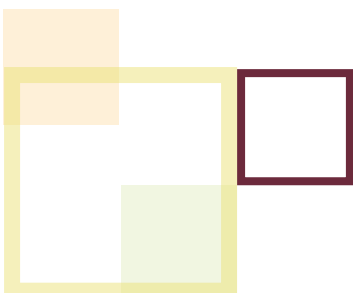


**TIMTOS**

March 3-8, 2025  
Booth #I1116

**SMART and GREEN**

The Future of Advanced Machining Technology



**CHEVALIER<sup>®</sup>**

We shape your ideas.<sup>™</sup>



**FocusCNC<sup>®</sup>**

The NEW Mark of Excellence<sup>™</sup>



CHEVALIER focused on "SMART and GREEN The Future of Advanced Machining Technology" at the TIMTOS exhibition, with a primary emphasis on intelligent technology, carbon management, and energy-saving technologies.



Intelligent

In terms of intelligent technology, we introduced features such as intelligent auto wheel dressing, smart grinding path, fully-automatic dynamic balancing, and industry-specific graphical interfaces. It allows operators to easily create their own programs for generating complex grinding tasks in a single cycle , significantly enhancing production efficiency.



Energy-saving  
technology

In terms of energy-saving technology, we have developed a smart energy-saving feature that automatically activates various energy-saving measures based on the machine's processing and standby states, effectively saving energy and reducing carbon emissions. Additionally, customers can select energy-efficient options such as high-performance motors and variable-frequency hydraulic systems, further reducing energy consumption and ensuring compliance with green machine tool standards.



Carbon  
management

In terms of carbon management, we offer machine energy consumption monitoring features. In addition to basic motor energy consumption statistics, an optional digital power meter can be added to enable overall machine energy consumption monitoring, allowing for precise tracking of the electricity consumption for each processing operation.

CHEVALIER is committed to the design of green machine tools, combining digitalization, automation, high performance, and energy-saving environmental solutions to continuously lead innovation in the machine tool manufacturing industry. We integrate carbon management, energy-saving technologies, and Intelligent Machine Communications System™ (iMCS) to deliver intelligent control management solutions, advancing the vision of sustainable smart manufacturing. Together with our customers, we are poised to meet the future challenges of green manufacturing and co-create a new era of smart manufacturing.

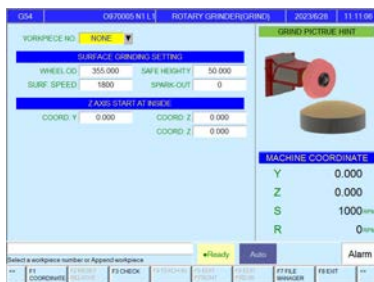
# SMART iControl

- ✓ Graphical Interface
- ✓ TaskLink
- ✓ Intelligent Functions

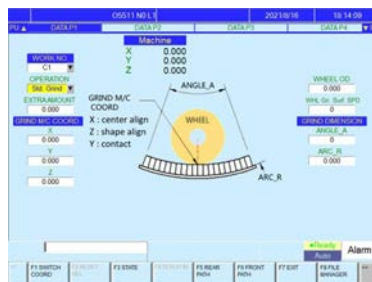
SMART iControl creates customized graphical interfaces, offering high efficiency, smart and green manufacturing solutions.



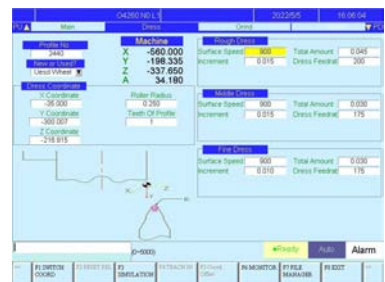
## Exclusive Industry-Customized Graphical Interfaces



Electrostatic Chuck



Turbine Shrouds



Cycloid Gear for RV Reducer



Thread Rolling Die



Roots Rotor



Ultrasonic Welding Head



# Featured at TIMTOS 2025

CHEVALIER®

## FSG-1224ADIV+ Fully Automatic Precision Surface Grinder



The newly designed FSG-12/16ADIV+ CNC surface grinder series features a fully supported rail design, ensuring stability under heavy-load and long-duration operation.

CHEVALIER focuses on green design and smart technology, featuring fully automatic dynamic balancing, AI thermal displacement compensation, energy consumption visualization, and smart energy-saving functions, to meet the demands of high performance and smart manufacturing.



The FSG-1224ADIV+ is shown with optional accessories.

### Specifications

Table size	300 x 600 mm (11.8" x 23.6")
Spindle speed	500 to 2,200 rpm
Spindle motor	up to 5.5 kW (7.5 HP)
Material	Alloy steel
Hardness	HRC50-55
Workpiece size	250 x 50 x 45 mm
Flatness accuracy	≤ 0.002 mm



This model was awarded the Golden Energy Saving Label Recognition



Mold

## SMART-B1224IV 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.

CHEVALIER provides customized graphical and quick change spindle arbors for grinding thread rolling dies in the screw industry. Users can easily modeling complex workpieces, optimize processes, achieve energy savings and carbon reduction, and enhance production efficiency.



The SMART-B1224IV is shown with optional accessories.

### Specifications

Table size	300 x 600 mm (11.8" x 23.6")
Spindle speed	500 to 2,200 rpm
Spindle motor	11 kW (15 HP)
Material	Alloy steel
Hardness	HRC60-64
Workpiece size	200 x 100 mm
Dimension accuracy	±0.01 mm
Form accuracy	±0.01 mm



Thread Rolling Die

## FRG-600S CNC Rotary Surface Grinder



FRG-S Series has several design features that ensure heavy-load, smooth, and stable grinding.

CHEVALIER develops a customized graphical interface for rotary grinding, combined with various design features to meet the high productivity and smart factory demands of industries such as automotive, energy, and semiconductors

### Specifications

Table size	Ø600 mm (Ø23.6")
Spindle speed	500 to 2,200 rpm
Spindle motor	up to 7.5 kW (10 HP)
Material	Ceramics
Hardness	H, Mohs 8.5
Workpiece size	Ø300 x 20 mm
Crown accuracy	≤ 0.002 mm
Surface roughness	Ra 0.03 µm



The FRG-600S is shown with optional accessories.



Electrostatic Chuck

## FVGC-U60 Vertical Grinding Center



The five-axis vertical grinding center integrates complex processes to meet the multi-angle machining needs of workpieces. It can also be equipped with a robot for automated processing, significantly improving production efficiency.

An optional roller dresser can be selected for diamond wheel truing and dressing, providing an effective grinding and energy-saving solution for hard and brittle materials in the semiconductor industry.

### Specifications

Table size	Ø350 mm (Ø13.8")
Spindle speed	15,000 rpm
Travel (X/Y/Z)	750/455/495 mm (29.5"/17.9"/19.5")
Material	Glass
Hardness	H, Mohs 6.0
Workpiece size	212 x 136 x 17.6 mm
Machining allowance	0.3 mm
Machining time	3 hour



The FVGC-U60 is shown with optional accessories.



Locator Element

# Featured at TIMTOS 2025



## FBL-320SY



### Smart Machinery with Automated Vision Inspection

Powered by the FANUC Oi-TF Plus controller with a 15-inch display, this model incorporates proprietary features such as spindle load monitoring, intelligent chuck control, and spindle vibration suppression. The built-in AI thermal displacement compensation system uses sensors to automatically adjust for thermal deformation, ensuring stable machining precision.

Additionally, the FANUC collaborative robotic arm supports high-sensitivity contact stop and safe human-robot interaction, paired with automated vision inspection capabilities.

#### Specifications

Max. cutting dia.	Ø460 mm (Ø18.1")
Max. cutting length	548 mm (22.0")
Max. bar material dia. (main)	Ø77 mm (Ø3.0")
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")



The FBL-320SY is shown with optional accessories.



Machine parts

## FNL-220LY



### High-Speed, High-Precision Turning-Milling Center

Equipped with the Mitsubishi M80 controller and a 15-inch display, this machine integrates proprietary software and monitoring functions. It features a direct-drive built-in spindle with a water-cooling system. Cutting tests demonstrate minimal dimensional deviation, while the spindle's design ensures easy installation and maintenance.

The live tool turret has been upgraded to 10,000 rpm, allowing direct machining of holes smaller than 2 mm without requiring a speed increaser tool holder.

#### 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")



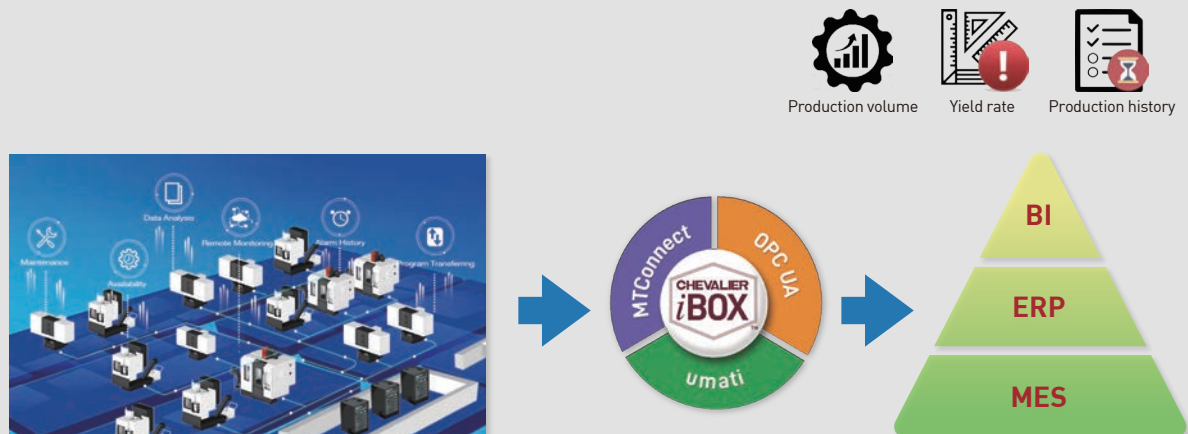
The FNL-220LY is shown with optional accessories.



Hardware parts

# iMachine Communications System™ (iMCS)

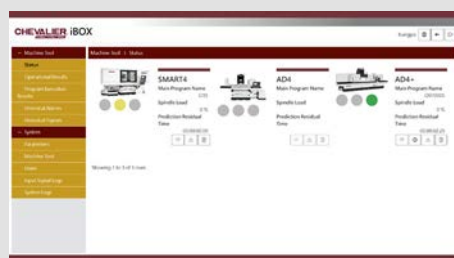
Chevalier's exclusive intelligent Machine Communications System™ (iMCS) is a comprehensive remote monitoring system that connects client's equipment with its CNC machines through international communications protocols (MTConnect / OPC UA / umati) by Chevalier's iBOX™ to compile performance data, remote machine monitoring, alarm history, maintenance, data analysis, and overall equipment effectiveness (OEE). iMCS system is user friendly, IoT ready and specifically designed for an end-user's analytic needs. This level of monitoring fosters a greater understanding of production assessment that leads to streamlining and maintaining operations for greater efficiency and productivity.



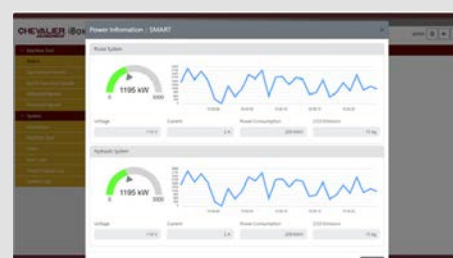
Apply machine information to production management and decision support system

A higher level of production assessment that leads to streamlining and maintaining operations

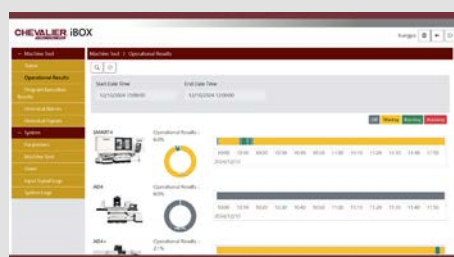
## iBOX Monitoring Screen



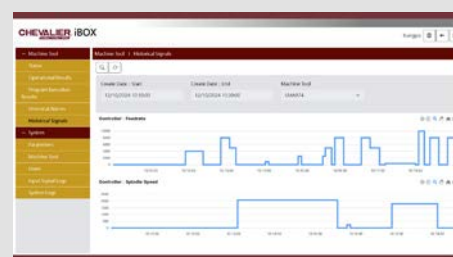
Machine Status



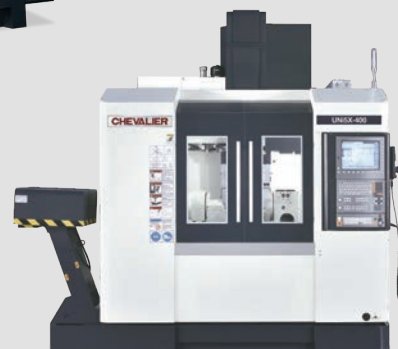
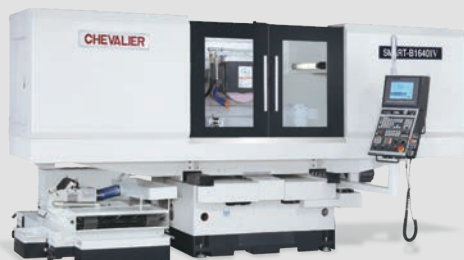
## Energy Consumption Statistics



### Overall Equipment Effectiveness



## Data Collection



Grinding  
Machines

SMART  
Grinding Machines

Turning  
Machines

Milling  
Machines



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