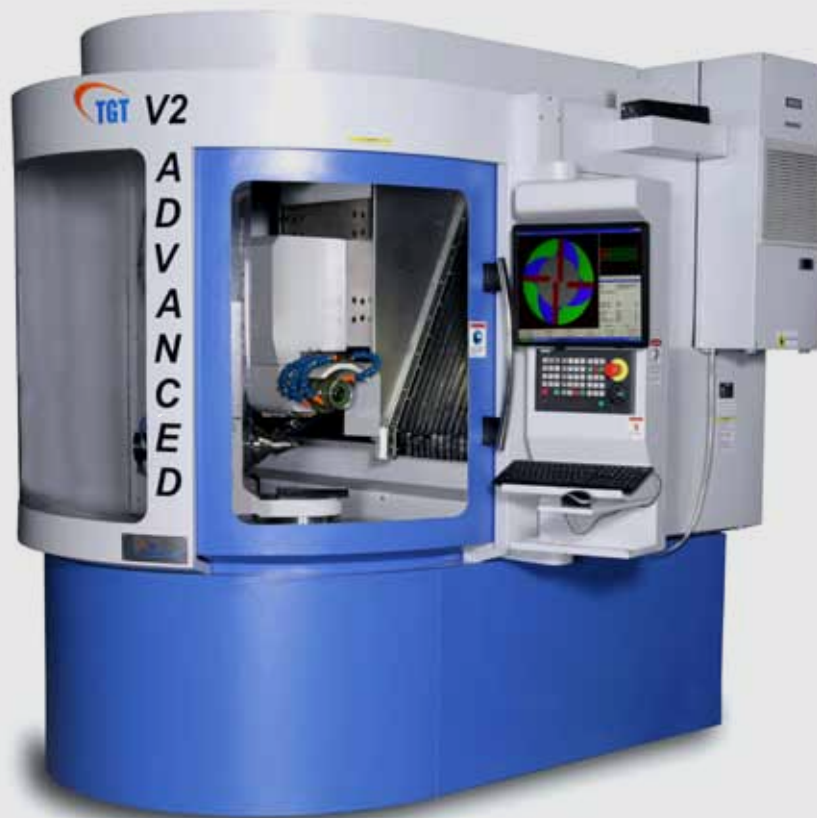




Tool Grinding Technologies Inc.

V2 ADVANCED Optima



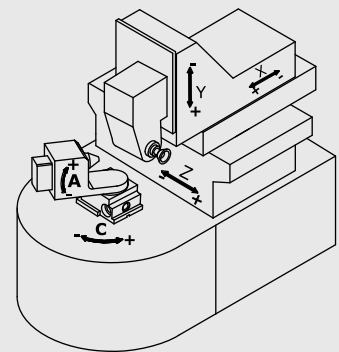
Second Generation
5 Axes CNC Tool Grinding
from TGT India.

V2 ADVANCED *Optima*

- V2 ADVANCED *Optima* is a 5 axes single spindle high precision tool grinding machine. This machine is optimized for grinding diameter range from 2mm to 20mm solid carbide, in multiple settings.
- The machine kinematics and selection of features are well balanced to achieve high precision & excellent surface finish on the tools produced. .
- “Split type worm wheel gear” for the tool swiveling axis delivers high level of absolute accuracy with zero backlash.
- Highly balanced spindle ensures cutting edge stability while grinding precision end mills/form tools.
- Electrical elements are designed to reduce the electromagnetic interference & reduced emissions to make the machine environment friendly.

Machine axes configuration

- Roller type LM guide used on this machine will enhance rigidity.
- Optional linear scale & rotary encoder make this machine more accurate.

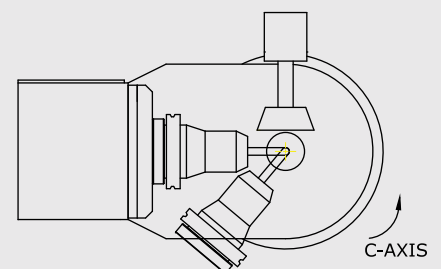


Advantage of elevated axis design

All the 3 linear axes are isolated from the coolant area. Additionally bellows will protect the ball screws and lm guide ways from coolant splash/carbide sludge. This will enhance the life of the machine & its performance interms of retaining the precision over a long time.

Optimized axis movement for high performance & accuracy

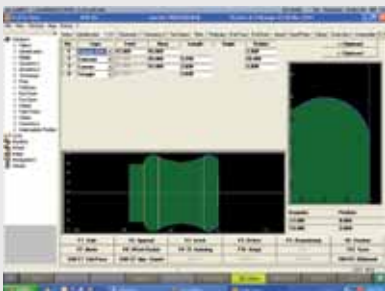
- The ball nose cutter is very closely held to the ‘C’ axis center which makes wheel movement very small interms of X, Y, Z axis.
- This improves the quality of profile/radius generated. This also optimizes the cycle time by the way of short movements.
- V2 ADVANCED *Optima* is equipped with highly efficient spindle motor of 10 HP continuous power to allow bigger diameter solid carbide tools to be ground with less number of passes.
- Low run out and highly repeatable tool clamping system.
- The taper type spindle system for wheel mounting will ensure very low run out which minimizes the wheel wear and hence enhances it’s life.



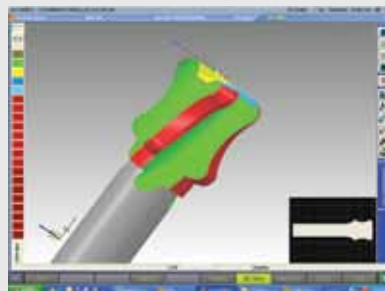
V2 ADVANCED *Optima*



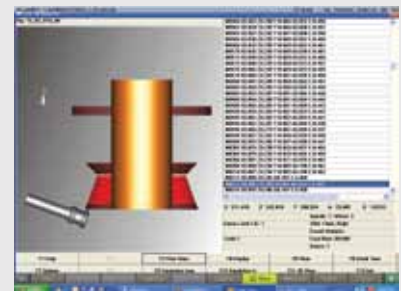
- . Types of tools manufactured & reground include end mills, ball nose, CR end mill, drill & step drill, form tools, gundrill, inserts, thread mill, taps, form radial cutter etc.
- . User friendly MTS –AG software to manufacture/regrind tools. Profile simulation, 3D simulation guides the operator to design the proper tool.
- . “Collission check” feature will help to decide the tool length , collet system etc to ensure trouble free running of the machine.
- . ISO programming with the help of user parameter is also possible.



MTS SCREEN

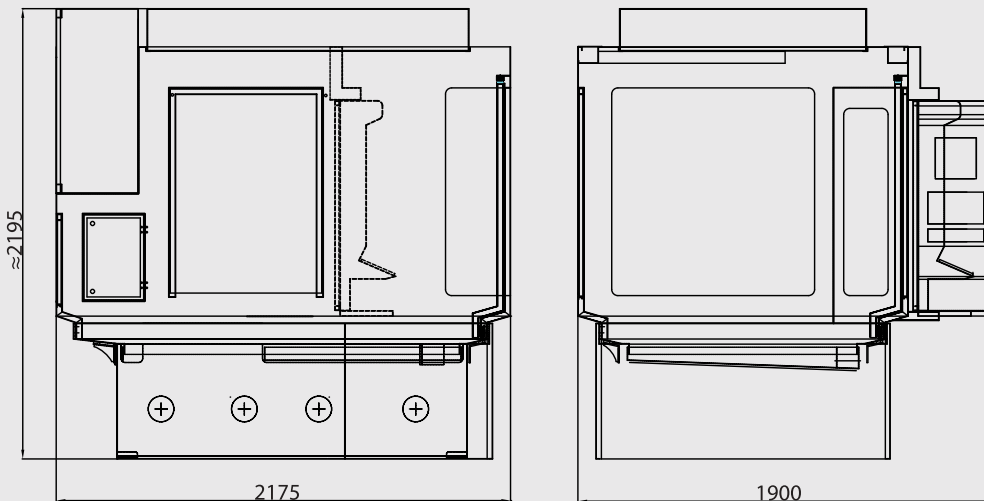


3D SIMULATION



PROFILE SIMULATION

TECHNICAL SPECIFICATIONS



LINEAR AXES

Max.Stroke X-axis (longitudinal slide)	- 300 mm
Max.Stroke Y-axis (vertical slide)	- 260 mm
Max.Stroke Z-axis (cross slide)	- 265 mm
Maximum traverse speed	- 15 m/min
Control resolution	- 0.0001 mm

ROTARY AXES

Work Head Rotation A-axis	- 0-360°
Maximum Tool Swivel C-axis	-45° to 180°
Control resolution	- 0.0001°
Maximum traverse speed C-axis	- 10 rpm

MAXIMUM TOOL DIMENSIONS

Max.Tool dia. (Solid Carbide)	-32 mm (optimized range 2 to 20)
Max. Cutter Diameter	- 175 mm
Max. Peripheral grinding *	- 175 mm
Max.tool length for end grinding*	- 175 mm
Min. diameter of the tool	-2 mm #

WORK HEAD (A-axis)

Work spindle taper	- ISO 50
Centre height	- 155mm
Maximum rotation speed	- 40 rpm

OTHER DATA

Electrical Power	- 25kVA
Probing System	- Renishaw
Coolant System	- External
Approximate Weight	- 3200 Kgs.

* Distance from the ISO gauge plane

Schaublin collet system is recommended for manufacturing tools below 6 mm diameter.



For More Information about this machine, Please feel free to contact us.

Tool Grinding Technologies Inc.

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