

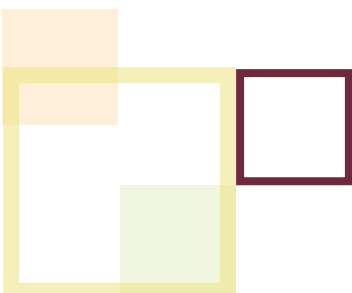
TMTS 2024

March 27-31
Booth #J0118

The SMART Way to
Green Machining Technology

CHEVALIER[®]
Grinding / Turning / Milling

FOCUS*cnc*[®]

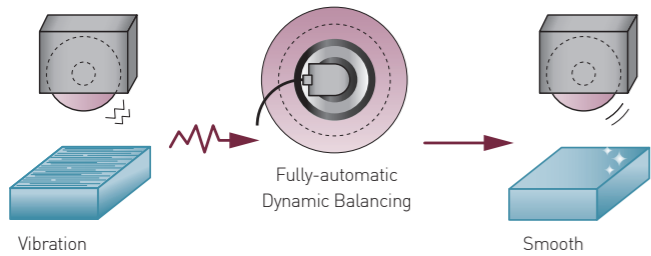


The SMART Way to Green Machining Technology

CHEVALIER focuses on the design of green machine tools, meeting the market trends of digitalization, efficiency, automation, and energy saving. We integrate and develop intelligent, carbon management, and energy-saving control management technologies. Furthermore, we incorporate the intelligent Machine Communications System™ (iMCS) to achieve sustainable smart manufacturing.

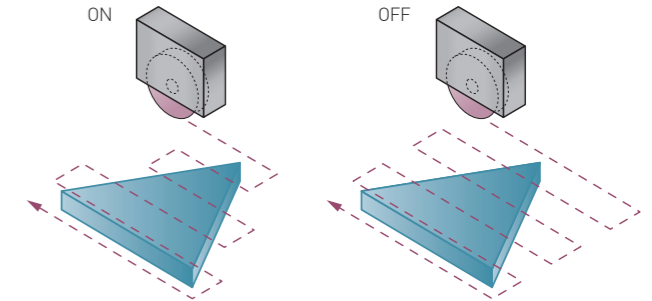


Fully-automatic Dynamic Balancing



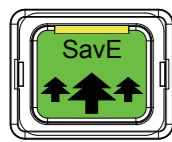
Enhancing both processing quality and energy-saving efficiency, the grinding wheel possesses the capability for fully automatic dynamic balancing during the grinding process.

Smart Grinding Path



During grinding, the system automatically detects and removes ineffective grinding strokes for irregularly shaped flat workpieces.

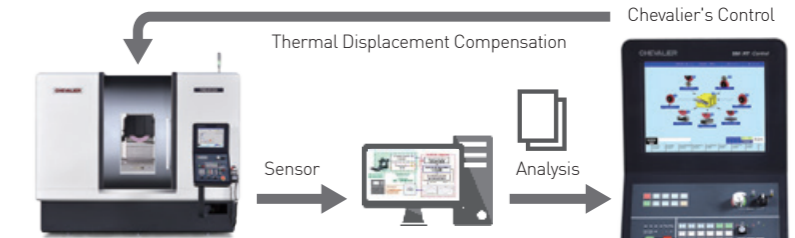
Smart Energy-saving



Level-0 Turn off the screen
Level-1 Turn off the power of servo system and peripheral systems

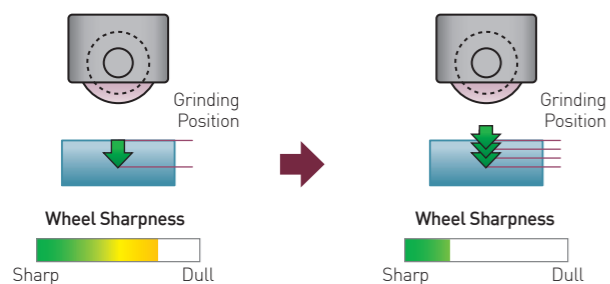
Entering energy-saving mode when the machine's idle time reaches the set level.

AI Thermal Displacement Compensation System



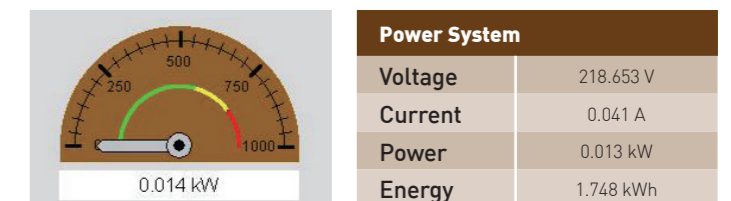
Model construction and temperature compensation are performed through data collection, analysis, and machine learning techniques.

Intelligent Auto Wheel Dressing



During the workpiece grinding process, the system automatically determines the optimal timing for dressing the grinding wheel.

Energy Consumption Visualization



Equipped with features such as real-time monitoring, data analysis, and energy consumption management, it provides related energy-saving and carbon reduction management solutions.

Featured at TMTS 2024

CHEVALIER®

FRG-600 Fully Automatic Rotary Surface Grinder



FRG-400/600 has several design features that ensure heavy-load, smooth, and stable grinding.

This series meets the high-efficiency productivity and future market demands of industries, including automotive, energy, and semiconductor.



The FRG-600 is shown with optional accessories.



Wafer electronic components

Specifications

Table size	Ø600 mm (Ø23.6")
Spindle speed	500 to 2,200 rpm
Spindle motor	up to 7.5 kW (10 HP)
Material	SiC
Hardness	H, Mohs 9.2-9.6
Workpiece size	Ø114 x 5 mm
Flatness accuracy	<= 0.003 mm
Surface roughness	Ra 0.1 µm

FSG-2480ADIV Traveling Column, 3-axis, Fully Automatic Precision Surface Grinder



FSG-20/24ADIV Series of surface grinders includes several newly designed features: a double layer column structure can withstand heavy load grinding. And a double-V x axis guideway for smooth, stable movement.

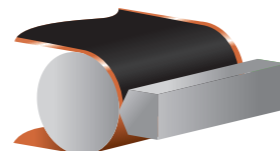
Maximum table speed: 30 m/min (98.4 fpm), integrated machine-body temperature control system greatly improves accuracy and stability.



The FSG-2480ADIV is shown with optional accessories.



Slot die



Slot die coating (SDC) processing of lithium battery for EV.

Specifications

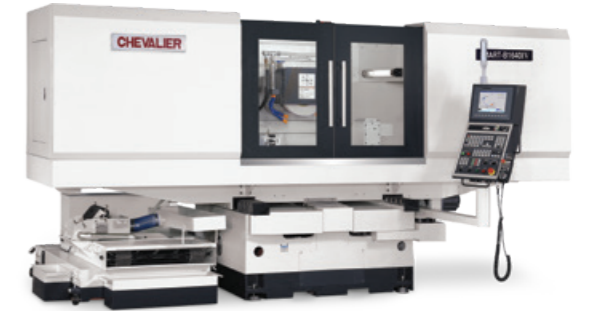
Table size	600 x 2,000 mm (23.6" x 78.7")
Spindle speed	500 to 2,200 rpm
Spindle motor	up to 18.5 kW (25 HP)
Material	SUS630
Hardness	HRC55-60
Workpiece size	1,200 x 215 x 100 mm
Flatness accuracy	<= 0.003 mm
Surface roughness	Ra 0.03 µm

SMART-B1640IV Multi-function CNC Surface Grinder



The SMART series models are specifically designed for the grinding of complex workpieces. Performance and stability can be improved by selecting corresponding accessories and clamping fixtures.

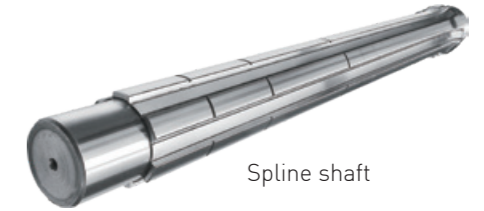
The spline shaft is widely utilized in the components industry. Chevalier's CNC grinders offer complete solutions for overcoming processing bottlenecks in the industry.



The SMART-B1640IV is shown with optional accessories.

Specifications

Table size	400 x 1,000 mm (15.7" x 39.4")
Spindle speed	500 to 1,800 rpm
Spindle motor	11 kW (15 HP)
Material	SCM440
Hardness	HRC52-58
Workpiece size	Ø32 x 400 mm
Dimension accuracy	±0.005 mm
Symmetry	±0.01 mm



Spline shaft

FVGC-50 Vertical Grinding Center



The FVGC series vertical grinding center, in addition to applications in semiconductor, punch, and aerospace industries, are capable of meeting grinding solutions for composite materials, single crystal silicon, or hard and brittle materials in various other industrial sectors.

The FVGC series features excellent design that effectively filters and separates chips, impurities, and powders during the grinding process, providing complete protection for the machine.



The FVGC-50 is shown with optional accessories.

Specifications

Table size	1,000 x 510 mm (39.4" x 20.1")
Spindle speed	15,000 rpm
Travel (X/Y/Z)	850/510/510 mm (33.5"/20.1"/20.1")
Material	SiC
Hardness	H, Mohs 9.2-9.6
Workpiece size	Ø108 x 20 mm
Machining allowance	0.3 mm
Machining time	3 hour



Wafer electronic components

Featured at TMTS 2024

FOCUScnc

FBL-320SY



Multi-axis, Multi-functional, Multi-operational

High-rigidity turning and milling center, easily performs complex milling, drilling and tapping functions.

Features include a BMT 60, 12-tool power turret, enabling an accurate cutting operation and the processing of par.



The FBL-320SY is shown with optional accessories.



Car parts

Specifications

Max. cutting dia.	Ø460 mm (Ø18.1")
Max. cutting length	548 mm (22.0")
Max. bar material dia. (main)	Ø77 mm (Ø3")
Max. bar material dia. (sub)	Ø52 mm (Ø2.0")
Main spindle motor	17/20.4 kW
Travel X/Z/Y	310/620/±55 mm (12.2"/24.4"/±2.2")

FCL-130RP



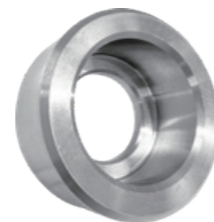
High-speed, Linear Way CNC Lathe

The integrated design of a 30° slant bed incorporates the loading and unloading mechanism. Utilizing parallel grippers, it simultaneously handles both raw material and finished product workpieces, reducing production and processing time.

The machine features a structure utilizing roller linear guide ways, ensuring high precision and rapid movement speeds.



The FCL-130RP is shown with optional accessories.



Car parts

Specifications

Max. cutting dia.	Ø236 mm (Ø9.3")
Max. cutting length	233 mm (9.2")
Max. bar material dia.	Ø45 mm (Ø1.8")
Chuck size	6"
Spindle motor	5.5/7.5 kW
Travel X/Z	138/250 mm (5.4"/9.8")
Max. part capacity (Dis dia. x length)	Ø80 x 100 mm
Max. part weight	3 kg (6.6 lbs.)
Parts change time	5 sec.
Repeatability positioning	±0.03 mm
Number of stations	12
Loading weight per station	30 kg (66 lbs.)

FCL-150MC



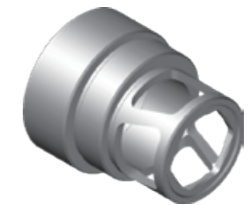
High-speed, Linear Way CNC Lathe

The X/Z axes employ high-performance roller linear guide ways, featuring excellent characteristics such as high precision, fast movement, and low wear.

Powerful tooling 12 station BMT45 system, drilling, milling turning, tapping as well as end milling capabilities for high efficiency integrated machining.



The FCL-150MC is shown with optional accessories.



Medical equipment parts

Specifications

Max. cutting dia.	Ø266 mm (Ø10.5")
Max. cutting length	300 mm (11.8")
Max. bar material dia.	Ø52 mm (Ø2.0")
Chuck size	6"
Spindle motor	7.5/11 kW
Travel X/Z	180/350 mm (7.1"/13.8")

FNL-220LY



Multi-axis, Multi-functional, Multi-operations

A multi-axis, multi-functional CNC turn-mill center, with rigidity surpassing that of ball screw linear guide ways by 30%.

The multi-functional lathe offers first and second operations in one machine. The Y-axis travel (±55 mm (±2.2") from the centerline) for off-center milling is the largest range in its class for FNL-220Y models. Enhancing machine productivity and added value.



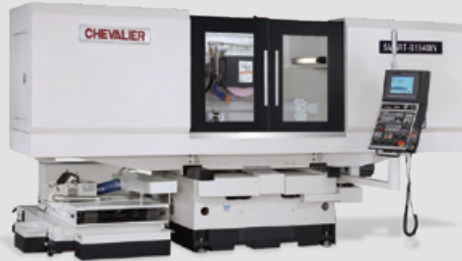
The FNL-220LY is shown with optional accessories.



Medical equipment parts

Specifications

Max. cutting dia.	Ø270 mm (Ø10.6")
Max. cutting length	510 mm (20.1")
Max. bar material dia. (main)	Ø52 mm (Ø2.0") / Ø65 mm (Ø2.5") optional
Chuck size	6"
Main spindle motor	11/15 kW
Travel X/Z/Y	200/560/±55 mm (7.9"/22.0"/±2.2")



Grinding
Machines

SMART
Grinding Machines

Turning
Machines

Milling
Machines



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