TensileTurn CNC Classic Upgrade – Round Tensile Specimen Preparation Machine

Standards: ASTM A370, ASTM B557, ASTM E8, DIN 50125, ISO 6892-1, JIS Z 2241

- ULTIMATE USER-FRIENDLINESS
- LEADING DEPENDABILITY AND RELIABILITY
- STRICT COMPLIANCE WITH INDUSTRY STANDARDS
- STOCKED CONSUMABLES AND SPARES
- TRUSTED AFTER SALES TECHNICAL SUPPORT
- LIFETIME PRODUCT SUPPORT ADVANTAGE



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Description

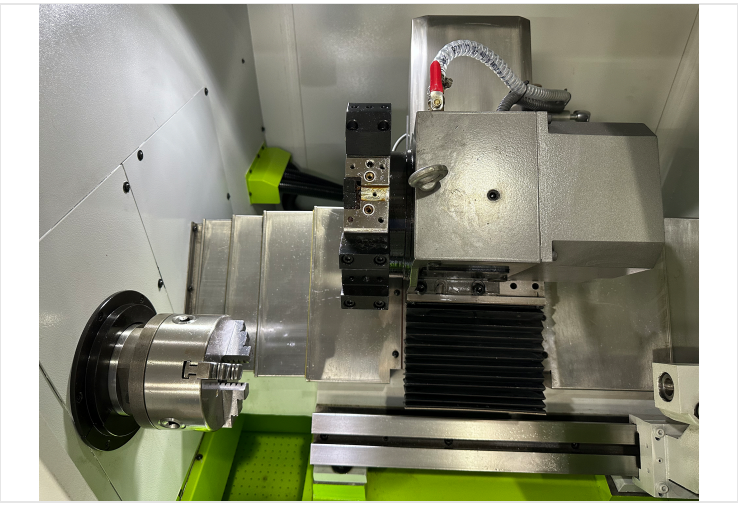
The TensileTurn CNC Classic Upgrade is a compact CNC lathe built for one job: accurate, repeatable round tensile specimens. It takes specimen diameters up to 1.5" (45 mm) and cuts material up to 55 HRC, and with the triple clamping fixture several samples go through in a single setup.

The machine is run from the TensileSoft™ 2.0 interface on a 15" touchscreen. Specimen dimensions come from a library of common testing standards, ASTM, ISO, DIN and others, or are typed in as custom geometry. A technician with no machining background prepares specimens consistently from that screen, while a machinist still has the full FANUC CNC controls for general turning.

The sequence is short: load the stock, secure it, select or enter the specimen parameters, start. It takes minutes and fits into the testing routine instead of queueing at an outside machine shop, and the stable frame and controlled cutting keep gauge dimensions repeatable from batch to batch.



TensileTurn CNC Classic Upgrade.



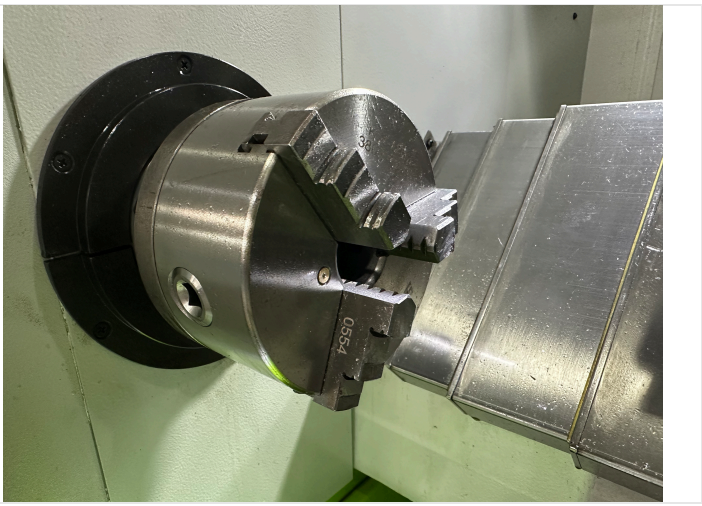
Chuck, turret and tailstock inside the enclosure.

Specimens the Classic Upgrade Prepares

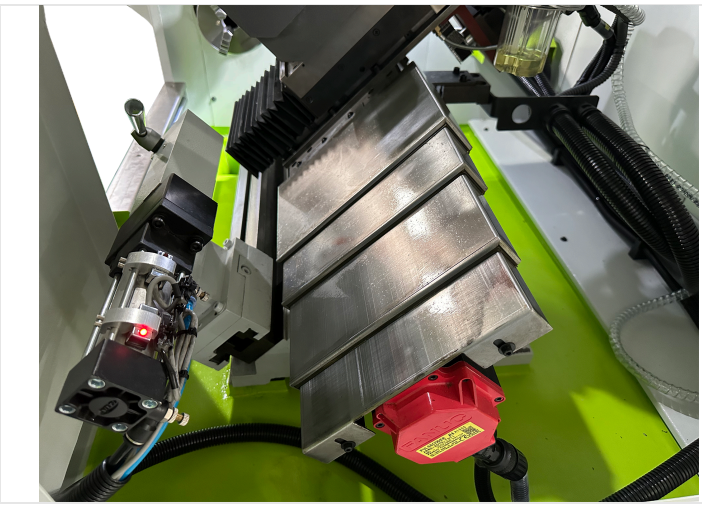
Round specimen geometry is defined by the method, and the shoulder transitions are where a general-purpose lathe usually drifts. The Classic Upgrade covers:

- Standard round tensile specimens
- Sub-size specimens
- Threaded-end tensile bars
- Button-head and fatigue specimens
- Samples made from round, square or irregular stock

It is used in quality control laboratories preparing routine specimens, in research and development where the geometry changes often, and on production sites where mechanical testing is part of the daily schedule.



The three-jaw chuck centres the stock.



Slideways and turret.

Working Characteristics

Dimensional consistency across batches is what lets tensile data be compared over time, even when the material, the heat treatment or the supplier changes. In daily use the machine also puts specimen preparation on the same clock as testing: specimens are made when they are needed, not when an outside shop has capacity.

Stable geometry	The same geometry across multiple batches, so tensile results stay comparable.
Controlled cutting	Cutting conditions are controlled, which keeps variation out of the gauge section and the shoulder transitions.
No machining queue	No waiting for machine shop access or for an outsourced batch to come back.
Material changes	Switching between materials does not mean reconfiguring the setup or moving to another machine.
Secure workholding	Clamping keeps the stock centered and secure through the cycle.

Coolant circulation	Circulating coolant keeps heat build-up from distorting the dimensions being cut.
Stable tooling	Tool positioning holds across repeated cycles.

Control System

The machine ships with a 15" touchscreen controller running a full FANUC CNC environment, so the simplified TensileSoft™ specimen interface and the general turning controls sit side by side. Storage and connectivity are on board, so files and parameters are handled without extra hardware:

- 64 GB storage and 4 GB RAM for program handling and data retention
- Wi-Fi, Ethernet and USB ports for transferring files and saving settings
- Macro B programming, tool offset management and work coordinate systems
- Helical interpolation, drilling cycles, scaling, mirroring and motion planning



FANUC panel with the TensileSoft screen above it.

Service Plan

The service plan keeps the machine on a schedule instead of on a repair list. Preventive maintenance is planned around your testing calendar, and training and re-training cover new technicians as well as experienced staff refining a workflow. It is normally set up around onboarding new operators, keeping specimen preparation consistent across shifts, absorbing a change in material type or testing volume, and extending equipment life through regular checks. Contact your representative to review the plan options.

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TensileTurn CNC Classic Upgrade Technical Specifications

Check the swing over bed and the center width against your starting stock: the machine runs on single-phase 220 V and needs a pneumatic connection. Imperial values come first, with the metric equivalent in brackets.

Specification	TensileTurn CNC Classic Upgrade
Capacity	
Swing Over Bed	Ø11.8″ (Ø300 mm)
Swing Over Cross Slide	Ø7.8″ (Ø200 mm)
Center Width	23.6″ (600 mm)
Center Height	5.5″ (140 mm)
Lathe Chuck Diameter	Ø4.92″ (Ø125 mm)
Spindle	

Specification	TensileTurn CNC Classic Upgrade
Spindle RPM	300
Spindle Speed Range	30-4000 rpm
Spindle Nose	1:04
Spindle Taper	MT4
Spindle Bore	Ø1.02″ (Ø26 mm)
Motion and tooling	
Tool Changer Type	Electric
Tool Positions	4
Max Tool Section Size	0.47″ × 0.47″ (12 × 12 mm)
X-Axis Travel	7.1″ (180 mm)
Z-Axis Travel	18.3″ (465 mm)
X-Axis Rapid Feed	236 in/min (6000 mm/min)
Z-Axis Rapid Feed	315 in/min (8000 mm/min)
Position Accuracy (X / Z)	±0.002″ / ±0.001″ (±0.05 mm / ±0.03 mm)*
Repeatability (X / Z)	±0.0001″ / ±0.0001″ (±0.02 mm / ±0.02 mm)*
Tailstock	
Tailstock Taper	MT2

Specification	TensileTurn CNC Classic Upgrade
Tailstock Sleeve Diameter	Ø1.18″ (Ø30 mm)
Tailstock Sleeve Travel	3.15″ (80 mm)
Machine and services	
Machine Dimensions (L × W × H)	62.5″ × 27.75″ × 59.65″ (1590 × 705 × 1515 mm)
Shipping Dimensions (L × W × H)	72″ × 37.2″ × 72.65″ (1829 × 945 × 1845 mm)
Net Weight / Gross Weight	1873 lb / 850 kg
Coolant Tank Capacity	6.6 gal (25 L)
Coolant Pump Power	40 W
Main Motor Power	2.2 kW
Total Electrical Connection	3.5 kW
Input Voltage	220 V (single phase)
Pneumatic Connection Required	Yes

*** Accuracy and Repeatability Disclaimer:** Published accuracy and repeatability values are based on proper machine setup, recommended tooling, operational procedures, maintenance practices, material conditions, and validated proof-of-concept parameters. Actual performance may vary depending on material type, hardness, specimen geometry, tooling selection, fixturing, machine workload, operator practices, production conditions, and adherence to recommended operational protocols. Operation outside of recommended procedures or intended application parameters may affect achievable accuracy, repeatability, equipment longevity, and overall system performance.

Send us the specimen standard, the largest diameter you turn and the stock you start from, and we will confirm the fixture and the tooling to order with your Classic Upgrade. Contact our team for pricing and service plan options.

For Laboratories

Need Additional Quality Control Equipment to Build Your Laboratory?

Round specimen preparation is only one part of a complete quality control laboratory. NextGen can help you equip your entire lab with impact testers, notching and broaching systems, cooling chambers, tensile testers, hardness testers, specimen preparation equipment, and other supporting solutions, all coordinated as one complete project.

- One partner to equip your complete laboratory
- Installation, training, calibration
- Support for the life of the equipment