

Precision Surface Grinder

ESG series

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ESG-618/820 Precision Surface Grinding Machine

Affordable and easy to operate, E-Tech 618/820 series of surface grinders, with 3 models in available, are designed and built for accuracy, durability and smooth performance. These machines offer many features and solutions to increase your productivity.

ESG-618 series

- M:3 axes hand feed surface grinder
- H:Hydraulic table and crossfeed grinder[auto crossfeed, rapid downfeed (manual)]
- A:3 axes full automatic surface grinder [longitudinal feed by hydraulic,auto crossfeed and downfeed, human computer interaction with touch screen].

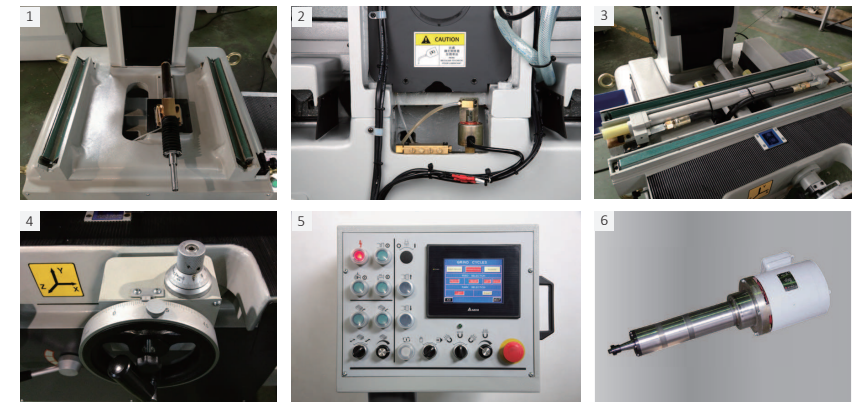
ESG-820 series

- M:longitudinal feed by hydraulic,auto crossfeed
- H:longitudinal feed by hydraulic,auto crossfeed, rapid downfeed (manual)
- A:longitudinal feed by hydraulic,auto crossfeed, human computer interaction with touch screen

- All castings are heat tempered and stress relieved twice during the manufacturing process to ensure stability of the machine structure and prevent deflection under load. Massive one-piece cast column is heavily ribbed for rigidity. Hardened & ground tool steel column ways with cast spindle slide is precisely fit for smooth downfeed.
- The table reversal which is hydraulically powered and actuated by non-contact proximity switches is free from mechanical noise. Table speed and stroke are infinitely variable (1~25m/min) and can be easily adjusted.
- Cross way surfaces are hand scrapped and Turcite coated for absolute flatness and high wear resistance. It also assures a smoother saddle movement for higher accuracy and longer life.
- High rigidity spindle preloaded with P4 bearings and run-out of spindle taper less than 0.001mm T.I.R. provides quiet, vibration-free operation for better workpiece accuracy and surface finish. The cartridge type spindle is interchangeable for easy maintenance and field replacement. Moreover, spindle bearings are grease sealed to prolong service life.
- V3 grade spindle motor assembly is dynamically balanced for low vibration and powerful output to achieve precision work standards and better grinding capability.
- The ball way table travels on hardened and ground guideways to ensure smooth, easy movement of table for better quality surface finish and longer way life. (Optional: Precision Scraping guideways)
- Optional downfeed and crossfeed micrometer attachments are calibrated to 0.001mm. Finer adjustment engaged by worm gear reduces grinding tolerance with ease.



ESG-618A

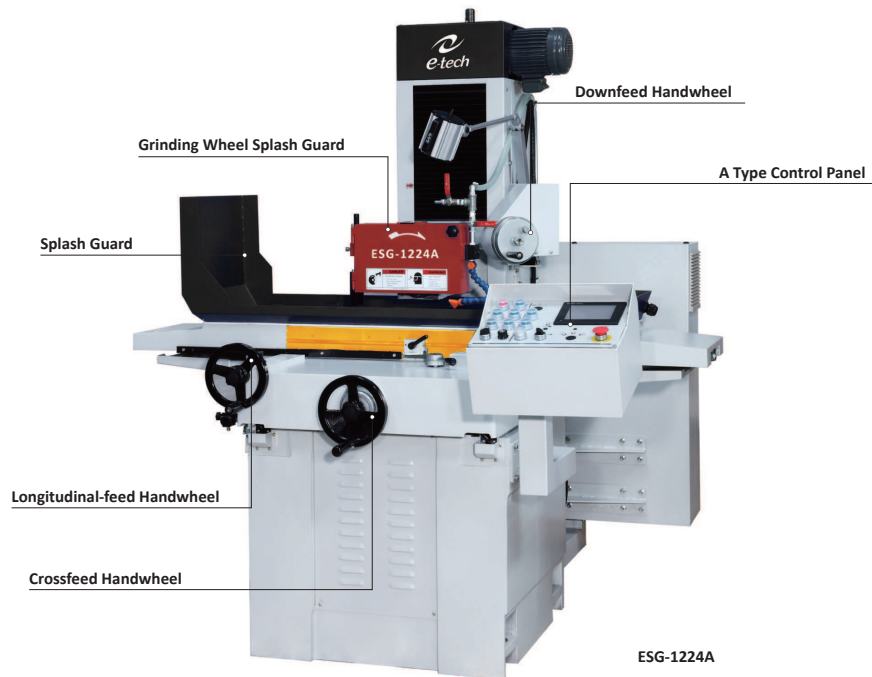


|1|Z axis way |2|Lubrication system |3|X axis way |4|Downfeed and crossfeed micrometer attachments(opt.) |5|Control Panel |6|Directive drive spindle with spindle motor

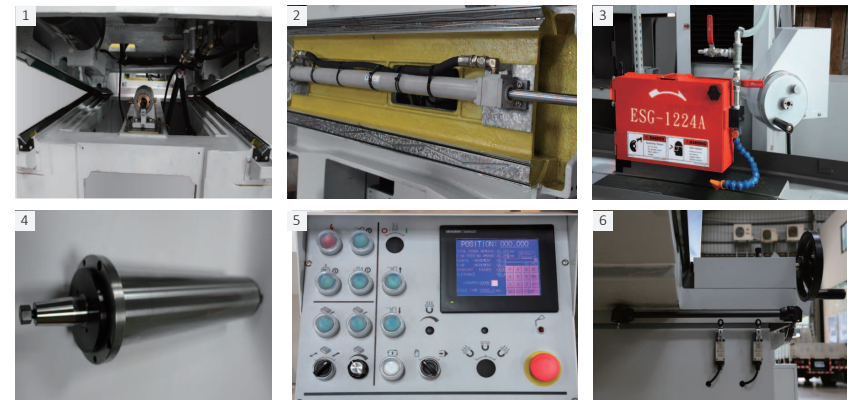
ESG1224/1632 Precision Surface Grinding Machine

- ESG-1224/1632 series of surface grinders are designed and built for accuracy, rigidity and smooth performance. The constructions of worktable, saddle, column and wheelhead are made of quality cast steel to ensure grinding stability and durability. Hydraulic tank is adapted with a chiller to maintain a low oil temperature and extend machining life.
- Auto downfeed for "A" models are executed by PLC with SURFACE, PLUNGE, and SPARK-OUT & ZERO RETURN grinding functions. All steps could be set at once and saved for processing the next same workpiece with ease.
- Auto downfeed for "H" models are executed by hydraulics with 3 feed modes for selection.

_M: Manual type, longitudinal-feed by hydraulic, auto crossfeed, downfeed by manual operation
 _H: Auto downfeed by hydraulic
 _A: Auto downfeed by stepping motor



- A tidy and concise electrical cabinet is designed with low-voltage control for double protections and easy maintenances.
- All switches are located at the control panel for easy and convenient operation.
- Automatic lubrication allows the operator to easily assess when to replenish oil by the alarm light.
- Hand scrapped double V base and saddle way: Cross way surfaces are hand scrapped and Turcite coated for absolute flatness and high wear resistance. It also assures a smoother saddle movement for higher accuracy and longer life.
- Every guideway surface is precisely hand scraped and Turcite B coated, features small friction, high wear resistance and steady movement, the saddle way is built to endure while keeping the precision.
- The spindle is incorporated with several super precision angular contact ball bearings (P4) preloaded in a constant temperature environment to provide a low temperature-ride and noise-free rotation, which is suitable for heavy duty grinding.
- The table reversal is hydraulically powered and actuated by non-contact proximity switches. Table speed and stroke are infinitely variable (3-25m/min). Driven by the individual AC motor, the ballscrew (ESG-1632) is retrofitted for crossfeed to maintain a smooth movement. Vertical rapid traverse is performed by AC motor to increase the efficiency.



|1|Z axis way |2|X axis way |3|Vertical downfeed |4|Spindle |5|A type control panel |6|Z axis sensor

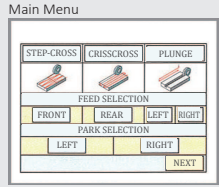
Specifications

			ESG-618			ESG-820			ESG-1224			ESG-1632			ESG-2040
General	Table size	Unit	M	H	A	M	H	A	M	H	A	M	H	A	A
Capacity	Max. grinding length	mm	150x460			200x510			300x600			400x800			500x1050
	Max. grinding width	mm	475			600			650			850			1050
	Distance from table surface to spindle centerline	mm	160			220			310			410			500
	Max. table load (inch chuck)	mm	400			400			510			510			600/700(opt.)
	Standard magnetic chuck size	kg	150			280			400			580			800
Longitudinal	Manual travel	mm	150x450			200x500			300x600			400x800			500x1000
Movement	Hydraulic Travel	mm	485			600			710			960			1150
	Table speed (Infinite variable speed)	mm	—	485		510		650		920		1100		—	
Cross	Manual travel	m/min	—	1-25		1-25		3-25		3-25		3-25		—	
Movement	Feed rapid (approx.)	mm	180			230			330			430			575
	Automatic traverse increment	mm/min	650			650			960			1200			1000
	Handwheel per graduation	mm/min	0.5-10			0.5-10			0.5-8			0.5-8			1-20
	Handwheel per revolution	mm	0.02			0.02			0.02			0.02			0.02
Vertical	Feed rapid (approx.)	mm	5			5			4			5			5
Downfeed	Automatic traverse increment	mm/min	—			—			190			190			500
	Handwheel per graduation	mm	—			—			0.002/0.006/0.01(M/H)0.001-0.099(A)			0.002/0.006/0.01(M/H)0.001-0.099(A)			0.001-0.999
	Handwheel per revolution	mm	0.005		0.001mm/MPG	0.005		0.001mm/MPG	0.002		0.001	0.001mm/MPG		—	
Grinding	Wheel size (OD xWxB)	mm	1		0.1mm/MPG	1		0.1mm/MPG	0.2		0.1	0.1mm/MPG		—	
Wheel	Speed (50HZ/60HZ)	mm	Ø180x13xØ31.75			Ø180x13xØ31.75			Ø305x31xØ76			Ø355x50xØ127			Ø355x38xØ127
Motor	Spindle motor	rpm	3000/3600			3000/3600			1425/1710			1425/1710			1450/1750
	Crossfeed motor	HP	1.5HP/3HP (opt.)			2HP/3HP(opt.)			3HP			5HP			7.5HP/10HP (opt.)
	Elevating motor	—	25W		—	40W		—	1/4HP		—	1/4HP		—	
	Hydraulic motor	—	40W		—	40W		—	1/4HP		—	1/4HP		—	
Floor Space	Total space required (LxWxH)	HP	1			1			2			3			3
Weight	Net, approx.	mm	1940x2050x1933			2123x2046x2208			4000x2700x2550			4000x2700x2550			4360x2865x2657
	Gross, approx.	kg	910			1470			1750			3500			5900
Packing Dimension	L x W x H	kg	1040			1620			2050			3800			6900
		mm	1560x1300x2200			1780x1600x2200			1970x2250x2250			2730x2250x2250			3600x2230x2280

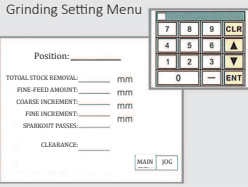
*E-Tech reserves the right to change specifications and design characteristics without prior notice.

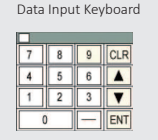
A Type Control Panel

The machine is equipped with a PLC control, a color touch screen and a user-friendly interface. The operator can simply set up the grinding amount and start a new grinding cycle. The last grinding cycle setting will be saved automatically and can be easily repeated by simply pressing the "Cycle Start" button.

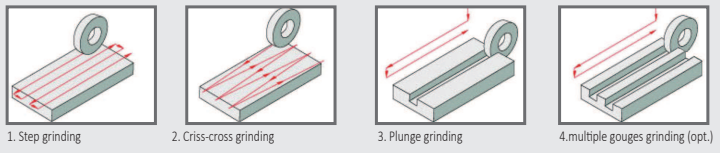


2 Axes Crossfeed Set Up
Crossfeed can be pre-set by choosing
(1)Front/rear axis to feed from both sides or one sides of the work table.
(2)The grinding wheel spindle to grind from both sides and either sides of the worktable.
(3)The worktable to feed from left or right side.
Optional auto-dressing attachment is available for automatic grinding function.





Grinding Cycle



Standard accessories

- Leveling screws with blocks
- Balancing stand with arbor
- Wheel extractor
- Operation manual with part list
- Tools and tool box
- Diamond Dresser&seat
- Splash guard
- Standard coolant tank
- PLC control panel with color touch screen
- Ballscrew with Servo motor for crossfeed
- Standard grinding wheel with flange
- Working light

Optional accessories

- Chiller
- Rotary table
- Demagnetizer (Standard)
- Coolant system w/magnetic separator
- Angle dressing attachment
- Radius dressing attachment
- Parallel dressing attachment (Manual)
- Demagnetizer (Hi-Power)
- Electromagnetic chuck (fine pole)
- Scope type dressing attachment
- Dual sides dressing attachment
- Roller type balancing stand
- Coolant system w/magnetic separator and paper filter
- Automatic dressing attachment with compensation system
- Permanent magnetic chuck
- Tilting permanent magnetic chuck
- Coolant and dust collector
- Dust collector
- Hydraulic parallel dressing attachment
- Full-enclosed splash guard
- Oil and mist separator
- Spare wheel flange (5")
- Inverter for wheel head spindle
- Auto demagnetizer
- Manual demagnetizer
- Optical scale