, TiAIN – Super nano coating is extremely hard for unmatched performance and virtually eliminates residual stress.

SC6525 Universal High Performance Grade
Coating Type: CVD, TiN-TiCN-Al₂O₃ – High Performance Machining at elevated surface speeds.
7793VXO12 Feeds \( f_z \) (mm/tooth)

### Speed \( v_c \) (m/min)

**7793VXO Series**

<table>
<thead>
<tr>
<th>Coolant Recommendation</th>
<th>Recommended</th>
<th>Possible</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISO Materials</td>
<td>Rm and Hardness</td>
<td>X500</td>
</tr>
</tbody>
</table>

#### Unalloyed Steel
- Rm < 600 N/mm² (~180 HBN)
- Rm < 950 N/mm² (~230 HBN)

#### Alloyed Steel
- Rm 1000-1500 N/mm² (~200-280 HBN)
- Rm 1200-1400 N/mm² (~355-415 HBN)

#### Stainless Steel
- Austenitic + Ferritic 300 series
- Martensitic 400 series

#### P.H. Stainless
- Refractory P.H.

#### Cast Iron
- Grey G10-G30

#### Aluminium & Alloys
- Aluminium + Silicon > 16% Si 55 HBN
- Aluminium + Silicon > 16% Si 52 HBN

#### High Temperature Alloys
- Iron Based
- Cobalt Based
- Nickel Based
- Titanium Based

#### Hard Materials
- Hard Steel >1400 N/mm² >415 HBN
- Chilled Cast Iron >1400 N/mm² >410 HBN
# Cylindrical Shank Extensions for Modular Heads

Anti-Vibration Tungsten Alloy with Through Coolant

## Technical Advice

<table>
<thead>
<tr>
<th>Order Number</th>
<th>Item Description</th>
<th>L</th>
<th>L1</th>
<th>D2</th>
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Note: Order example with cylindrical shank: M-29-M16-CA32-160

Cylindrical shank extensions can be used with all modular heads found in several product family series within the general milling catalogue.

These extensions have the industry standard of metric threads.

### CNC-Programming Data (mm) / insert definition

<table>
<thead>
<tr>
<th>Insert size (mm)</th>
<th>Radius</th>
<th>R</th>
<th>L</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>1,20</td>
<td>3,15</td>
<td>0,95</td>
</tr>
</tbody>
</table>

Calculation of the average chip thickness in relation with the aₑ (Radial Engagement) if aₑ is less than 50% of dia.

**Formula: Programme Feed Rate (fₑ)**

\[
fₑ = hₑ x \sqrt{\frac{d}{aₑ}}
\]

**Formula: Average Chip Thickness (hₑ)**

\[
hₑ = fₑ x \sqrt{\frac{aₑ}{d}}
\]

Calculation of the average chip thickness in relation with the D.O.C. (Axial)

**Formula: Programme Feed Rate (fₑ)**

\[
fₑ = hₑ x \sqrt{\frac{d}{aₑ}}
\]

**Formula: Average Chip Thickness (hₑ)**

\[
hₑ = fₑ x \sqrt{\frac{aₑ}{d}}
\]

Theoretical Diameter for all high feed insert sizes = 45mm