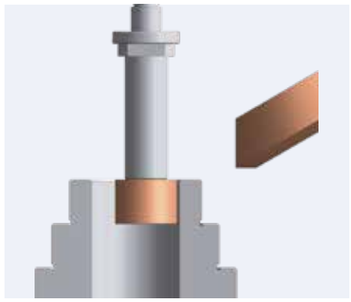
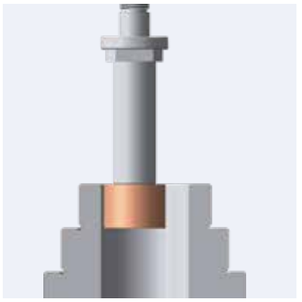
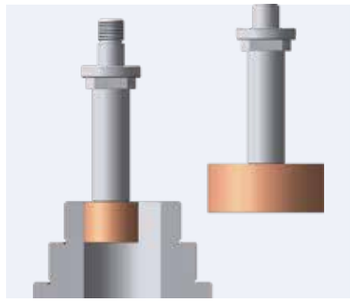
EGV CNC · Printed in Taiwan · E3 02/2025 · EN

CNC Vertical Grinder

EGV Series

Grinder Professional

Headquarters
No. 12, Longshan 2nd St., Daya Dist.,
Taichung City 42863, Taiwan (R.O.C.)
TEL : +886-4-2568-6418
Mail : info@etechtw.com

Shanghai Company
201700 Room 502, No. 79, Green Age Mansion,
Baihe Town, Qingpu District, Shanghai 201700, China
Phone : +86-1347-2898433
TEL : +86-21-5825-5706
Mail : hz@etechtw.com

WEB
www.etechtw.com

Supertec USA
6435 Alondra Blvd,Paramount,CA,90723
TEL : +1(562)220-1675
Mail : info@supertecusa.com
WEB： supertecusa.com

watch more

e-tech

e-tech Machinery Grinder Professional

EGV Series CNC Vertical Grinder

Features

1. Vertical Spindle Design – Enhanced Rigidity and Stability
   - The spindle is vertically configured, allowing gravity to act directly on the worktable. This ensures a more stable workpiece fixation, preventing deformation caused by unsupported positioning.
   - Ideal for high-precision grinding of end faces, inner and outer diameters, and special shapes.

2. High-Rigidity Structure – Suitable for Heavy and Large Workpieces
   - The machine structure undergoes annealing and aging treatment to ensure long-term stability.
   - Equipped with a high-rigidity column and reinforced base, it can withstand the weight and machining pressure of large workpieces.

3. Rotary Worktable – Precise Positioning and Flexible Machining
   - Features a high-precision rotary worktable, which can be integrated with CNC control for complex shape grinding.
   - Suitable for applications involving gears, turbines, bearing housings, valve bodies, and more.

4. Multi-Function Machining – Simultaneous Inner, Outer, and End Face Grinding
   - Capable of grinding both inner and outer diameters in a single setup, streamlining multiple processes and improving production efficiency.
   - Can be equipped with an ATC (Automatic Tool Changer) and tool holder change technology for greater machining flexibility.

5. Smart Control Integration – Ensuring High Precision and Operational Convenience
   - The i-Grind conversational interface makes operation more intuitive, enhancing machining efficiency.
   - Optional in-line measurement system enables real-time monitoring of workpiece dimensions, ensuring stable precision.

EGV C-type

The structural engineering of e-tech has always been known for having high demands toward machine rigidity and structural strength. In order to exceed the limitations of grinding the long-deep hole in vertical grinders, e-tech designed the structure body with the large fixed column with slides, so the machine can grind the depth to 550mm.

EGV Empire

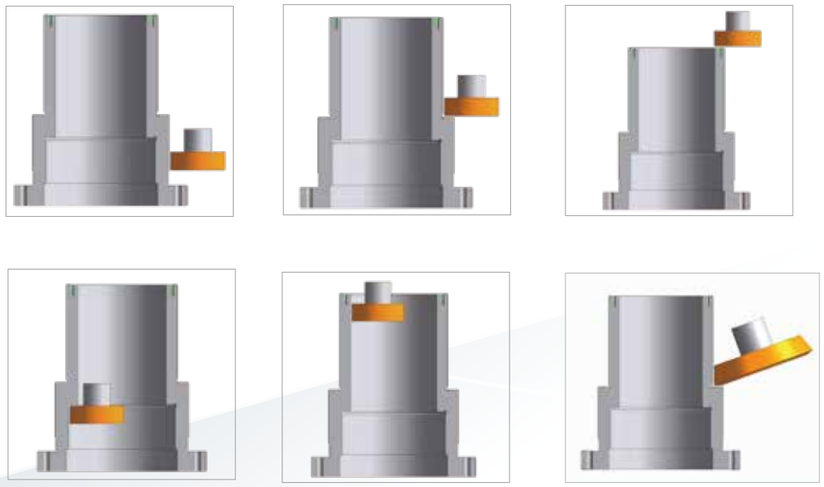
To enhance grinding process flexibility and reduce machine footprint, this machine is equipped with a swinging grinding wheel head and an increased number of drive shafts. Its structure adopts a gantry-type five-axis design, with an expanded tool magazine capacity of up to 16 tools, making it an ideal choice for small to medium-sized workpieces with grinding depths of up to 400mm.

i Grind Software Features

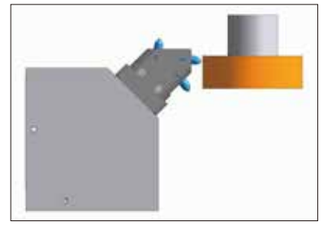
e-tech machinery continued with years of software development, introducing i-Grind software into EGV series. It's simple, practical, and easy to use, which has the ability to achieve high efficiency and convenient tool setting operation setting on different parts. Moreover, it can pair up with variety of gauging and automation sytem, and etc. to advance the production.

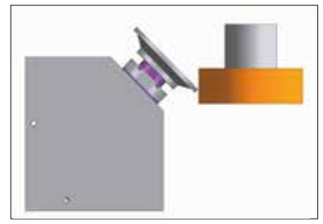
- Conversational grinding function
- OD Grinding / Face Grinding /Form Grinding
- Form Grinding with Automatic wheel dressing and compensation
- Multiple step grinding
- Save and upload for grinding and dressing settings
- Graphic conversational guidance

Standard Grinding Cycles and Multi-steps Graphic Conversational Functions

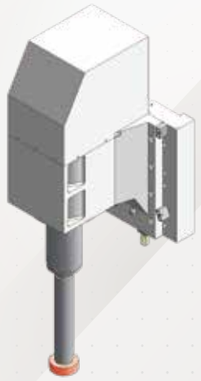


Grinding Wheel Dressing Graphic Illustration





Structure Design – C-type Series

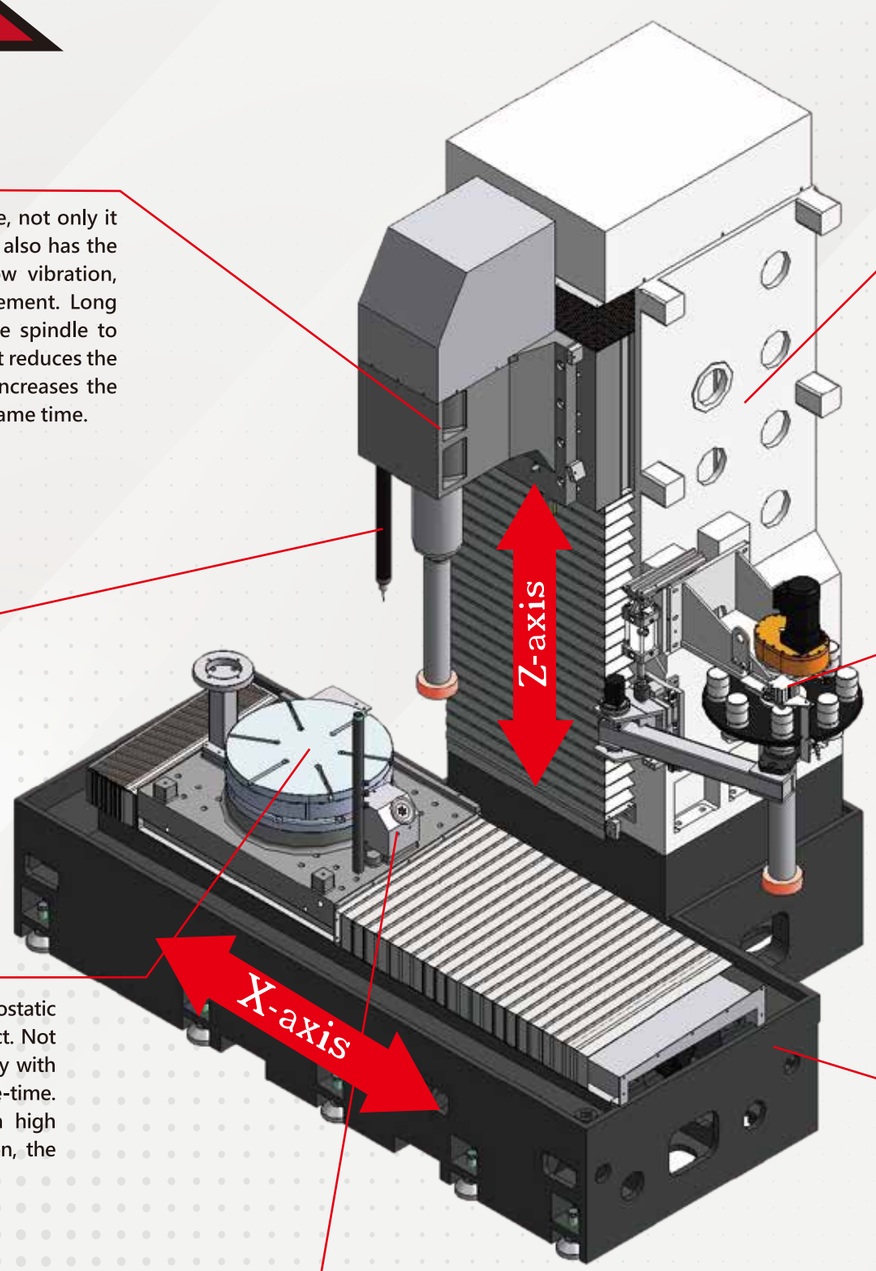


Grinding Spindle

e-tech chooses to use built-in type spindle, not only it has the feature of high cutting speed, but also has the advantage of good grinding capacity, low vibration, high accuracy, and flexible space arrangement. Long spindle nose design is easier to allow the spindle to enter deep bores for grinding. In this way, it reduces the length of the grinding wheel arbor, and increases the rigidity during the gring operation at the same time.

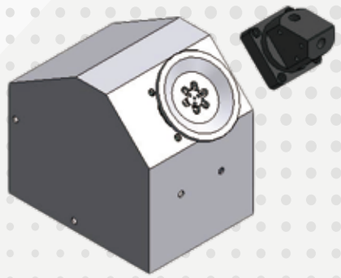
Measurement Device (Opt.)

Optional tool-changeable RENISHAW RMP-series wireless workpiece measurement system with LP2 probe, providing reliable measurement accuracy and long service life.



Hydrostatic Rotary Table

As for the rotary table, e-tech uses the hydrostatic design with the feature of zero steel contact. Not only it could provide high rotating accuracy with 0.001 mm, but also it has a long servicing life-time. The high rigidity design provides itself a high loading capacity. In static loading condition, the weight load capacity reaches to 1200 kg.



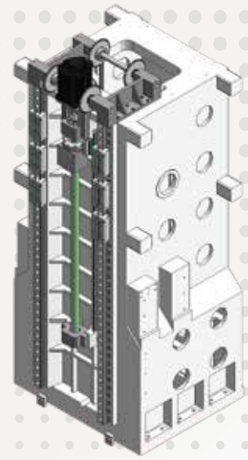
Diamond Roller Dresser (Opt.)

Comparing with the ordinary diamond dressers, diamond roller has the feature of not easily worn-off, high shaping accuracy, and high dressing efficiency. According to customer, It's also can replace diamond roller with diamond dressers.

High Precision Linear Scale

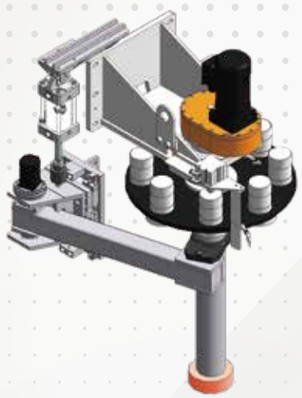
All axes using high precision ball screw with the features including high precision, high rigidity, high lead, and predictable service life.

Using PS-grade linear guideways, and longer sliding block to achieve features of average weight and accuracy, and low friction.



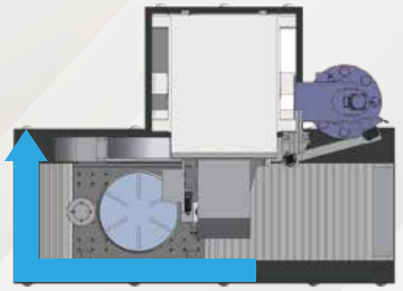
ATC Tool Changing System

The carousel tool magazine with ATC tool change system, not only provides the high stability, but also increases the efficiency for tool changing. The tool magazine could reserve around 6 to 8 tool holders in stock. In this case, it could still perform the best surface roughness even facing workpiece with complicated operation requirement.



Base

Low gravity machine structure and high rigidity machine base design can successfully control the stability of the heat source. Also, the single-side water flow design can reduce the effect caused by temperature, and remove chips or debris to keep the machine clean.



Structure Design – Empire Series

Grinding Spindle

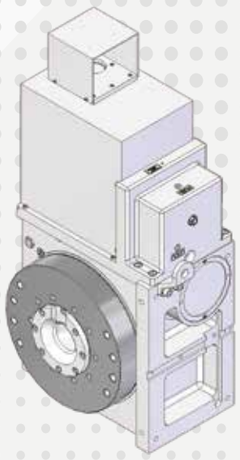
Adopts a built-in motorized spindle with a compact structure, lightweight design, low inertia, and excellent response characteristics. It effectively minimizes vibration and noise while enabling high cutting speeds. Additional advantages include superior cutting force, low vibration, high material removal rates, high precision, and efficient space utilization. The tool interface is HSK-E63, and the spindle is equipped with a cooling system for temperature control, ensuring long-term precision.

Measurement Device (Opt.)

Optional tool-changeable RENISHAW RMP-series wireless workpiece measurement system with LP2 probe, providing reliable measurement accuracy and long service life.

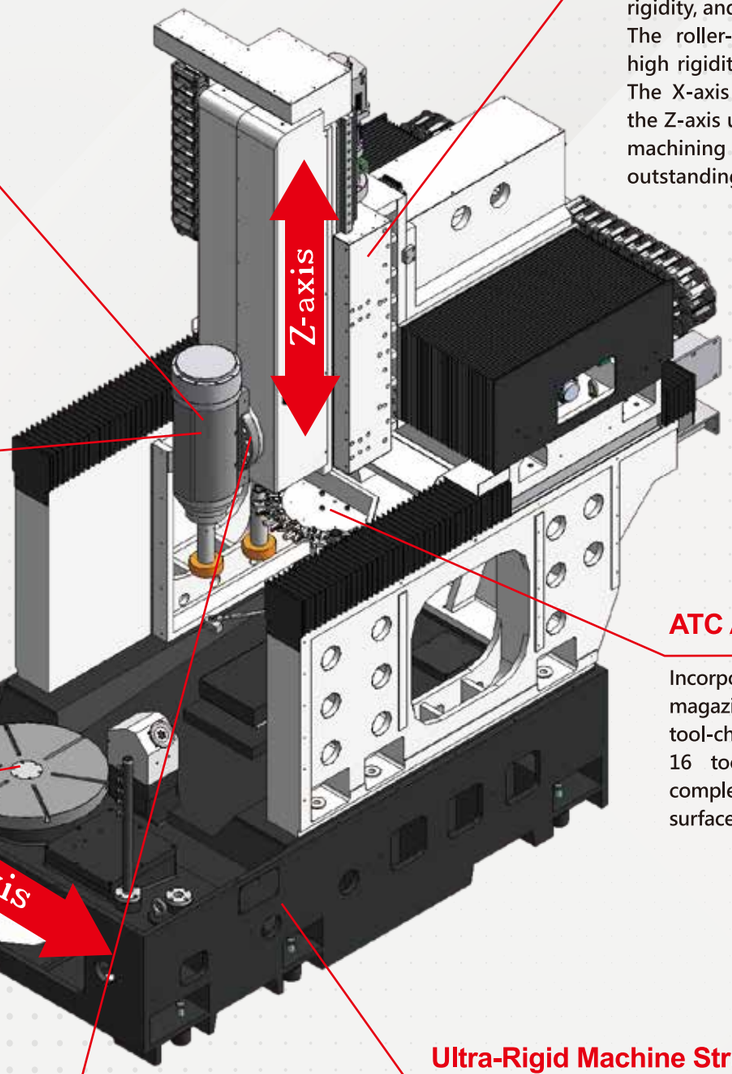
Rotary Table Spindle

Utilizes an integrated spindle sleeve structure to prevent precision loss due to table accuracy deviations. The extended support and preloaded positioning design enhance rigidity and minimize vibration, improving machining precision.



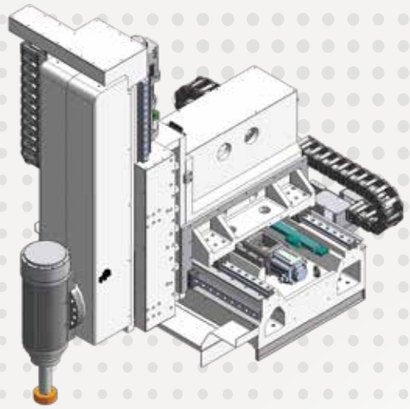
Spindle Swing Rotary Table

Driven by a servo motor with a worm gear mechanism, it features an internal toothed clutch that allows 5-degree indexing for heavy-duty grinding applications.



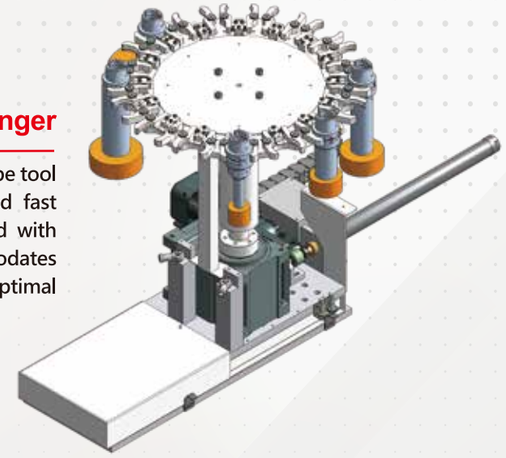
Saddle and Slide Table

Equipped with C1-grade high-precision ball screws, offering high efficiency, superior rigidity, and predictable precision lifespan. The roller-type linear guideways provide high rigidity and ultra-heavy load capacity. The X-axis utilizes three guideways, while the Z-axis uses four, significantly improving machining precision and achieving outstanding accuracy.



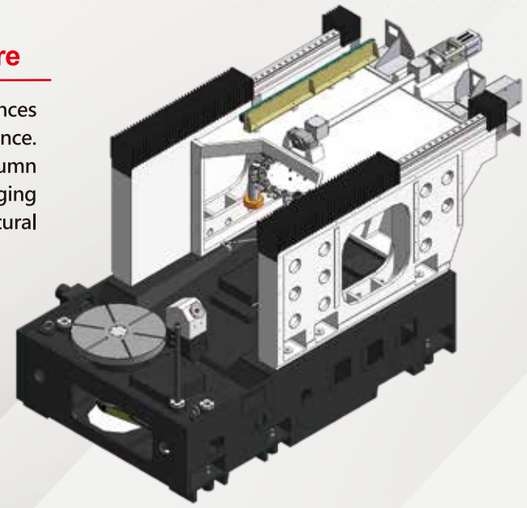
ATC Automatic Tool Changer

Incorporates a unique umbrella-type tool magazine with high reliability and fast tool-changing efficiency. Designed with 16 tool positions, it accommodates complex workpieces and ensures optimal surface finish applications.



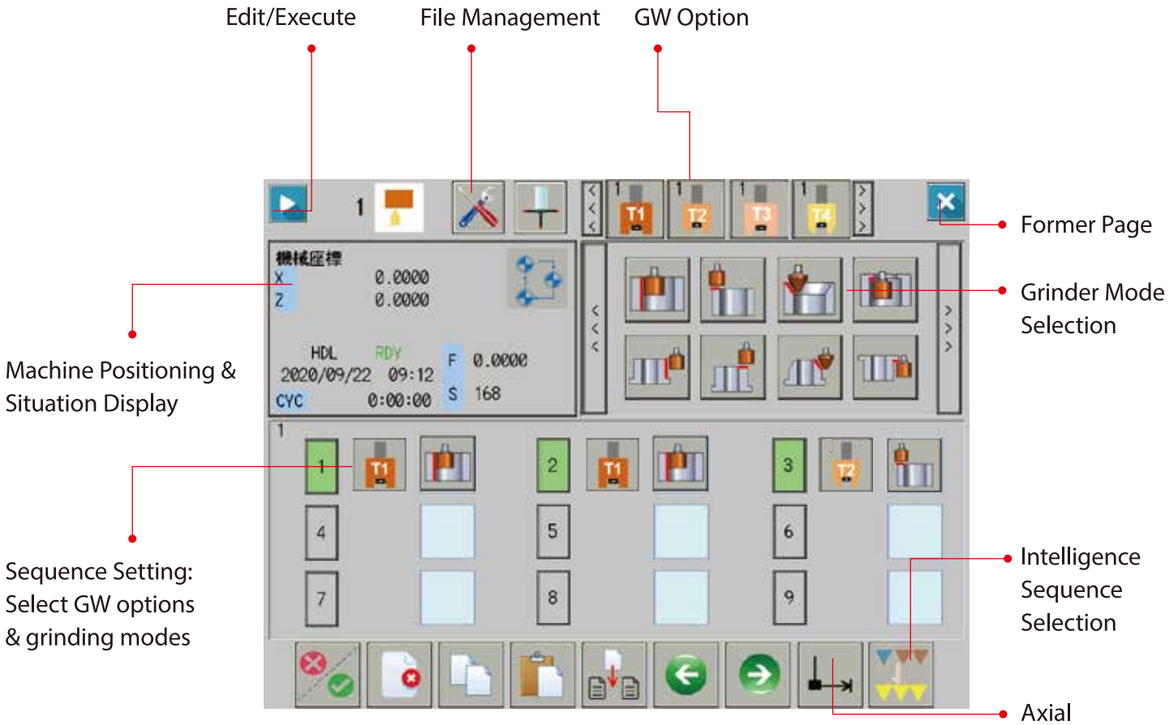
Ultra-Rigid Machine Structure

The low-profile bed structure enhances rigidity and improves operator convenience. Combined with a high-rigidity column design, it undergoes stress relief and aging treatments to ensure long-term structural stability and precision retention.

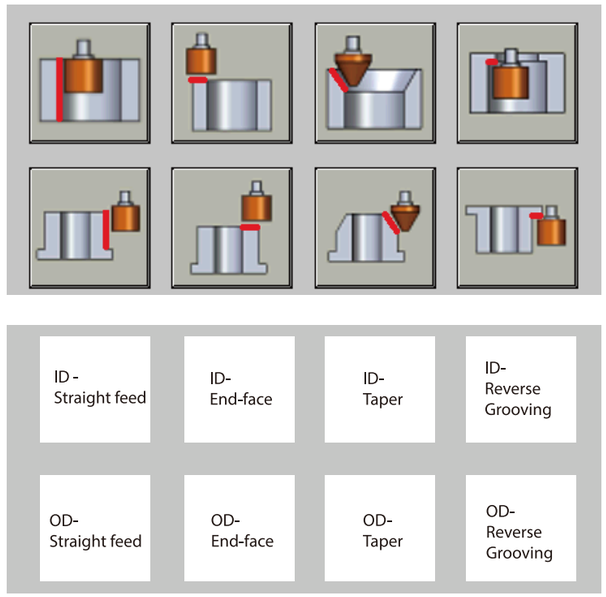


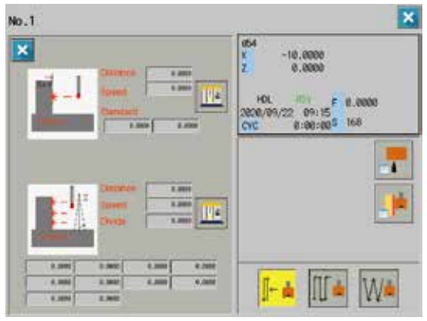
i-Grind Graphic Conversational Screen

- Operation set-up through simple graphic display icons for easy learning progress



- Grinding mode selection



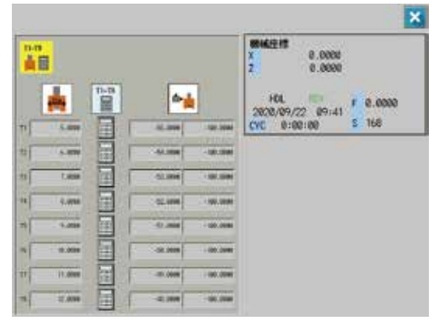


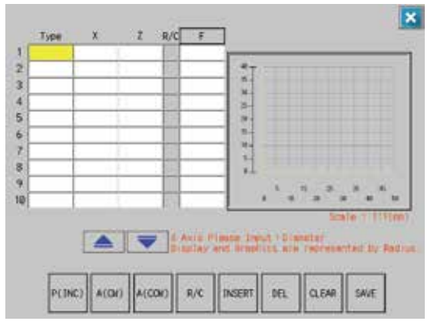
- **Multi-Point End Face Detection Function**

For large workpieces, relying on a single preset grinding point can be inconvenient for users, and verifying dimensions after grinding poses another challenge.
To enhance user-friendliness, e-tech has integrated a high-precision measurement system, making grinding setup more convenient and intuitive.
In addition to in-machine ring gauge comparisons, the system incorporates a 0.05 μm closed-loop linear scale to ensure measurement accuracy.

- **Automatic Grinding Wheel Calculation Function**

Traditional planning methods require setting the grinding start point for each wheel, which is time-consuming.
With e-tech's intelligent calculation feature, the grinding start point is automatically determined after wheel dressing, making the process faster and safer.





- **Rapid Grinding Wheel Dressing**

Using i-Grind's high-speed wheel dressing function is the most efficient way to shape new grinding wheels. This advanced feature significantly reduces wheel forming time, greatly improving grinding efficiency.
Operators can input dresser specifications and the required geometric data to generate the dressing path for profile shaping. The "high-speed wheel dressing" function ensures the most effective method for forming new grinding wheels.

- **End Face Detection Diagram**

Specification

CNC Vertical Grinder C-type Series			EGV-600CNC	EGV-800CNC
Grinding Capacity	Max. ID Ø	mm	Ø70~Ø550	Ø70~Ø750
	Max. OD Ø	mm	Ø600	Ø800
	ID Length	mm	550	550
	OD Length	mm	550	550
	Max. Swing Ø	mm	Ø600	Ø800
	Max. Workpiece Weight	kg	800	800
Grinding Wheel	Spindle Speed	rpm	10000	10000
	Tool Holder		HSK-A100	HSK-A100
	Spindle Turning Angle		Fixed type	Fixed type
			(Opt. Manual 22.5degree)	(Opt. Manual 22.5degree)
X Axis	Max. Feeding Stroke	mm	1000	925
	Max. Feeding Speed	m/min	15	15
	Min. Feeding Unit	mm	0.0001	0.0001
Z Axis	Max. Feeding Stroke	mm	1200	1200
	Max. Feeding Speed		15	15
	Min. Feeding Unit	mm	0.0001	0.0001
Table	Table Size	mm	Ø600	Ø800
	Max. Swiveling Speed	rpm	200	200
			(Hydrostatic pressure)	(Hydrostatic pressure)
Auto Tools Changer	Max. Grinding Wheel	mm	Ø250	Ø250
	Max. Grinding Wheel Weight	kg	8	8
	Grinding Wheel Capacity		8	8
			(According to grinding wheel)	(According to grinding wheel)
Motor	GW Spindle Motor	kW	25	25
	Work Table Motor (DD Direct Drive)	kW	3.1	3.1
	Hydraulic Motor	Hp	4	4
	Coolant Motor	Hp	2.5	2.5
	X-axis Servo Motor	Kw	4.5	4.5
	Z-axis Servo Motor	Kw	4.5	4.5
Machine	Net Weight	kg	22000	22500
	Gross Weight	kg	23000	23500
	Packing Dimension (L×W×H)	mm	3000x2700x3700	3000x2700x3700

*e-tech Machinery reserves the right to adjust and modify specifications.

CNC Vertical Grinder Empire Series			EGV-400E CNC	EGV-600E CNC
Grinding Capacity	Max. ID Grinding Diameter	mm	Ø40~ Ø350	Ø40~ Ø550
	Max. OD Grinding Diameter	mm	Ø400	Ø600
	Max. ID Grinding Length	mm	400	400
	Max. OD Grinding Length	mm	400	400
	Max. Swing Diameter	mm	Ø400	Ø600
	Max. Loading weight on work table	kg	300	500
Grinding Wheel	Spindle Speed	rpm	24000	
	Tool Holder Interface		HSK-63E	
X Axis	Travel	mm	620	
	Rapid Feed Rate	m/min	12	
	Min. Increment	mm	0.0001	
Y Axis	Travel	mm	895	
	Rapid Feed Rate	m/min	12	
	Min. Increment	mm	0.0001	
Z Axis	Travel	mm	700	
	Rapid Feed Rate	m/min	12	
	Min. Increment	mm	0.0001	
B Axis (EGV-EB)	Swing Range	deg.	+10~-30	
	Min. Division Angle	deg.	5	
	Division Accuracy	sec.	±5	
	Repeatability	sec.	±1	
C Axis	Table Size	mm	Ø400	Ø600
	Table Rotation Speed	rpm	500	
Auto Tools Changer	Max. Grinding Wheel Diameter	mm	Ø200	
	Max. Grinding Wheel Weight	kg	5	
	Grinding Wheel Capacity		16 (According to grinding wheel)	
Motor	G.W Spindle Motor	kW	21	
	X Axis Servo Motor Power	kW	3.0	
	Y Axis Servo Motor Power	kW	3.0	
	Z Axis Servo Motor Power	kW	3.0	
	B Axis Servo Motor	kW	2.0	
	Work Table Motor	kW	4.5	
	Hydraulic Motor	Hp	1	
	Coolant Motor	Hp	1	
Machine	Net Weight	kg	12,500	12,700
	Gross Weight	kg	13,000	13,200
	Packing Dimension(LxWxH)	mm	1700x3500x3200	1700x3500x3200

*e-tech Machinery reserves the right to adjust and modify specifications.

Specification

Standard Accessories

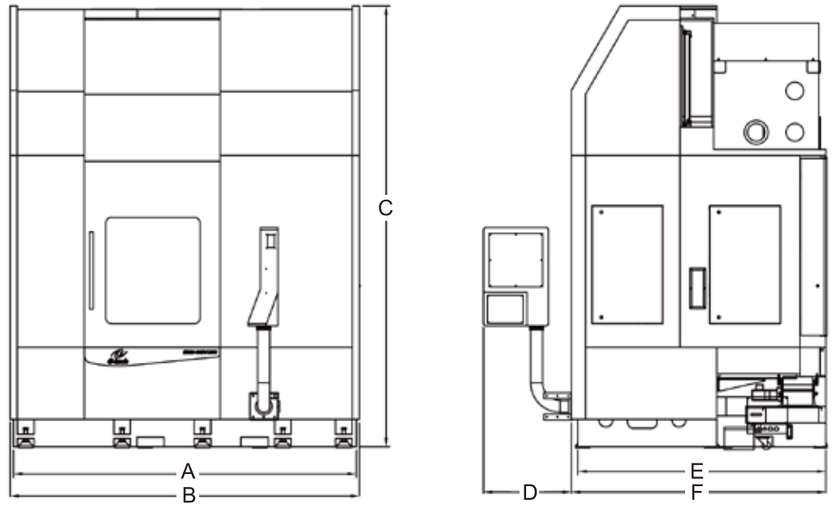
- Mitsubishi CNC Controller M80
- Ballscrew & linear guide way
- Auto. lubricaiton system
- Leveling bolts and blocks
- Tools and tool box
- Full-enclosed splash guard
- Diamond Dresser (3 point)
- 3-color signal light
- X axis linear scale
- HSK Grinding wheel spindle (2pcs)
- ATC Tool changer with Disk type magazine
- Rotary table with direct drive motor
- Electricity Carbinet w/ Heat Exchanger
- Rotary table with T-slot
- LED working light
- Operation manual and part lists
- Electricity Diagrams
- C-type：Grinding wheel spindle (HSK-A100)
- Empire：Grinding wheel spindle (HSK-A100)

Optional Accessories

- Mitsubishi controller (M80) iGrind program
- Permanent Magnetic Rotary Chuck (Include 8 customized magnets)
- Coolant system with magnetic separator 120L/min
- Coolant system with paper filter 120L/min
- Oil Skimmer (Oil & Water separator)
- Coolant system chiller
- Oil & mist collecting system (LOSMA)
- Diamond roller dressing device
- Filstar high capability fitering system
- Power sensor dressing crash control system (current indicator)
- Renishaw LP2 tool setting and measuring device (with guage block)
- Z axis linear scale
- Customized chuck (fixture)
- C-type：HSK-A100 Grinding wheel spindle
- Empire：HSK-E63 Grinding wheel spindle
- Empire：Y axis linear scale

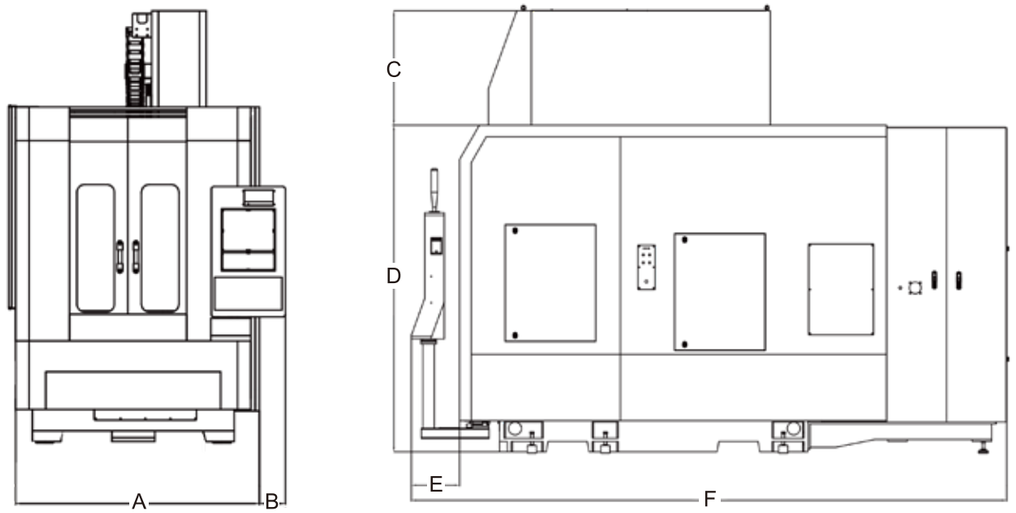
Machine Size

EGV C-type



EGV	A	B	C	D	E	F
600	2900	2954	3730	745	2100	2155
800	2900	2954	3730	745	2100	2155

EGV Empire



EGV	A	B	C	D	E	F
400EB	1811	194	717	2495	220	4373
600EB	1838	279	880	2515	371	4585