

# PCD REAMERS

Optimisation models | Customised tools | Tool management systems | Training and education

## PCD HELI-REAM



### ► FEATURES

A newly developed reamer design with a unique helical guide-pad system, designed for high precision reaming applications. May be used for both wet and MQL machining, operates within extreme roundness, straightness, Ra and Rz values. Furthermore CP and CPK values from 3.16 to as high as 6.7 have been reached.

### ► BENEFIT

Reduced overall cycle time due to fast cutting parameters and several steps build into "one" tool, extended tool life, less scrapped parts, high consistent part quality, fewer tools necessary.

### ► CUTTING DATA EXAMPLE

$N = 12000 \text{ RPM}$ ,  $F_n = 0.35\text{-}0.50 \text{ mm/rev}$ .

## PCD VALVE GUIDE REAMER



### ► FEATURES

PCD reamer developed for powdered metal valve guides

Guidepad design allows for extended tool life and size control providing the customer with a very tight diameter range and high Cpk.

### ► BENEFIT

Unlike designs for bushed transfer lines and machining center applications. Extremely long tool life in addition to excellent size control. Very good seat to guide runout and great throughput. In transfer line applications, tool life is measured in weeks rather than number of parts.

### ► CUTTING DATA EXAMPLE

$N = 2400 \text{ RPM}$ ,  $F_n = 0.2\text{-}0.3 \text{ mm/rev}$ .



# PCD REAMERS

## PCD STEP REAMER



### ► FEATURES

Multi-diameter tool allowing for excellent hole size and concentricity between diameters.

### ► BENEFIT

Unique guidepad geometry allows for excellent roundness and straightness, even in an interrupted cut condition.

### ► CUTTING DATA EXAMPLE

N = 6000-10000 RPM, F<sub>n</sub> = 0.25-0.40 mm/rev.

## PCD STEP REAMER



### ► FEATURES

Special design for Injection bore. The fluting and coolant geometry layout is specifically designed for this application. The tool enables high precision cutting with extreme fast cutting parameters (in several cases double-up in comparison to the "normal" market Features).

### ► BENEFIT

Extreme cutting parameters shorten cycle time thus reducing overall costs. Also, the long tool life that comes from UM Dandia PCD tooling coupled with the possibility of RE•NEW™ further reduces the total tooling costs.

### ► CUTTING DATA EXAMPLE

N = 10000 RPM, F<sub>n</sub> = 0.3 mm/rev.

## PCD STEP REAMER



### ► FEATURES

Monoblock reamer with uneven number of inserts allowing for excellent hole size and surface quality. The integrated spindle adapter and multiple step diameters ensure good concentricity between diameters. Internal coolant channel design for improved chip evacuation.

### ► BENEFIT

Reduced overall cost's, due to reduction in cycle time provided by the very high cutting parameters. The very long tool life means that fewer tools are needed – also due to the possibility of RE-NEW™ the tools.

### ► CUTTING DATA EXAMPLE

$N = 5000-7000$ ,  $F_n = 0.3-0.5$  mm/rev.

## PCD STEP/PROFILE REAMER



### ► FEATURES

Combining reamer and profile geometry on the PCD inserts, this multi-purpose PCD tool is able to cut three different difficult Features in one PCD tool.

Fluting and cutting geometries developed specifically for this application.

### ► BENEFIT

This combination reamer enables reduced overall cycle time due to fewer operations and increased cutting parameters.

### ► CUTTING DATA EXAMPLE

$N = 4000-6000$  RPM,  $F_n = 0.3-0.4$  mm/rev.