

**W4 PRO**  
with Dual Spindle Advantage

POWERED BY  
**numroto**<sup>®</sup>



**GRINDSTAR**  
Driven by Technovation



# CNC 5 AXES TOOL & CUTTER GRINDER MACHINE

[www.grindstarindia.com](http://www.grindstarindia.com)

## Introduction

**W4 PRO** is the ultimate 5-Axes CNC-Tool Grinder for High Quality Production or re-sharpening of cutting tools.

- Displays Elegant Ergonomics
- The Double Ended Spindle is quite powerful
- Has Double Column Gantry Support with Pneumatic Counter Balance
- Uses Lower Cycle Times with High Accuracy
- Boasts Rigid Kinematics
- The state of the art powering software NUMROTO is utterly flexible and makes programming quite easy.

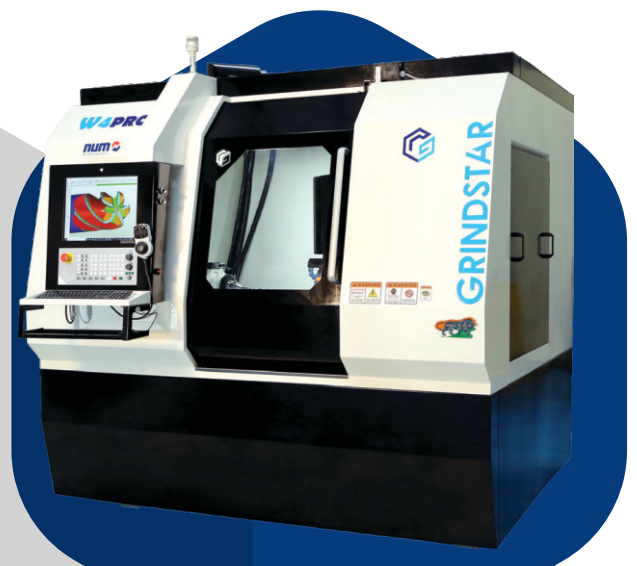
## Wide Application Range

The high versatility provided by the large selection of equipment allows for the efficient grinding of a large variety of tools

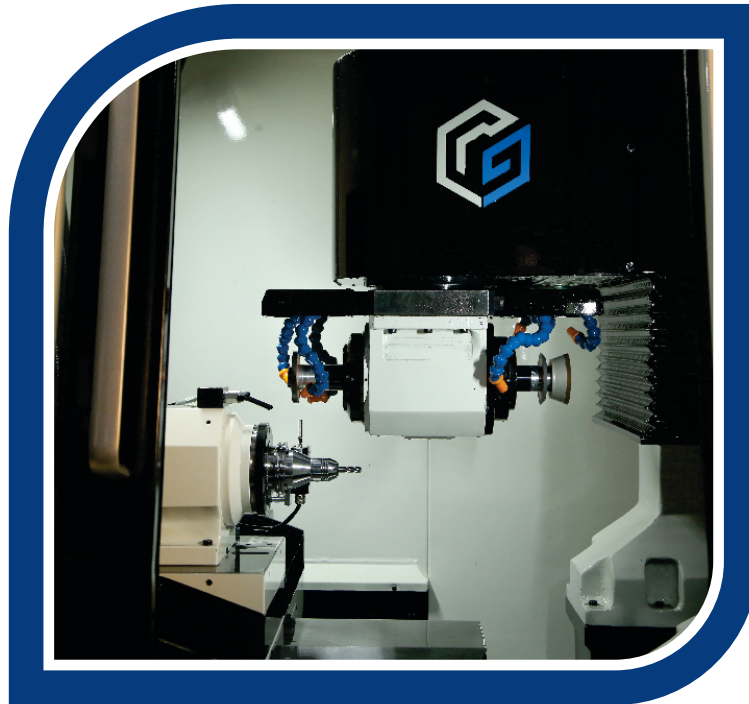
- Solid Carbide Tools from Ø3mm to Ø32mm
- Production and re-sharpening
- Solid Carbide, Brazed Carbide, HSS
- World class NUM drives with high responsiveness and dynamics for all axes
- Direct-drive work head (A-Axis) allows peel grinding up to 300 RPM (700 RPM is optional)
- X, Y, Z Linear Axes with Linear Scale and A, B- Rotary Axes with Glass Scale for High Precision and Repeatability

### We Cater to the Following Industries :

- Automobile
- Energy
- Aerospace
- Wood Cutting Tools
- Medical Implants
- Dental



# Operator Friendly Programming Software



Modern workshops need flexibility, efficient floor space use, lean processes, short setups and operator friendly software.

- Long Linear Axis Strokes for Long Tools
- Optimum Kinematic Configuration to accommodate grinding operation for RH and LH Tools.
  
- X - Axis Stroke- 550mm
- Y - Axis Stroke- 250mm
- Z - Axis Stroke-575mm

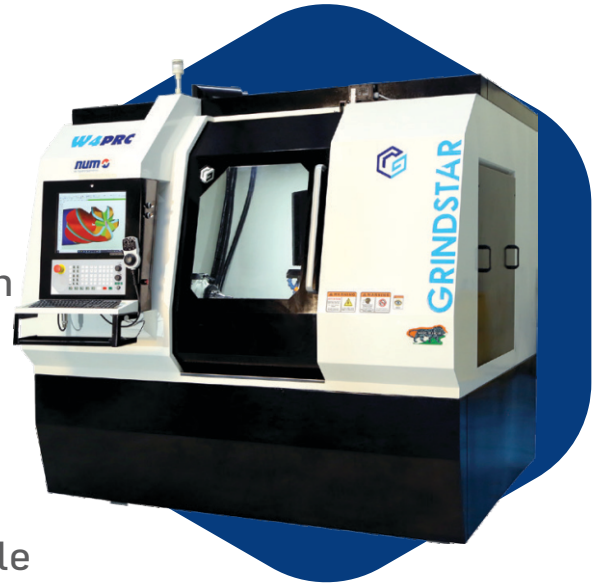


# W4 Pro Key Features



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- High Power Spindle (11 kW Standard/19 kW Optional)
- Max Spindle Speed of 9000 rpm
- Double ended Direct Drive Spindle
- High Machine Rapids
- Complicated Tools can be completed in Single Setting as 6 wheels can be mounted simultaneously
- High Quality Finish with High Accuracy
- Optional Travelling steady for Long Tools
- Manual Steady
- Fluting Length up to 275 mm
- Rotary Glass Encoders for Maximum Precision
- Hybrid Base for High Vibration dampening
- Pneumatic Counter Balance
- Double Column Gantry Support
- Directly Coupled Feed Motors with Linear Scale
- High Precision LM Guideways & Ground Ball Screws
- Capable of Manufacturing Long Tools
- Automatic Probe for Length, Flute, Helix Measurement



## W4 Pro is capable of manufacturing:

- End Mill Cutters
- Form Cutters
- Single Point Cutting Tools
- Drills, Step Drills
- Taps
- Turning Tools
- Indexable Inserts
- Burr Tools
- Hobs / Shaper Cutters



## Dedicated Tool Grinding Software with 3D Simulation

- Exhaustive Options essential for Tool Grinding Application
- 3D Machine Simulation with Tool Adaptor to detect and highlight collision
- 3D Tool Simulation with Animation of the Grinding Process (Material Removal)
- Operator friendly interface
- Material Removal Simulated Step by Step

### **numroto**

NUMROTO is the most flexible software in the market offering innumerable customization options with easy and effective interface for manufacturing of basic and complex tools

### Collision Detection

- Collision Detection between all Defined Machine Parts and the Grinding Wheels.
- Animation of Machine Movements based on the Calculated CNC File.

### numroto DRAW

In NUMROTO DRAW, the outline of the tool and the drawing header are generated automatically.

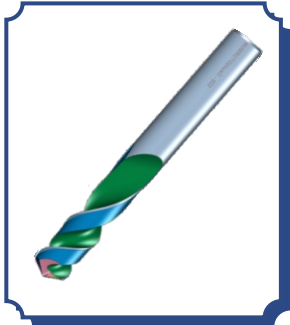
As a result, it makes sense to produce drawings even for small runs and re-sharpening.

The functionality has now been substantially extended, enabling the software to be used for Very Complex Tools with Multiple Cut Views.

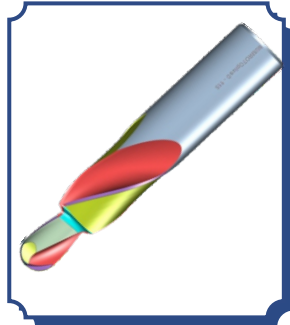
NUMROTO DRAW creates this product documentation from the same data actually used to grind the corresponding tool.



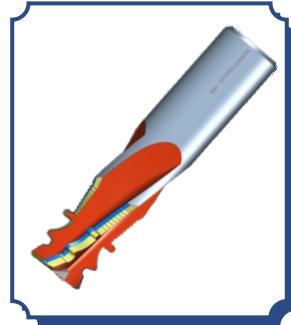
**Tools Programmed in  
NumRoto Software**



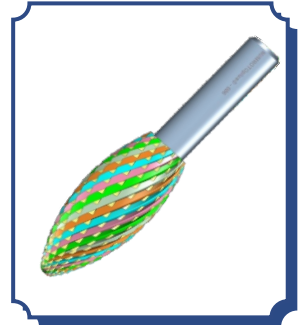
**Drill With Differential Helix**



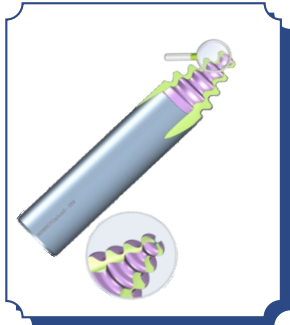
**Step Drill with Ball Nose Tip**



**Milling Cutters with Helical  
and Roughing Profiles**



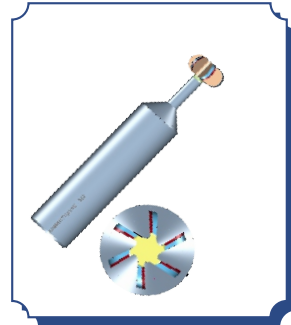
**Covex Body Burr**



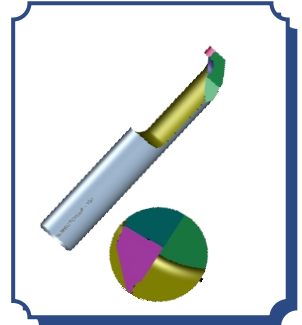
**Firtree Cutter**



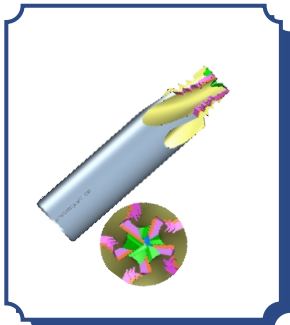
**Extension for  
Cylindrical Grinding**



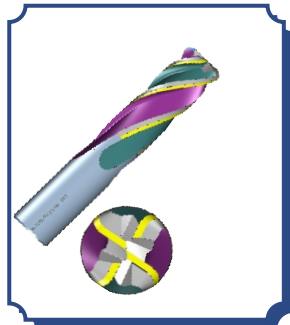
**Full Radius T-Slot Cutter**



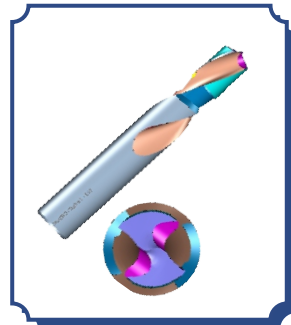
**Inside Undercut Turning**



**Milling Cutters for  
Turbine Blades**



**Multi Helix**



**Reverse Chamfer Tool**



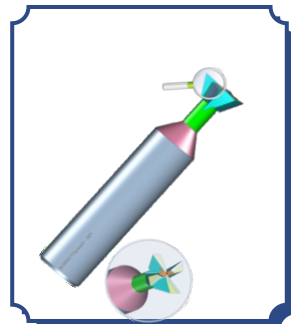
**Rougher Endmill**



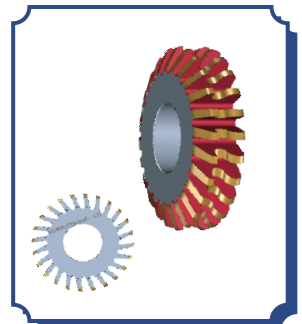
**Thread Mill**



**Wave Cutter**



**Dove Tail Cutter**



**Concave Side and Face  
Milling Cutter**



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# Technical Specifications

## Machine Capacity

- Maximum Workpiece Diameter  $\varnothing 220\text{mm}$
- Maximum Workpiece Weight 20kg
- Maximum Length of Component 320mm  
from GPL for Face Grinding
- Maximum Workpiece Length 450mm  
for OD Grinding

## CNC Axes

- Linear Axes - 3 (X,Y,Z)
- Rotary Axes - 2 (A,B)

## Axes Movement

- X - Axis Travel-Movement of the Work Head 450mm
- Y - Axis Travel-Vertical Movement of Spindle Head 250mm
- Z - Axis Travel-Horizontal Movement of Spindle Head 575mm
- X & Z Axes Rapid Traverse Rate 15m/min
- Y - Axis Rapid Traverse Rate 7.5m/min
- A - Axis Swivel Angle 360 deg
- A - Axis Rotation Speed 300 rpm / 700 rpm optional
- A - Axis Feed Drive Direct Drive
- A - Axis Work Head Spindle Nose ISO 50
- B - Axis Swivel Angle +45/-300 deg
- B - Axis Rotation Speed 50 rpm
- B - Axis Feed Drive Direct Drive
- Grinding Spindle Direct Drive
- Spindle Motor Power 11kW (19kW optional)
- Spindle Speed Is it 9000 rpm
- Max Wheel Diameter  $\varnothing 150\text{ mm}$



## CNC System

- CNC - Num CNC
- Tool Grinding Software - Num Roto
- No. of CNC Axes - 5
- No. of Simultaneous CNC Axes - 5

## Additional Data

- Electrical Power Required - 25 kVA
- Floor Plan (W X D X H) - 2500 X 4000 X 2200 mm
- Machine Weight - 6500 Kg
- Air Pressure - 6 bar
- Air Required - 6 cfm

## Our Clients



TARGET TOOLS

*rewdale*



Pranav Precision Tools  
Believe in Precision



# GRINDSTAR

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POWERED BY



Contact us :

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