TTB

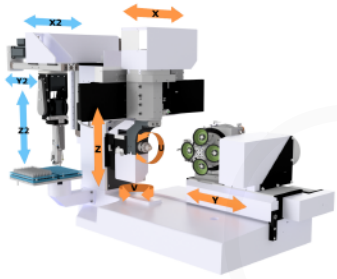
SWISS PRECISION

TTB NEXT

GRINDING MACHINE FOR ROTARY TOOLS

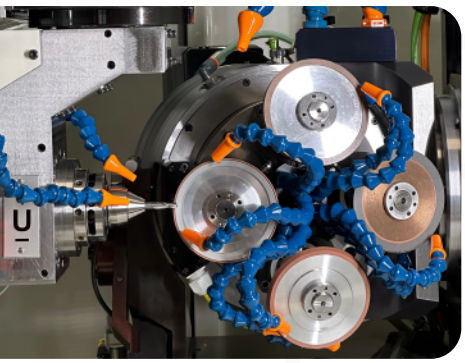
ICON OF PRECISION

True to TTB's tradition, the **NEXT** continues the path set by the historic Evolution and TGC models. For over 30 years, this series has been a benchmark in the industry, synonymous with precision and reliability in more than 30 countries worldwide. Thanks to dedicated mechanical solutions and



Unique Kinematics

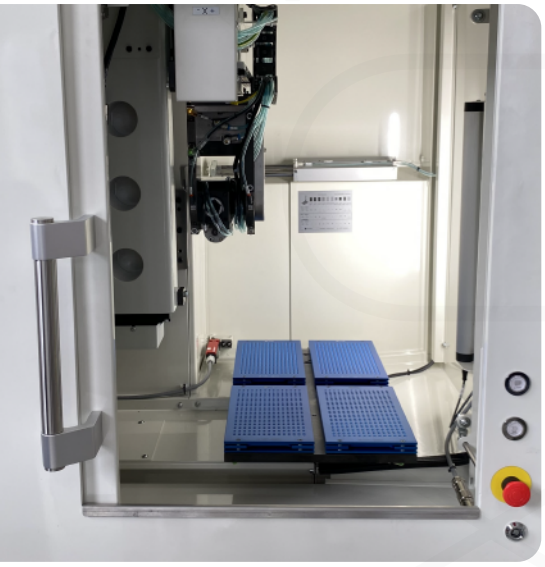
TTB's exclusive kinematics are its hallmark. Thanks to its innovative technology, it ensures exceptional isolation from external vibrations. In addition, the unique axis movements guarantee extremely precise and repeatable positioning.



Revolver

The innovative revolver, with 4 or 5 positions, allows both perfect wheel alignment with a positioning repeatability of less than 0.3 µ m and an ultra- fast wheel change in just 2 seconds!

PRECISION



Fast Loader

The integrated 3-axis CNC loader, equipped with a double gripper, performs synchronized loading and unloading operations in only 13 seconds, minimizing downtime.

PRODUCTIVITY

High Capacity

The loading area can hold 2 or 4 pallets, offering high production autonomy. Series of up to 2'442 pieces can be produced in complete autonomy, without operator supervision.

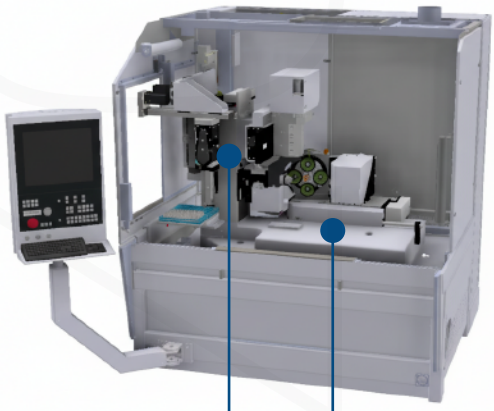
STABILITÀ E AUTONOMIA

a high-capacity loader, the **NEXT** ensures a stable and efficient production process that does not require operator supervision. It is the ideal machine for both large and small batches of tools in the automotive, medical, micro- mechanics, electronics and other sectors.

STABILITY

Thermal Stability

Outstanding thermal stability thanks to the use of cutting oil for cooling the machine structure and the integration of dedicated thermal sensors.



The cutting oil flows inside the machine base, keeping the internal temperature constant.

Mechanical Stability

The adoption of low-wear mechanical solutions ensures process stability and a machine lifespan that extends over decades.

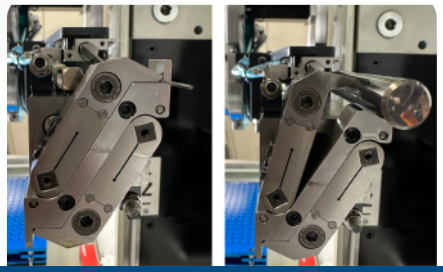
FLEXIBILITY

Various Materials

Capability to grind not only a wide variety of geometries but also tools made of different materials: from carbide to CBN, from high-speed steel to ceramics.

Fast Setup

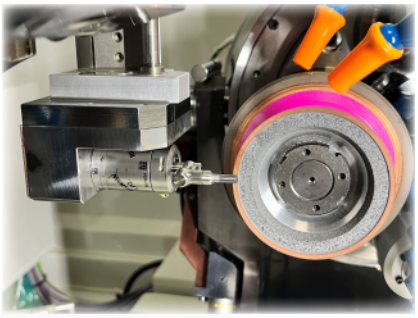
Thanks to the prismatic collet support, the loader handles tools from 1 to 16 mm without the need for retooling.



CONTINUOUS MONITORING

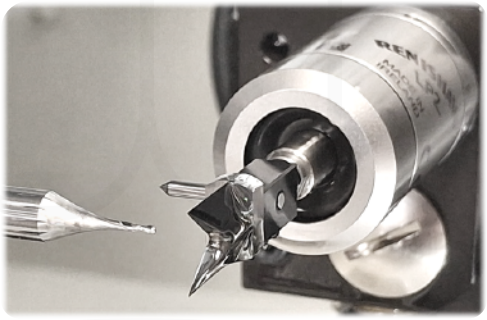
WHEEL PROBE

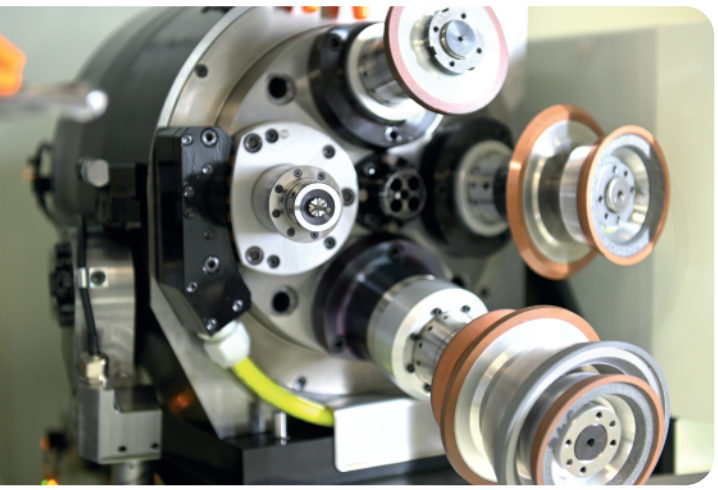
Monitoring of grinding wheel wear via precision probe, with auto-calibration to ensure maximum measurement accuracy. Wheel probing can also be performed during the machining cycle.



WORKPIECE PROBE

High-precision probing of the workpiece, allowing the exact determination of the tool position in space. It is also possible to probe the internal coolant holes of tools with diameters starting from just 0.2 mm.
Repeatability is guaranteed up to 1 µm.





GRINDING WHEEL SPINDLES

HSK 32 SPINDLES

Permanently lubricated spindles, available in long and short versions for optimal adaptation to any production requirement. Each spindle can hold up to three wheels.

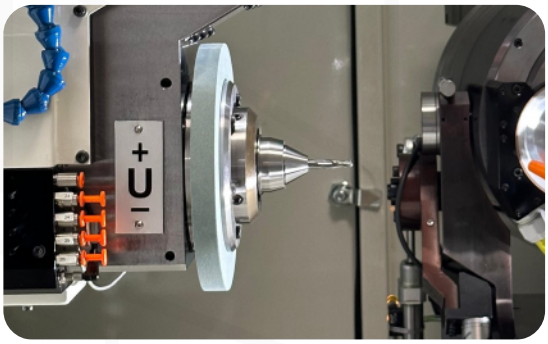
HIGH-FREQUENCY SPINDLES

High-frequency spindle, up to 150'000 rpm for special machining operations. HF spindle installation and setup are simple and fast. Up to 5 high-frequency spindles can be mounted simultaneously.

DRESSING AND TRUING OF GRINDING WHEELS

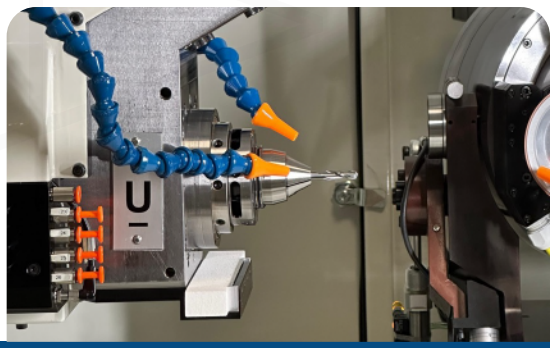
DRESSING WHEEL

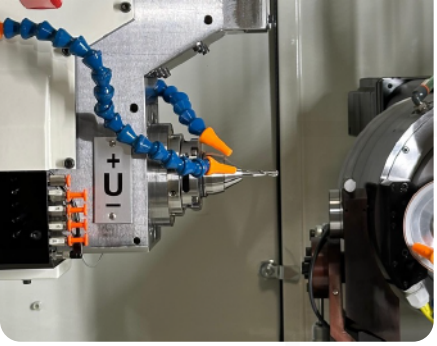
In-process wheel dressing to compensate for wear and ensure machine autonomy even for very large series. Dressing wheel mounted behind the tool. Dressing frequency can be programmed according to grinding requirements.



TRUING STICK

Truing stone for restoring the grinding wheel, ensuring better results when sharpening tools. Truing stone mounted beneath the tool. Cleaning frequency can be programmed according to grinding requirements.

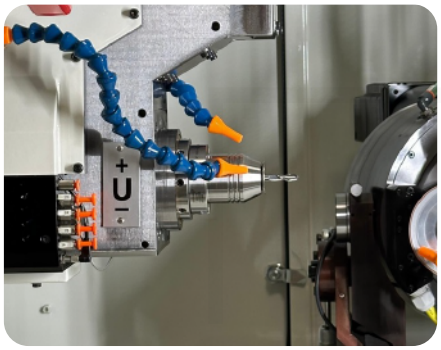




TOOL CLAMPING

COLLETS

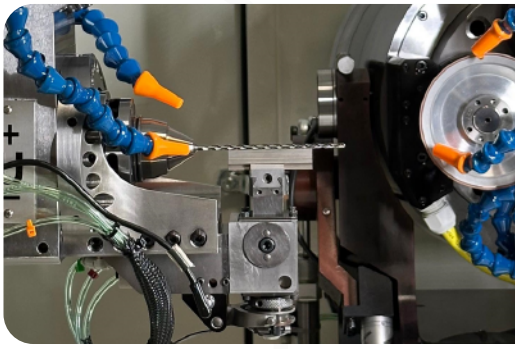
Tool clamping with elastic collets, available in flat or beak versions. They cover a clamping range from 1 to 16 mm, ensuring 2 µm concentricity. Compatible with W25, W20, and W15 adapters, equipped with an adjustment system for eliminating runout.



HYDRAULIC CLAMPING

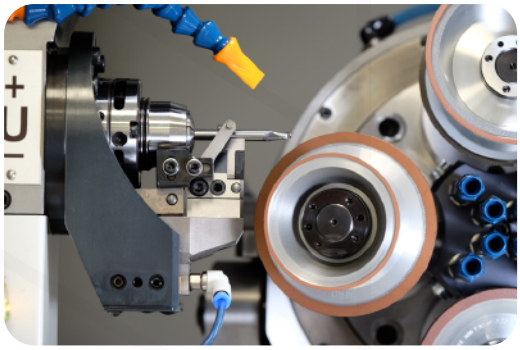
Hydraulic chuck, option for applications where very tight concentricity is required. Guaranteed concentricity < 1 µm.

TOOL SUPPORT



STEADY REST

Steady rest for supporting the workpiece, ideal for grinding long parts at high feed rates. Recommended for tools with a length ⩾ 10 times the diameter. Available with prismatic or semi-spherical inserts. Simple and quick installation and setup. Fully compatible with automatic loading.



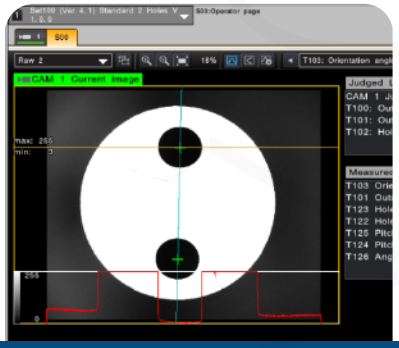
SHAFT GUIDE

Optimization of tool concentricity with shaft guide on prism. Fast and intuitive installation and setup. Fully compatible with automatic loading.

TOOL ORIENTATION

PUSHING UNIT

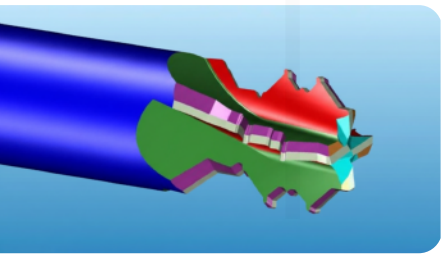
Unit mounted on the loader arm, pushes the blank against the collet stop, ensuring precise and repeatable positioning. This eliminates the need for probing, resulting in significant cycle time savings.



COOLANT HOLE ORIENTATION CAMERA

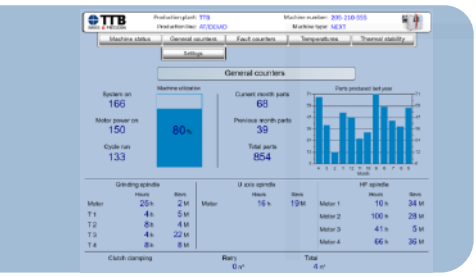
Camera for orienting coolant holes with diameters from 0.05 to 2.00 mm. The measurement is carried out in the loading area, using the loader axes, and thus takes place in masked time.

SOFTWARE



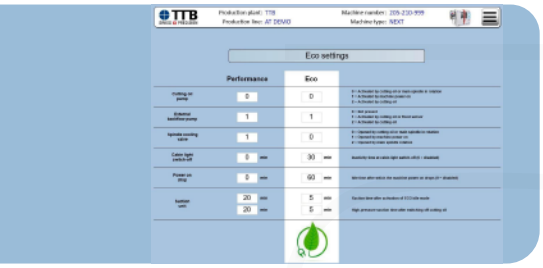
NUMROTO®

State-of-the-art programming software, intuitive and easy to use. Equipped with 3D simulation and an integrated collision-control system, it allows fast program changes while ensuring precision, safety, and productivity.



DASHBOARD TTB

Data export interface compliant with Industry 4.0 standards; dedicated hour counters for each component enable effective preventive maintenance management. An intuitive dashboard, also accessible from smartphones, provides real-time monitoring.



ENERGY SAVING

The Eco function significantly reduces the machine's power consumption while still ensuring maximum performance during machining. Cycle optimization and intelligent resource management are fully integrated.

COMPLETE SUPPORT

Our commitment does not end with the delivery of the machine: we offer a 360° after-sales service designed to ensure continuity, efficiency, and maximum performance for your TTB machines.

- Support for productivity improvement
- Minimization of machine downtime
- Production continuity

FAST AND EFFICIENT INTERVENTIONS

Carried out by our specialized technicians.

REMOTE ASSISTANCE

For maintenance and programming support.

DEDICATED SPARE PARTS WAREHOUSE

For fast and guaranteed supply.

MAINTENANCE AND PREVENTIVE INSPECTION PACKAGES

To prevent problems and machine downtime.

VIDEO TUTORIALS

With instructions for repairs and part replacements.

SERVICE PACK

Box containing wear parts such as filters and relays.

TTB NEXT
GRINDING MACHINE FOR ROTATY TOOLS

TECHNICAL DATA

Linear Axis Travel		Corse assi rotativi	
X Axis	290 mm	V Axis	270 °
Y Axis	250 mm	U Axis	∞
Z Axis	155 mm		

Axis Feed Rates	
X, Y, Z Axes	6m/min
V Axis – Orientation	36'000 °/min
U Axis – Orientation	72'000 °/min
U Axis – Rotation	0 - 1'500 rpm
Axis Resolution	
Linear Axes X, Y, Z	0,0001 mm
Rotary Axes U, V	0,0001 °

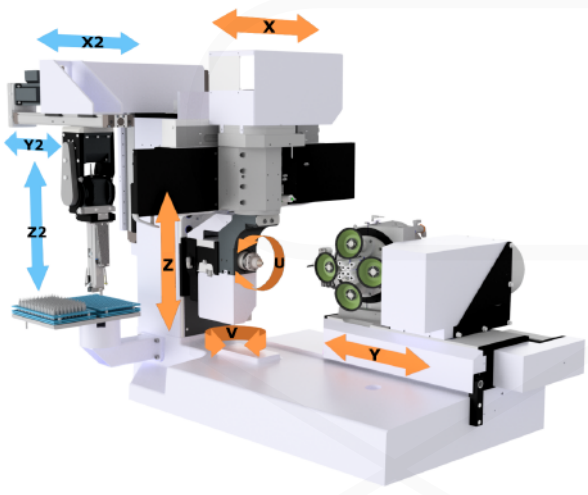
Measurement System	
Linear Axes X, Y, Z Resolution	0,01 µm
Rotary Axis V Resolution	± 2"
Rotary Axis U Resolution	± 20"

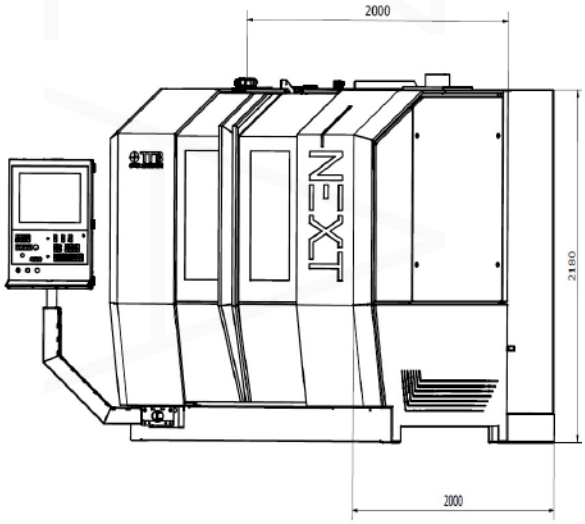
Revolver and Grinding Wheel Spindles	
Number of grinding wheel spindles (HSK C32)	4 o 5
Spindle drive power (Pn-S1)	10,0 kW
Max spindle speed	12'000 rpm
Number of wheels per spindle	1 - 3
Wheel revolver positioning	2 sec.

Workpiece Clamping	
Clamping system	W25, W20, 215 Hydraulic clamping
Clamping diameter	1 - 25,4 mm
Clamping length	up to 250 mm

Application	
Complete grinding	Ø 0,01 – 20,00 mm
Regrinding	Ø 3,00 – 25,00 mm
Max grinding length	150 mm

CNC Control	**NUM**
Dimensions *(see figure below)*	**2'000 x 2'000 x 2'180 mm**
Approx. Weight	**3'950 kg**





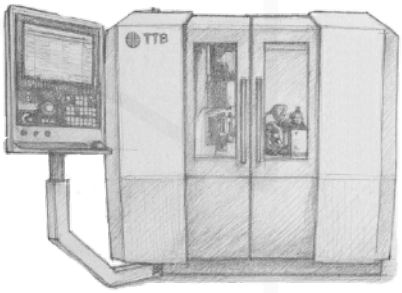
THE WORLD TTB

SWISS PRECISION

TTB NEXT
FOR ROTARY CUTTING TOOLS

TTB GEAR
FOR GEAR CUTTING TOOLS

TTB EDGE
FOR INSERTS



ONE OFF
FOR SPECIAL APPLICATIONS

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