

AUTOMATIC SHARPENING MACHINE

TECHNICAL DATA SHEET

DESCRIPTION

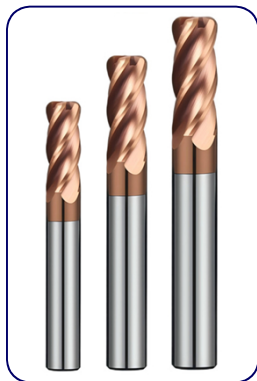
This fully automatic sharpening machine is equipped with a Computer Numerical Control (CNC) system, engineered to accurately regrind the tips of a wide range of cutting tools — including drill bits, end mills, radius end mills, center drills, and ball cutters. Its core function is to precisely restore the critical geometric features of tools, such as sharp cutting lips, well-defined chisel edges, and optimized clearance angles, effectively reviving the original cutting performance of worn tools.

The operation of this machine is exceptionally user-friendly, minimizing operator intervention to three simple steps: loading the tool, selecting the corresponding sharpening program, and initiating the fully automated cycle. Once activated, the CNC system takes full control of the entire sharpening process, executing high-precision tool positioning, targeted grinding with consistent pressure, and real-time quality verification in a seamless, unmanned workflow.

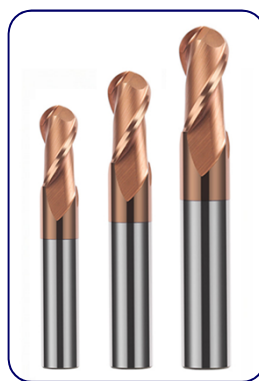
With its intelligent CNC control and automated workflow, the machine ensures uniform sharpening accuracy across all processed tools, eliminates human errors caused by manual operation, and significantly boosts tool reconditioning efficiency. It is an ideal solution for workshops and manufacturing facilities looking to extend tool service life, reduce tool procurement costs, and maintain stable production quality.



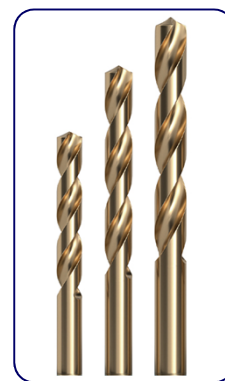
Flat End Mill



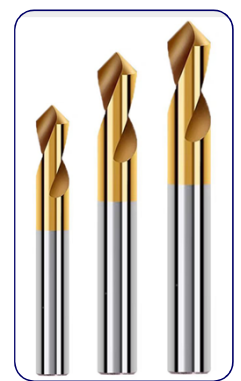
Radius End Mill



Ball Cutter



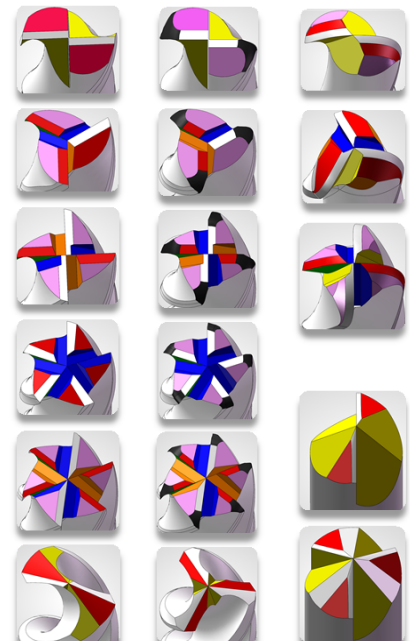
Drill Bit



Center Drill

Technical Specifications

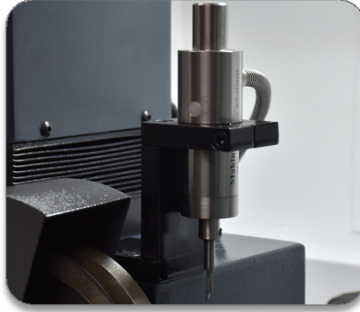
Model	SF-U6
Voltage/Power	220V/2600W
Grinding Range	3-20MM
Work Speed	2500RPM
Grinding Wheel	SDC (1 SET=2PCS), Flat and Bevel Type
Sharpenable Edge	2/3/4/5/6 Edges
Sharpenable Cutters	End Mill, Radius End Mill, Drill Bit, Ball Cutter, Center Drill
Collet's Standard	ER32 (11PCS)
Collets Included	Φ3, Φ4, Φ5, Φ6, Φ8, Φ10, Φ12, Φ14, Φ16, Φ18, Φ20
Grinding Efficiency	1-4min/pcs (Production Capacity: 200-300PCS/per Day)
Life Span of Grinding Wheel	800-1000pcs of Tools & Cutters
Packages Size	970*710*1620mm
Gross/Net Weight	200KG/145KG



Features

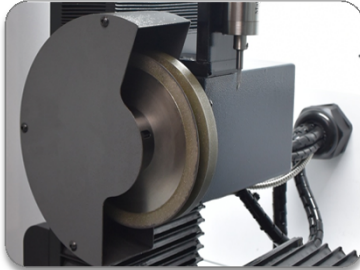
High-precision 3D Probe Tool Setter

It supports multi-directional sensing and omnidirectional tool measurement, which ensures micron-level (0.005mm) accuracy in tool length and diameter, offers an extremely fast response time, delivers extremely accurate tool setting, effectively reducing tool position errors. Higher overall machine accuracy improves workpiece quality and surface finish.



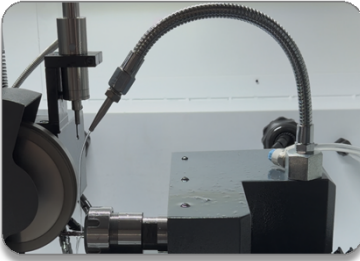
High-Precision Spindle & Grinding Wheel

A motorized spindle with a pair of specialized SDC grinding wheels designed for specific point angle, helix angle, rake angle or relief angle. Adopts high-density abrasive grain and high-strength bonding agent, maintains long-term sharpness, reduces frequent replacement and lowers cost.



Coolant System

This design effectively prevents the tool's cutting edge from reaching its critical annealing temperature, controls excessive heat buildup, and avoids thermal deformation and softening. It perfectly retains the tool's original hardness and edge toughness, significantly prolong.



User Interface (HMI)

Touch screen where the operator selects the tool type, blade, diameter, and parameters from a pre-loaded program, which delivers a smooth, straightforward operating experience, lowers operation difficulty, and effectively avoids human error for more standardized and consistent grinding results.



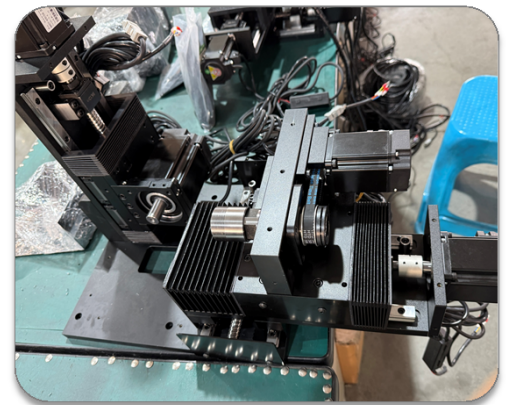
Universal & Height-Adjustable Casters

Fitted with 360° universal rolling, height adjustable and lockable design, which enable flexible, effortless movement and free position switching in the workshop. Built-in locking function secures the machine in place, avoiding sliding during operation, ensuring stable sharpening and working safety.

5 Independent Drivers for 5 Servo Motors

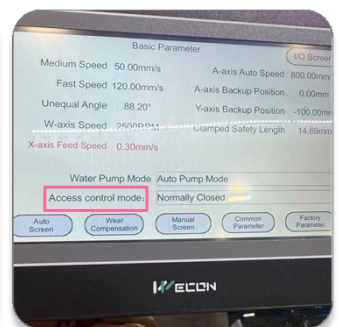
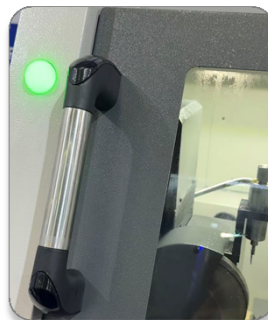
Each axis adopts independent servo drive control for dedicated power and responsive motion. Driven by 5 absolute servo motors, the CNC system delivers synchronized multi-axis movement with exceptional precision. It minimizes transmission errors, ensures stable operation, improves grinding uniformity, and extends overall equipment service life.

Important: Featured with 5 absolute servo motors, all operating data can be automatically saved in case of sudden power cut, preventing data loss and repeated setup.



Electromagnetic Induction Door Lock

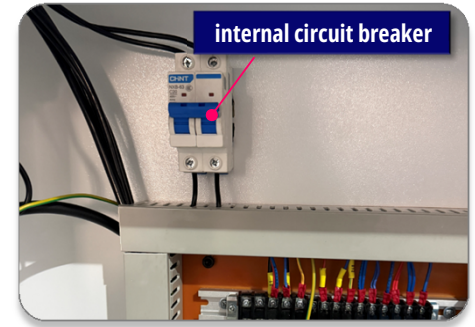
Equipped with an electromagnetic safety interlock lock, linked with indicator lights and machine operating status. Realizes automatic door locking during operation to prevent accidental opening. Effectively protects operators from grinding hazards, greatly improving equipment safety. Red light illuminates with door locked during machine operation; green light activates automatically after completion to unlock the door.



Features

Water-proof Main Power Switch

Waterproof main switch isolates water, dust and moisture, ensuring safe and stable power control. **Internal circuit breaker** provides effective overcurrent and short-circuit protection for the whole machine circuit. Cuts off power quickly in case of electrical failure to avoid equipment damage and safety hazards. Both designs improve overall electrical safety, reduces failure risks and simplifies daily maintenance.



Unique Handwheel

Specially used for origin calibration and positioning when replacing the 3D probe tool setter. It supports slow, manual micro-adjustment to locate the accurate zero point, which ensures reliable and high-precision tool setting.



Extended Z-axis (15cm)

Extended Z-axis shaft greatly shortens brake engagement time, locks the Z-axis instantly after shutdown, prevents accidental vertical shaft sliding or sinking. It effectively eliminates position offset caused by gravity, maintains consistent machining positioning, reduces mechanical impact, ensures long-term stable operation and processing accuracy.

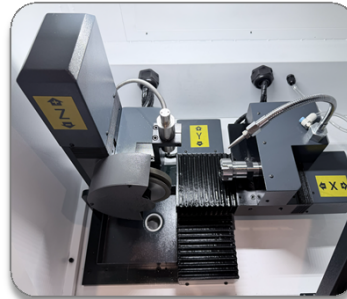


Illuminated Logo

Featuring a distinctive illuminated SANFORD or customized logo on the side panel, this machine ensures strong brand visibility even in dim exhibition halls and workshops. The glowing, eye-catching logo creates premium visual appeal, reinforces professional high-end identity, and helps your brand stand out from competitors, leaving a lasting impression on customers.

3-Axis Linkage Control

Enables complex, multi-angle and curved edge sharpening in one continuous motion, while smooth coordinated axis movement eliminates step marks and position deviation to greatly enhance blade finish and sharpening consistency, reduce manual adjustments, raise working efficiency, and achieve high-precision forming for diverse cutting tools.



Sliding Door Design

Equipped with sliding door for an elegant appearance and ultra-smooth, quiet operation. The space-saving design needs no swing clearance, efficiently saving workshop space while keeping internal dust contained for cleaner daily use.



Water & Oil Resistant Cable

It protects electrical circuits against liquid erosion, safeguards internal electrical components, minimizes failure risks, and ensures the grinder operates stably and reliably over long-term use.

Unequal Angle of Mills

It is capable of grinding unequal angles for 4-flute, 5-flute and 6-flute end mill, corner end mills, with flexible angle adjustment to break the limitation of equal-division machining. It perfectly meets special irregular edge processing needs, ensures high precision and uniform cutting edge quality, improves production flexibility and processing diversity, and effectively reduces manual finishing and rework costs.



All-in-One Design

Featuring an integrated monolithic design with ample internal storage space, it fully accommodates all core electrical components including servo drivers in one unified electrical compartment. This rational structure ensures ample heat dissipation space for rear electrical parts, delivers excellent effective cooling performance and allows convenient daily inspection and maintenance.



Flat End Mill

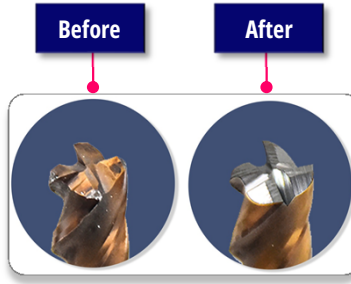
Radius End Mill



Features

Significant Cost Savings

Eliminates the need to purchase and house separate machines for drills, end mills, ball mills, chamfer mills, etc. Moreover, a single new end mill can cost hundreds of dollars. While automatic resharpener can restore it to 90-95% of its original performance for a fraction of the cost.



5 Built-in Drawers

Provides classified independent storage for collets, wrenches, tools, accessories and spare parts. It keeps all items neatly arranged and easily accessible, reduces workspace clutter, prevents missing parts, simplifies daily management and improves work efficiency.

Grinding Range

Flat End Mill



ø3	ø3	ø3	ø6	ø6
ø4	ø4	ø4	ø8	ø8
ø5	ø5	ø5	ø10	ø10
ø6	ø6	ø6	ø12	ø12
ø8	ø8	ø8	ø14	ø14
ø10	ø10	ø10	ø16	ø16
ø12	ø12	ø12	ø18	ø18
ø14	ø14	ø14	ø20	ø20
ø16	ø16	ø16		
ø18	ø18	ø18		
ø20	ø20	ø20		

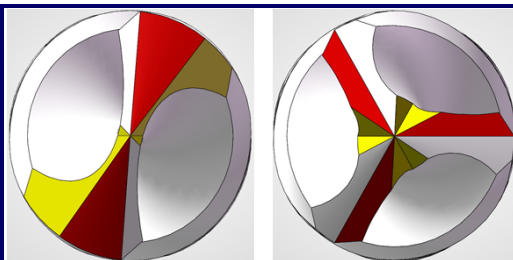
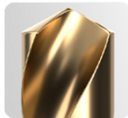
Ball Cutter



ø4	ø5	ø6
ø12	ø14	ø16
	ø5	ø8
	ø10	ø10

Refer to the table on the right for the applicable grinding radius.	D	R
	ø4	R2
	ø5	R2.5
	ø6	R3
	ø8	R4
	ø10	R5
	ø12	R6
	ø14	R7
ø16	R8	

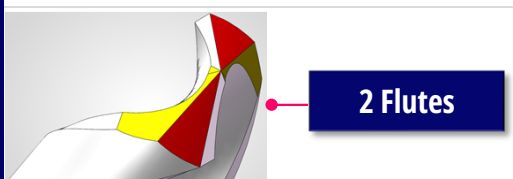
Drill Bit



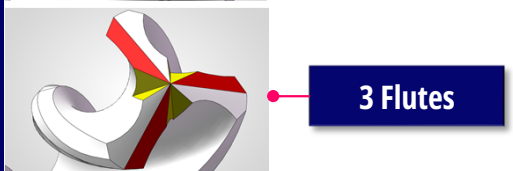
ø3~ø20

Special & Irregular Drill Bit

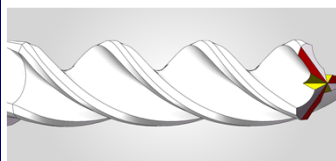
Capable of grinding non-standard metric decimal drills like 8.6mm, 9.1mm and other fractional metric sizes. It removes tool size restrictions, broadens processing versatility, and ensures stable, flexible machining for regular and custom imperial tools.



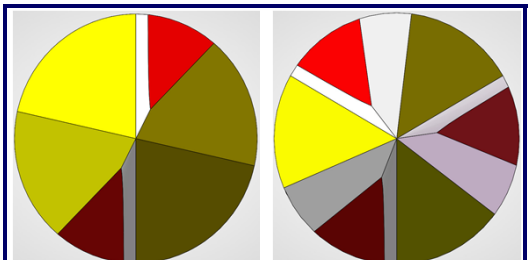
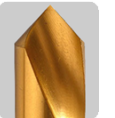
2 Flutes



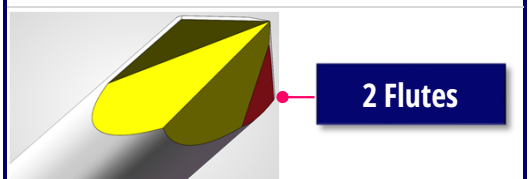
3 Flutes



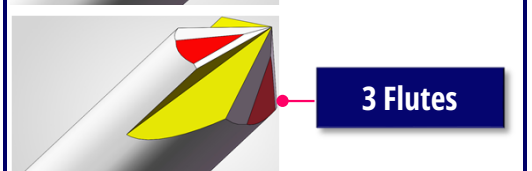
Center Drill



ø3~ø12



2 Flutes



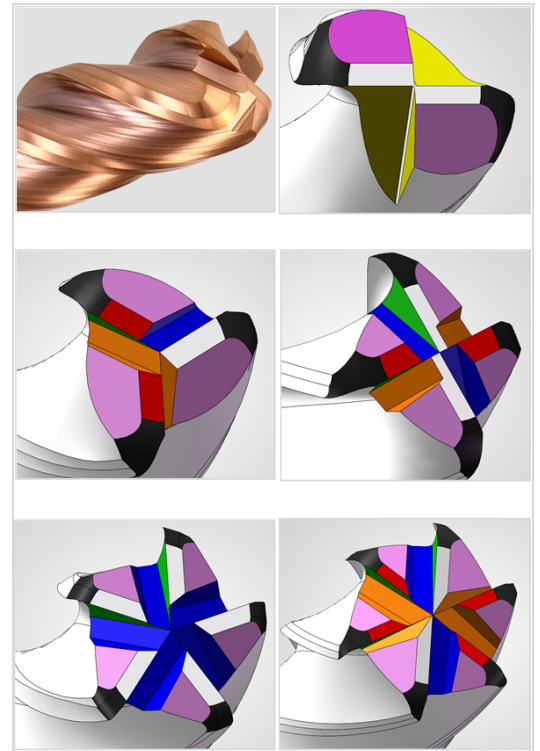
3 Flutes

Grinding Range

Radius End Mill



ø3	ø3	ø3	ø6	ø6
ø4	ø4	ø4	ø8	ø8
ø5	ø5	ø5	ø10	ø10
ø6	ø6	ø6	ø12	ø12
ø8	ø8	ø8	ø14	ø14
ø10	ø10	ø10	ø16	ø16
ø12	ø12	ø12	ø18	ø18
ø14	ø14	ø14	ø20	ø20
ø16	ø16	ø16		
ø18	ø18	ø18		
ø20	ø20	ø20		



<p>Refer to the table on the right for the applicable grinding radius.</p>	D	R	R	R	R	R	R	R	R	R	R	R	
	ø3	0.2	0.3	0.5									
	ø4	0.2	0.3	0.5	1								
	ø5	0.2	0.3	0.5	1								
	ø6	0.2	0.3	0.5	1	1.5	2						
	ø8	0.2	0.3	0.5	1	1.5	2	2.5	3				
	ø10			0.5	1	1.5	2	2.5	3				
	ø12			0.5	1	1.5	2	2.5	3	4			
	ø14			0.5	1	1.5	2	2.5	3	4			
	ø16			0.5	1	1.5	2	2.5	3	4	5		
	ø18			0.5	1	1.5	2	2.5	3	4	5	6	
	ø20			0.5	1	1.5	2	2.5	3	4	5	6	

Standard Packing List

SDC Grinding Wheel

Equipped with 2PCS pre-mounted grinding wheels. One is flat, the other is bevel.



ER32 Collet with Wrenches

The included collets accommodate tool diameters ranging from 3mm to 20mm.



Power Cord

1PCS for multiple national standards.



User Manual

Manual for operation and maintenance.

