TensileMill

TensileTurn CNC

MINI

- ACCURATE AND REPEATABLE RESULTS
- NO SURFACE GRINDER NEEDED
- SMALL FOOTPRINT
- PERFECT FOR UNTRAINED CNC MACHINIST
- SUPER USER-FRIENDLY
- FREE PROOF OF CONCEPT

DESCRIPTION

The TensileTurn CNC MINI is the entry-level model of the TensileTurn family, a compact CNC lathe for preparing accurate round tensile specimens in-house. A 15.6" touchscreen built into the machine runs TensileSoft, so any operator can select a standard geometry or enter custom dimensions, load the blank and press start. The software generates the toolpath automatically, with no CNC programming required. Designed for low-volume testing laboratories, QA/QC departments, universities and research centers, the MINI prepares standard, sub-size and threaded-end round specimens to ASTM E8/E8M, ASTM A370, ISO 6892-1 and DIN 50125 in a fully enclosed, self-contained package.

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Shipping from January 2027. Pre-orders open.

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TensileTurn CNC - MINI

ROUND Tensile Specimen Preparation Machine

GENERAL

The TensileTurn CNC MINI brings round tensile specimen preparation into your own lab. Its fully enclosed working area has a sliding front door with viewing window, side access doors, an air gun and a flood coolant system with a flexible nozzle and tank in the base. A Ø100 mm (Ø3.94 in) chuck, 280 mm (11.0 in) between centers and a pneumatic MT1 tailstock hold round blanks up to Ø90 mm (Ø3.54 in), while the 2.5 kW (3.4 hp) spindle runs from 100 to 3,000 rpm. An 8-position electric turret arrives with all tooling and recommended inserts pre-installed, so the full specimen profile, including threaded ends and cutoff, is completed in one setup. Positioning accuracy of ±0.015 mm (±0.0006 in) and repeatability of ±0.010 mm (±0.0004 in)* keep geometry consistent from one specimen to the next.

The TensileTurn CNC MINI is the simplest way to stop outsourcing round tensile specimens. Your team controls its own testing schedule, removes shipping and machine shop delays and frees production equipment for production work. Because TensileSoft handles the programming, operators become productive within hours rather than weeks. Every system is delivered as a turnkey solution with controller, software, tooling, installation and operator training, and our Free Proof of Concept program lets you validate results on your own material before you invest.

APPLICATION AND USE CASES

The TensileTurn CNC MINI is built for laboratories that prepare round tensile specimens in lower volumes and cannot justify a dedicated machinist: QA/QC departments, testing laboratories, universities and technical schools, research centers and R&D groups. Typical jobs include standard and sub-size specimens to ASTM E8/E8M, ASTM A370 and ISO 6892-1, threaded-end specimens for button-head and threaded grips, and custom geometries entered directly on the touchscreen. Blanks are held in the Ø100 mm (Ø3.94 in) chuck with tailstock support, and the 8-position turret completes turning, threading and cutoff in one setup, so each specimen leaves the machine ready for testing.

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FEATURES

- Built-in 15.6" touchscreen with TensileSoft
- Standards library plus custom dimensions
- 8-position turret, tooling and inserts pre-installed
- Ø200 mm (7.87 in) swing, 280 mm (11 in) centers
- Positioning accuracy ±0.015 mm (±0.0006 in)*
- Fully enclosed, 30 L coolant system in the base

CONTROLLER

The 15.6" touchscreen is built directly into the machine, in the same integrated style as the TensileMill CNC MICRO. TensileSoft runs on a MachMotion controller (M31 MachMotion motion controller) and guides each job through clear tabs, from Define Specimen to Run Specimen. Operators load a library geometry or enter custom dimensions, add threaded ends or cutoff and press Generate Toolpath. Favorites recall saved specimens with one touch, and the Setup tab handles tool touch-off and coolant control.

TECHNICAL SPECIFICATIONS

WORKING AREA	METRIC	IMPERIAL
Turning diameter over bed (max) / Swing over bed	Ø200 mm	Ø7.87 in
Travel across slide	90 mm	3.54 in
Center width (distance between centers)	280 mm	11.0 in
Chuck diameter	Ø100 mm	Ø3.94 in
Chuck type	3-jaw, 4-jaw optional**	
MATERIAL CAPACITY	**METRIC**	**IMPERIAL**
Max round stock diameter	Ø90 mm	Ø3.54 in
Max blank length	280 mm	11.0 in
Max finished specimen length	250 mm	9.84 in
Max material hardness	≤ 35 HRC	
SPINDLE	**METRIC**	**IMPERIAL**
Spindle speed	100–3,000 rpm	
Spindle through-hole (bore)	Ø20 mm	Ø0.79 in
Spindle mount / taper	MT3	
Spindle motor power	2.5 kW	3.4 hp
FEED	**METRIC**	**IMPERIAL**
X-axis travel	100 mm	3.94 in
Z-axis travel	175 mm	6.89 in
Max rapid traverse	3,000 mm/min	118 in/min
Axis motor torque	5 N·m	44 lbf·in

TOOL REST	METRIC	IMPERIAL
Tool positions	8	
Tool dimension – 4 external	8 × 8 mm	5/16 × 5/16 in
TAILSTOCK	**METRIC**	**IMPERIAL**
Tailstock taper	MT1, pneumatic	
Tailstock sleeve diameter	Ø22 mm	Ø0.87 in
Travel of tailstock (quill)	30 mm	1.18 in
ACCURACY	**METRIC**	**IMPERIAL**
Positioning accuracy	±0.015 mm	±0.0006 in
Repeatability	±0.010 mm	±0.0004 in
OTHERS	**METRIC**	**IMPERIAL**
Model	TensileTurn MINI	
Manufacturer	TensileMill CNC, Inc.	
Power supply	220 V, 3-phase, 50/60 Hz, 16 A	
Total connected power	6 kW	
Weight (NW / GW)	354 / 468 kg	780 / 1,032 lb
Overall dimensions (L × W × H)	1,350 × 700 × 1,300 mm	53.1 × 27.6 × 51.2 in
Packing size (L × W × H)	1,525 × 850 × 1,525 mm	60.0 × 33.5 × 60.0 in
Coolant tank	30 L	7.9 US gal
Coolant pump	40 W	
Warranty	12 months	

STANDARDS

ASTM E8/E8M · ASTM A370 · ASTM B557 · ISO 6892-1 · DIN 50125 · EN 10002-1

*Accuracy depends on setup and materials. **4-jaw chuck is optional: ask your TensileMill CNC consultant.

COMPACT SOLUTION FOR ROUND TENSILE SPECIMEN CNC PREPARATION