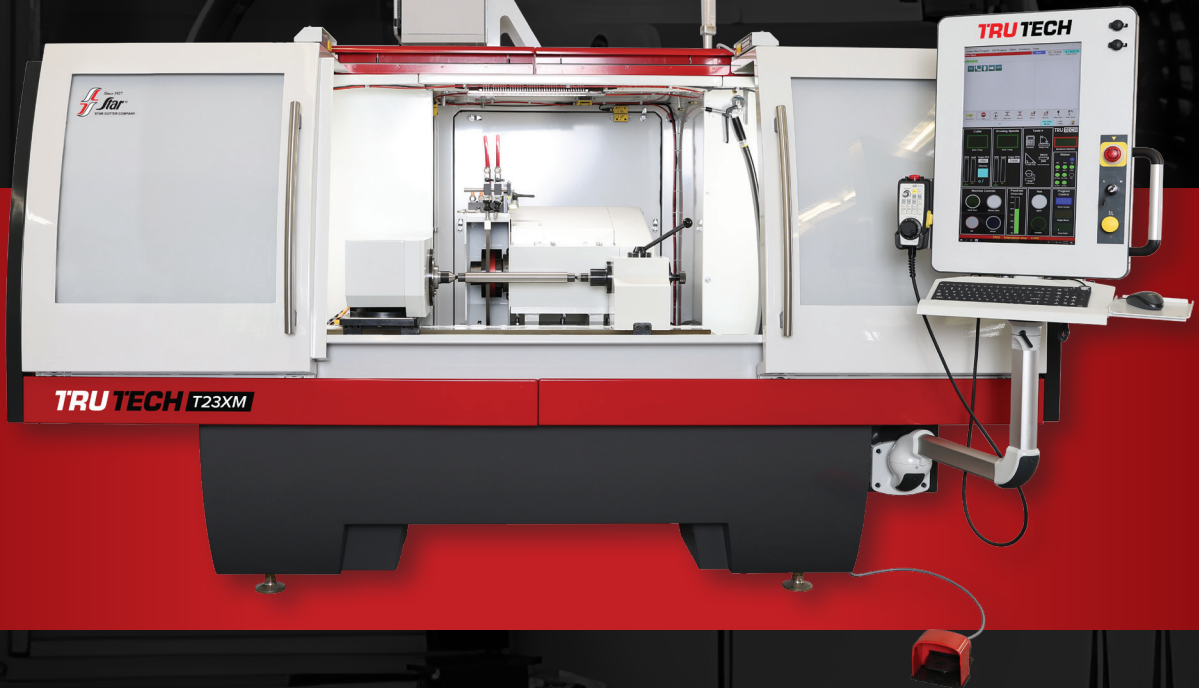
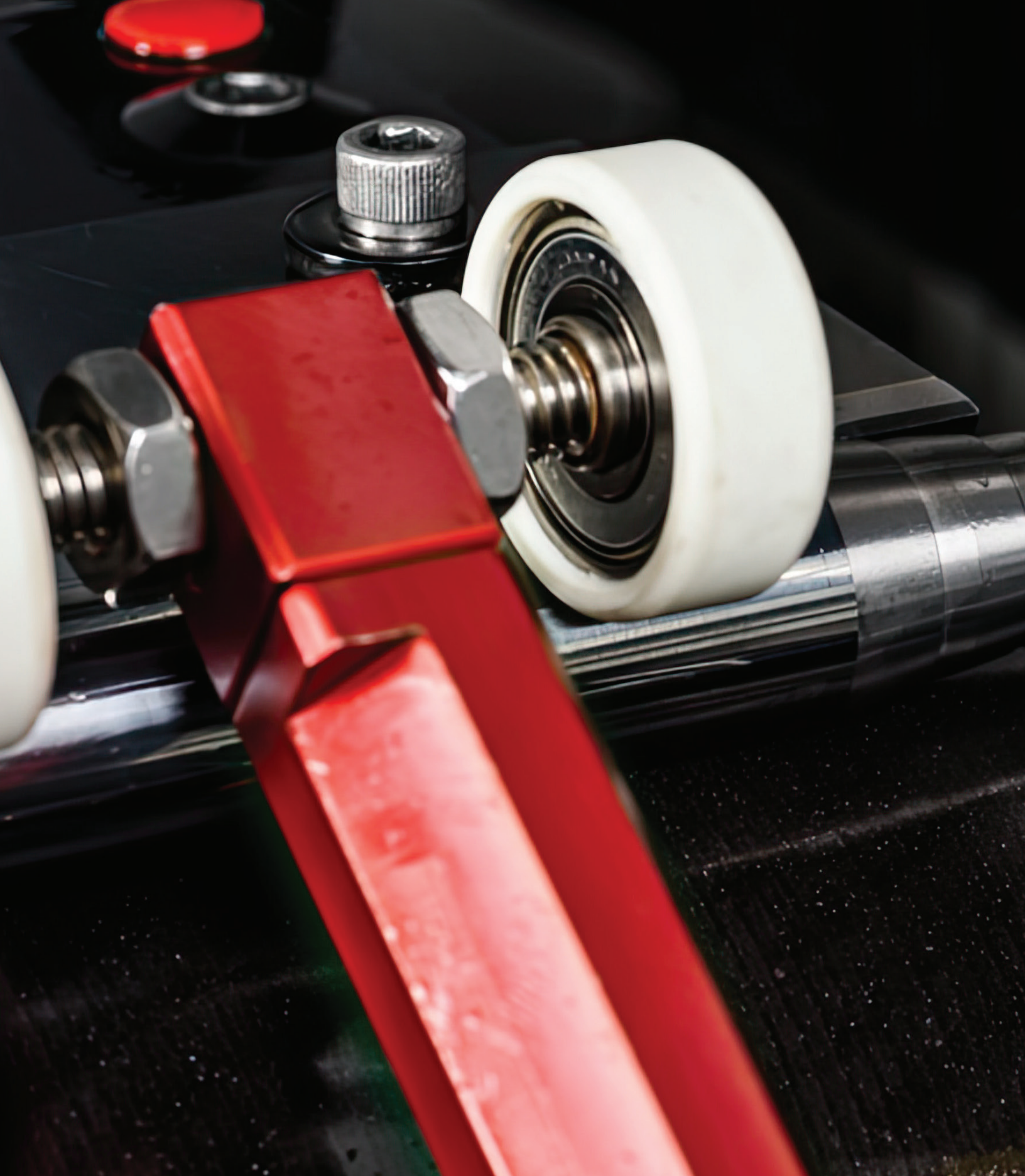


TRU TECH

PRECISION GRINDING SYSTEMS



Since 1927
Star[®]
STAR CUTTER COMPANY



TRU TECH

FAST SET-UP, ACCURATE AND RELIABLE RESULTS
starcutter.com

TRU TECH GRINDERS

FAST SETUP. ACCURATE AND RELIABLE RESULTS.

The Star Cutter Company's line of TRU TECH grinding systems is recognized for ease of use and ultrafast setup while delivering incredible accuracy and repetitive results. At the heart of these systems is patented TRU TECH grinding technology and icon based conversational software. The TRU TECH brand features both cylindrical and centerless grinders able to handle blank grinding through micro applications for a variety of industries.



CENTERLESS GRINDERS

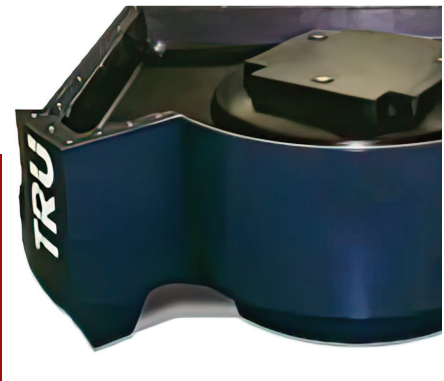
TRU TECH T93XM

T93XM CENTERLESS PROFILE GRINDER SERIES

Designed with ultra-precision form grinding in mind, the T93XM integrates our workholding capable of sub-micron accuracy with incredibly fast, user-friendly control and the latest in material technology. All of this makes the 7,000 lb. T93XM one of the most stable and rigid precision grinding machine tools on the market today.

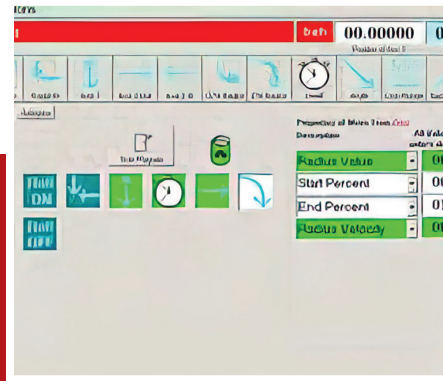
T93XM Features

- Profiles with a standard 1A1
- Wheel profile grind, plunge grind, peel grind
- Workholding eliminates shank runout without indicating
- Intuitive programming
- Ultra-precision accuracy
- 3 Axis, fully programmable
- Precision ball screws
- Touchscreen pendant
- Multiple coolant/flow options available
- Wide-angle door access with unique rotating design
- Excellent sightlines & work height
- High-density polymer base ensures superior accuracy & finish



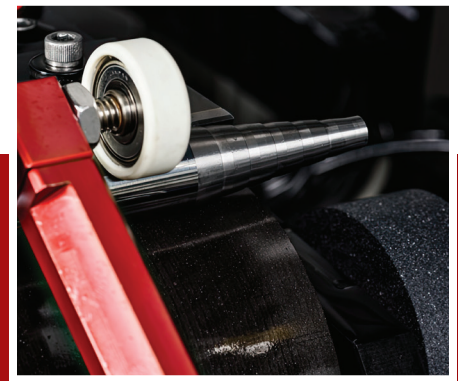
START WITH A SOLID PLATFORM

The T93XM includes a 2-ton polymer base that isolates vibration and dissipates resonant frequencies, yielding superior accuracy and finish even with aggressive plunge rates.



PROGRAMMING MADE EASY

Intuitive icon based conversational software makes programming each part a quick, simple task. Simply drag move icons into place, edit their values and start grinding.



3-POINT WORKHOLDING

The T93XM's 3" or 5" Precision Grinding Unit features part concentricity within 1 micron.

Multiple wheel dressing capabilities for diamond and borazon wheels. Parts can be loaded and removed without the need for an indicating. Parts are perfectly aligned and ready for processing.

Fully enclosed, while improving sight-lines and ergonomics. Optional coolant flow ensures minimal wheel build-up and optimal size and finishes with autoload feature

Computer controlled variable-speed spindle

Newly designed pendant reduces machine footprint and allows you to work closer to the work piece during setup. The controller can store multiple part programs that can be called up through the system access panel. Industrial-grade computer with Intel processor for fast, reliable editing and storage of programs.



CENTERLESS GRINDERS

TRU TECH T93XM-A

T93XM-A PROFILE GRINDER WITH AUTOLOADING

Designed with ultra-precision grinding in mind, the T93XM-A provides advanced grinding technology along with reliable part automation to maximize the productivity and efficiency of your high-value part profile grinding operations.

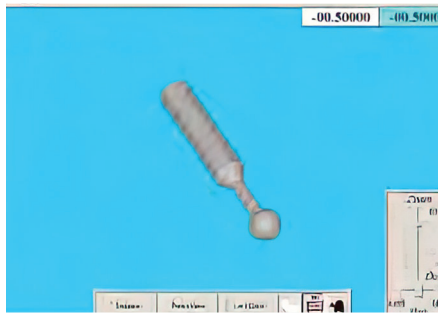
With easy-to-use icon based conversational software programming, and EZ-teach automation, the T93XM-A will increase your throughput.

The system can accommodate parts from 3mm to 25mm in diameter, and up to 250mm in length.

Available with probing, automatic wheel dressing, application specific oil filtration, and precision chilling options.

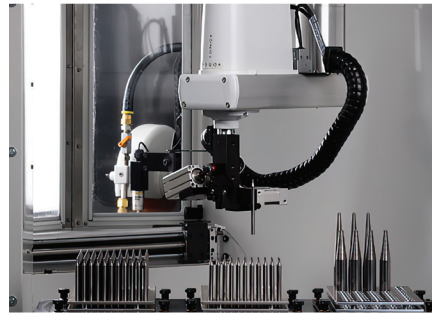
T93XM-A Features

- Loaded with T93XM features, plus:
- 3mm - 25mm capacity
- Automation
- High-capacity 3-pallet system
- Lights-out operation



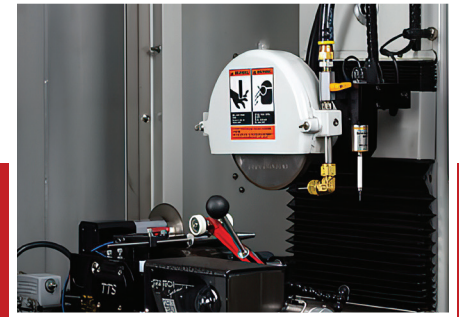
PROTECT HIGH-VALUE PARTS & BLANKS

Simulation tools allow you to virtually grind parts. Workholding allows you to re-load and regrind parts without introducing shank run-out. Minimize scrap. Lower set-up times & costs. Increase efficiency & profit.



PRECISION 3-PALLET SYSTEM

Modular, high-capacity pallets coupled with a 3-pallet system.

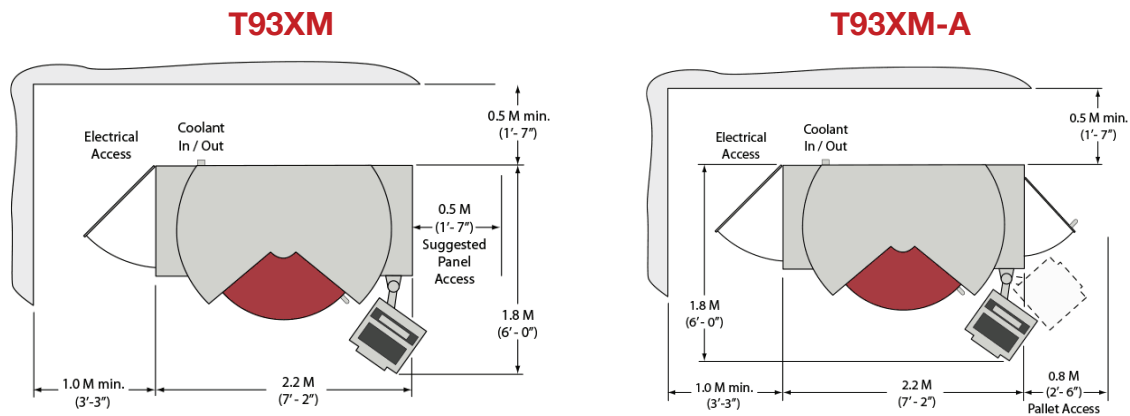


MAXIMIZE FLEXIBILITY & EFFICIENCY

The pallet load area is isolated from the grinding environment allowing full access during the grinding cycle. Robotic lockouts ensure safe access at all time.

T93XM SERIES SPECIFICATIONS

Description	T93XM	T93XM-A
Ultra-Precision Grinding Unit	PP-8000 or TT-5000	PP-8000 or TT-5000
Maximum Grind Length (application specific)	8" (200 mm)	10" (254 mm)*
Maximum Grind Diameter	3" (75 mm)	1" (25 mm)
Minimum Grind Diameter	Tooling Dependent	Tooling Dependent
Maximum Travel	X Axis: 16" (400 mm) Y Axis: 9" (225 mm) Z Axis: 8.6" (218 mm)	X Axis: 16" (400 mm) Y Axis: 9" (225 mm) Z Axis: 8.6" (218 mm)
Wheel Diameter	8" (200 mm) Max	8" (200 mm) Max
Standard Spindle HP	3 HP	3 HP
Spindle RPM (Programmable Software)	5,000 RPM Max.	5,000 RPM Max.
Maximum Velocity	X Axis: 50" (1250 mm) / Min. Y Axis: 50" (1200 mm) / Min.	X Axis: 50" (1250 mm) / Min. Y Axis: 50" (1200 mm) / Min.
Input Increment	±.000010" (0.0001 mm)	±.000010" (0.0001 mm)
Minimum Accuracy	±.00005" (0.0013 mm)	±.00005" (0.0013 mm)
Minimum Repeatability	±.000025" (0.0006 mm)	±.000025" (0.0006 mm)
Shipping Weight	5500 LBS.	5800 LBS.
Shipping Size	105" x 73" x 96"H 266cm x 185cm x 246cm	105" x 73" x 96"H 266cm x 185cm x 246cm



Machine footprint is approximately 1.5M x 2.5M

*Longer lengths possible with optional staging

Solid State storage systems, surge suppression, and battery backup ensure your work is safe. Optional in-process audio gaging, wheel dressing/sensing, 1-micron filtering, and precision coolant temperature control make sub-micron level accuracy more achievable than ever.

CENTERLESS GRINDERS

TRU TECH TT8500

TT8500 CENTERLESS PROFILE GRINDER

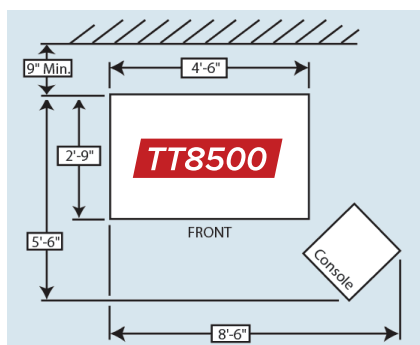
Ideal for carbide blank preparation, Star Cutter's TRU TECH TT8500 makes easy work of ultra-precision centerless profiled grinding projects.

Integrated into the TT8500 3-axis profile grinder is the patented Precision Grinding Unit, which holds concentricity to less than 1 micron.

Easy to use, icon based conversational software allows easy profile programming in minutes and grinds most profiles with a standard 1A1 wheel. This makes the TT8500 ideal for a few parts, or hundreds of parts.

TT8500 Features

- Quick set-up
- Ultra-precision
- Plunge grind, peel grind, in-feed and thru-feed capable



Available options include automatic wheel dressing, multiple coolant options, and precision oil chiller.

TRU TECH

FAST SET-UP, ACCURATE AND RELIABLE RESULTS
starcutter.com

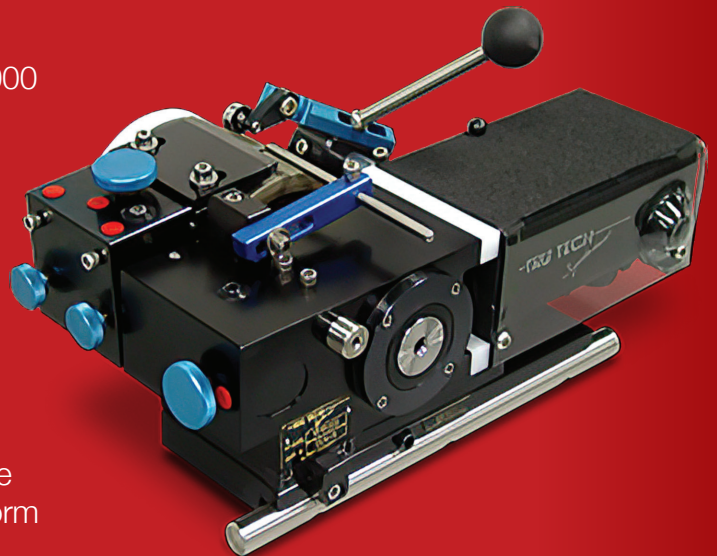
TT8500 SERIES SPECIFICATIONS

Description	TT8500
Ultra-Precision Grinding Unit	TT5000
Maximum Grind Length (application specific)	7.5" (191 mm)
Maximum Grind Diameter	2" (76 mm)
Minimum Grind Diameter	Tooling Dependent
Maximum Travel	X Axis: 18" (457 mm) Y Axis: 10.75" (273 mm) Z Axis: 7.5" (191 mm)
Standard Wheel Size	8" Max (200 mm)
Standard HP	2 HP (Optional 3 HP)
Maximum Velocity	X Axis: 15"/Min. (381 mm) Y Axis: 15"/Min. (381 mm)
Input Increment	.000010" (0.000254 mm)
Accuracy	±.00010" (0.00254 mm)
Repeatability	±.000050" (0.00127 mm)
Shipping Weight	2500 LBS.
Shipping Size	Pallet #1: 40"x48"x60" (102 x 122 x 125 cm) Pallet #2: 70"x44"x82" (178 x 112 x 208 cm)

PATENTED GRINDING UNITS

Key to these grinders is the patented TT5000 and PP8000 Grinding Units. Given the unique design, a part being ground can be removed from the regulating roller, inspected, and then returned to the regulating roller by hand without any indicating. Part repeatability is within millionths, as well as the concentricity ground within millionths.

The repeatability and consistency of closely held tolerances make these grinding systems an essential item for any high-precision grinding application. As part of the TRU TECH 3-axis grinders, these units can handle a variety of work – plunge, centerless, OD, infeed and form grinding can all be performed on one machine.



CYLINDRICAL GRINDERS

TRU TECH TT820M

TRU TECH TT820M PRECISION OD GRINDER

The Star Cutter TRU TECH TT820 precision OD grinder provides both ease of use as well as the flexibility to produce a variety of tooling.

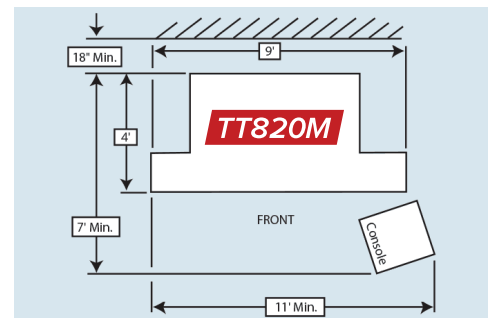
Equipped with icon based conversational software™ software, shapes and profiles are programmed in minutes optimizing your productivity and dramatically increasing your grinding capabilities.

Built-in training and maintenance modules dramatically reduce cost of ownership.

Available options include precision probing, ID spindle attachment, telescoping safety splash doors, multiple coolant options, and precision oil chiller.

TT820M Features

- Profile and plunge
- Quick set-up
- Precision profiles with standard 1A1 wheel
- Easy programming
- Standard Telescoping Splash Doors w/ Interlock
- Optional Overhead Probing accurately adjusts for variations in length and part orientation
- Option 5µm filtration ensures maximum precision



TRU TECH

FAST SET-UP, ACCURATE AND RELIABLE RESULTS
starcutter.com

TT820M SPECIFICATIONS

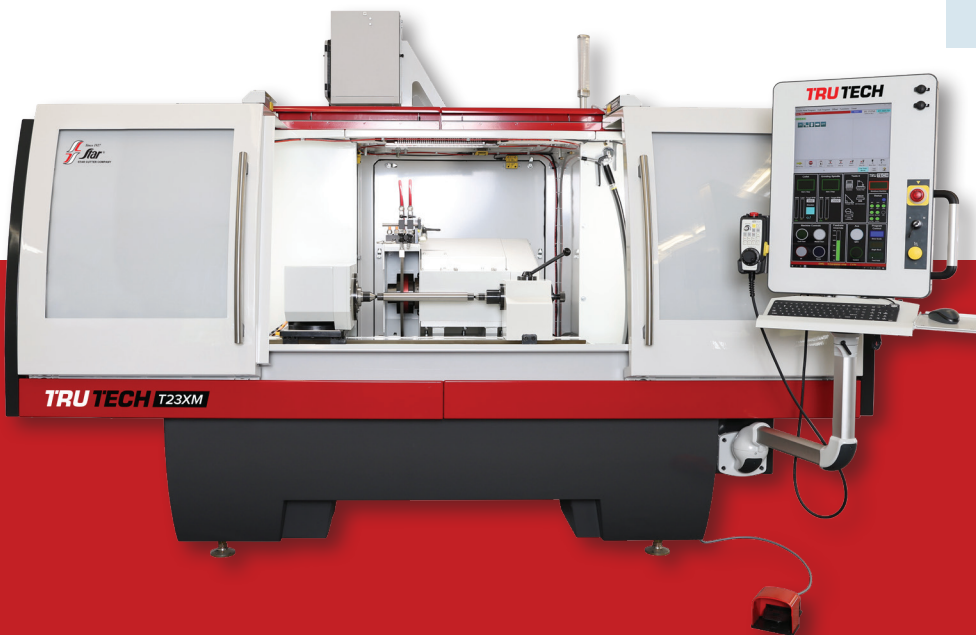
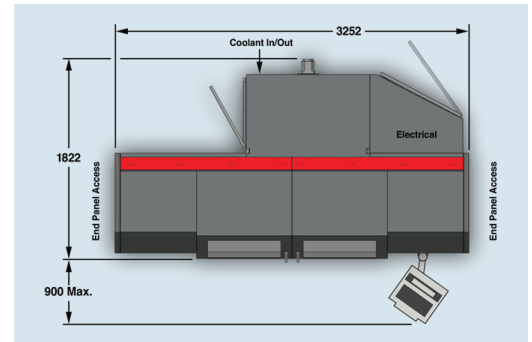
Description	TT820M
Maximum Grind Length (Distance Between Centers)	24" (610 mm)
Maximum Grind Diameter	8" (200 mm)
Maximum Travel	X Axis: 20" (500 mm) Y Axis: 8" (200 mm)
Standard Wheel Size	14" Max. (355 mm)
Wheel Speed	500-3000 RPM
Maximum Velocity	Y Axis: 50"/Min. (1270 mm) Z Axis: 60"/Min. (1524 mm)
Input Increment	.000010" (0.000254 mm)
Accuracy	±.00010"(0.00254 mm)
Repeatability	±.000050" (0.00127 mm)
Wheel Spindle Motor	5 HP Variable
Workhead Motor HP 5C Taper	1/4 50-600 RPM
Workhead Angle Adjustment	±45 Degrees
Table Angle Adjustment	±8 Degrees
ID Spindle Motor	1/2 HP
Shipping Dimensions	Pallet #1: 40"x48"x60" (1016 x 1219 x 1524 mm) Pallet #2: 91"x90"x65" (2311 x 2286 x 1651 mm)
Shipping Weight	4500 LBS.

CYLINDRICAL GRINDERS

TRU TECH T23XM

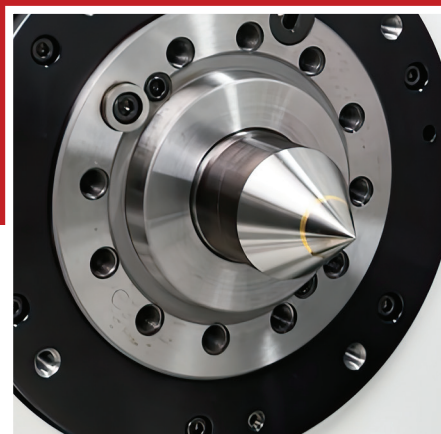
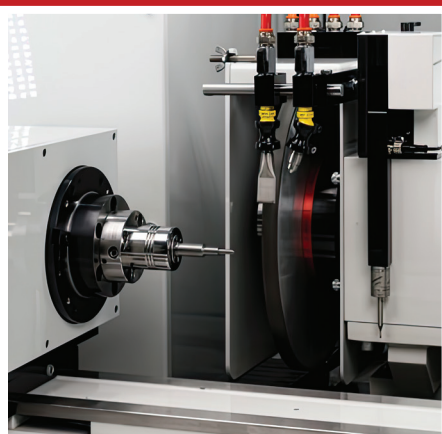
T23XM PRECISION OD GRINDER

The T23XM includes a 2 ½ ton polymer base, 10" diameter swing and a 20" length between centers. Capable of accommodating up to a 16.00" diameter x 2.50" wide grinding wheel, along with a fully controlled variable speed 10HP spindle motor.



T23XM Features

- Profile, plunge, and peel grind
- Quick set-up
- Precision profiles with standard 1A1 wheel
- Easy icon based conversational software™ programming



TRU TECH

FAST SET-UP, ACCURATE AND RELIABLE RESULTS
starcutter.com

T23XM SPECIFICATIONS

Description	T23XM
Maximum Grind Length (Distance Between Centers)	20" (500 mm)
Maximum Grind Diameter	8" (200 mm)
Maximum Travel	X Axis: 20" (500 mm) Y Axis: 8" (200 mm)
Standard Wheel Size	14" (350 mm)
Wheel Speed	500-3000 RPM
Maximum Velocity	X Axis: 50"/Min. Y Axis: 60"/Min.
Input Increment	.000010" (0.000254 mm)
Accuracy	±.00010" (0.00254 mm)
Repeatability	±.000050" (0.00127 mm)
Wheel Spindle Motor	7 HP Variable (10 HP Optional)
Workhead Motor HP MT-4 Taper	1.3 HP / 1 kW 50-600 RPM
Workhead Angle Adjustment	±45 Degrees
Table Angle Adjustment	±8 Degrees
(Optional) ID Spindle Motor	1/2 HP
Power Requirements	30 Amps: 208-230V 60 Hz
Shipping Dimensions	Pallet #1: 40"x48"x60" (1016 x 1219 x 1524 mm) Pallet #2: 91"x90"x65" (2311 x 2286 x 1651 mm)
Shipping Weight	10,000 LBS.

SOFTWARE AND CONTROLS

Key to the efficiency of all the TRU TECH grinding machines is the intuitive, and internally developed, CNC icon based conversational software. Programming for each part becomes a simple task as users drag icons into place, edit their values and start grinding.

Additional efficiency is gained through the use of Mitsubishi advanced CNC control systems, elevating the grinders to a higher performance level. Standard on all machines (except the TT8500), these controls are recognized for high quality, product reliability and networking capability.

T93XM/T93XM-A



TT8500 CENTERLESS PROFILE GRINDER



TT820M PRECISION OD GRINDER



T23XM PRECISION OD GRINDER





TRUTECH

PRECISION GRINDING SYSTEMS
FAST SET-UP, ACCURATE AND RELIABLE RESULTS

STARCUTTER.COM



Star Cutter Company
23461 Industrial Park Drive
Farmington Hills, MI 48335-2855
(231) 264-5661
sales@starcutter.com
www.starcutter.com