



Grinder Professionals
Precision Surface Grinding Machine
ESG series



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Precision Surface Grinding Machine

Affordable and easy to operate, the e-tech 618 series of surface grinders are designed and built for accuracy, durability and smooth performance. Available in 3 different models, these machines offer many features and solutions to increase your productivity.

ESG-618M	Hand Feed Surface Grinder
ESG-618H	Hydraulic Table and Cross Feed Grinder
ESG-618A	Hydraulic Table, Cross and Down Feed Grinder



Stringent Quality Control to E-tech Specifications:

Work table flatness: 0.00012"
 Parallelism of longitudinal movement: 0.0001"/18"
 Parallelism of cross movement: 0.000080"/6"
 Run-out of wheel taper: 0.000060"

FEATURES



Precision Cartridge Spindle for High Accuracy

High rigidity spindle with preloaded P4 bearings and run-out of spindle taper less than 0.000030" 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. Spindle bearings are grease sealed for life.

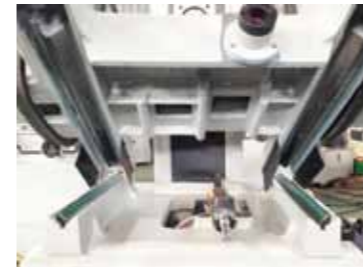
Powerful 2HP Low Vibration Spindle Motor

2 HP V3 grade spindle motor assembly is dynamically balanced for low vibration and powerful output to achieve precision work standards and better grinding capability.



Smooth Ball Way Table

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.



Hand Scraped Double V Base and Saddle Ways

Cross way surfaces are hand scraped and Turcite coated for absolute flatness and high wear resistance. Thus, It assures a smoother saddle movement for higher accuracy and longer life.



0.000050" Micro Downfeed and Crossfeed

Optional down feed and cross feed micrometer attachments are calibrated to 0.000050". Finer adjustment by engaging worm gear allows higher grinding tolerance with ease.



Rugged Construction

All castings are heat tempered and stress relieved twice during the manufacturing process to assure stability of the machine structure and resist deflection under load. Massive one-piece cast column is heavily ribbed for rigidity. Hardened & ground tool steel column ways with cast spindle slide is precision fit for smooth gravity downfeed.

PrecisionSurface

Grinding Machine

E-tech ESG series of surface grinders are designed and built for accuracy, rigidity and smooth performance. The constructions of working table, saddle, column & wheelhead are made of quality cast steel to ensure grinding stability and durability.

CROSS FEED (ESG-1632):

Ball screw if retrofitted for cross feed, driven by individual AC motor, to maintain a smooth movement.



Vertical rapid traverses is performed by AC motor to increase working efficiency. (ESG-820/1224/1632)

Hydraulic tank is adapted with "condenser" to cool off the oil temperature so as to maintain a low temperature and ensure machine life. (ESG-820/1224/1632)

A tidy & concise electrical cabinet is applied with low-voltage control for double protections, easy for maintenance.

All switches are located at the control panel for easy and convenient operation.

Auto downfeed for "H" models are executed by hydraulics with 3-step feed for selection. (ESG-820/1224/1632)

Auto downfeed for "A" models are executed by stepping motor with SURFACE, PLUNGE, SPARK-OUT & ZERO RETURN grinding performances. (ESG-820/1224/1632)

FEATURES



SLIDEWAYS:

All slideways are precisely handscraped and laminated with TURCITE B allowing a low friction and stable movement to retain high accuracy.



Hand Scraped Double V Base and Saddle Ways

Cross way surfaces are hand scraped and Turcite coated for absolute flatness and high wear resistance. Thus, It assures a smoother saddle movement for higher accuracy and longer life.



SPINDLE(ESG-1632/1224/2040):

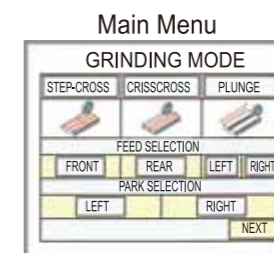
The spindle is incorporated with several pieces of preloaded super precision angular contact ball bearings in a constant temperature room to provide a low temperature rise and noise-free rotation. suitable for heavy duty grinding.



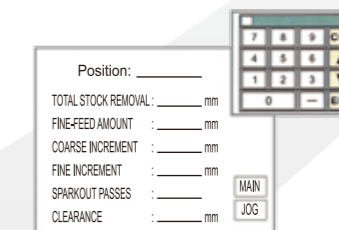
Control Panel

A Type (ESG-1224/1632/2040)

The machine is equipped with a PLC control in combination of user-friendly operation. The operator can simply set up the grinding amount and be ready for a grinding cycle. The control system will save the last grinding cycle setting, and the operator can press "cycle start" button to repeat previous grinding movement and start the cycle again.



Grinding Setting Menu

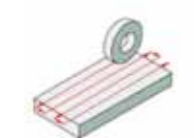
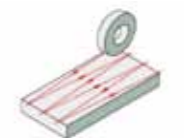
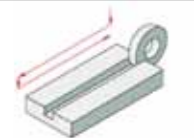


Data Input Keyboard



2 Axis Crossfeed Set Up

Crossfeed can be pre set, and the operator can also choose to set the front/rear axis to feed from both sides or one side of the working table. The grinding wheel spindle can be also set up to grind from both sides or either one side of the working table. The working table can be set up left and right efficient infeed, and the operator can choose from left or right side of the start/stop position setting. Furthermore, the operator can choose auto dressing attachment for automatic grinding function.

Grinding Cycle			
	1. Step grinding	2. Criss-cross grinding	3. Plunge grinding

- Leveling screws with blocks
- Balancing stand with arbor
- Wheel extractor
- Operation manual with part list

- Hand tools box with adjustment kits
- Diamond kit with holder
- Splash guard
- Standard coolant tank

- PLC control panel including color touch screen
- Ball Screw with Savo motor for cross feed
- Standard grinding wheel with flange
- Working lamp

- Permanent magnetic chuck
- Tilting Permanent magnetic chuck
- Combine coolant and dust collector
- Dust collector
- Hydraulic parallel dressing attachment

- Full – closed splash guard
- oil and mist separator
- Spare wheel flange (5")
- Automatic dressing attachment with compensation system
- Inverter for wheel head spindle
- Auto demagnetizer
- Manual demagnetizer
- Optical scale

Standard accessories



Optional accessories



■ Chiller

■ Rotary table

■ Magnetic chuck (Standard)



■ Coolant system with Magnetic separator and paper filter



■ Coolant system with Magnetic separator



■ Angle dressing attachment



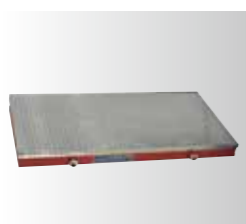
■ Radius dressing attachment



■ Parallel dressing attachment (manual)



■ Magnetic chuck (Hi power)



■ Electromagnetic chuck (fine pole)



■ Scope type dressing attachment



■ Dual side dressing attachment



■ Roller type balancing stand

ESG Surface Grinder Specifications

Item	unit	ESG-618M	ESG-618H	ESG-618A	ESG-820			ESG-1224			ESG-1632			ESG-2040NC	
					M	H	A	M	H	A	M	H	A		
General Capacity	Table Size	mm	150 x 460			200x510			300x600			400x800			500x1050
	Max. Grinding Length	mm	475			600			650			850			1050
	Max. Grinding Width	mm	160			220			310			410			500
	Distance from Table Surface to Spindle Centerline	mm	400			400			510			510			600/700(opt.)
	Max Table Load (inch Chuck)	kg	—			—			400			580			—
	Standard Magnetic Chuck Size	mm	150 x 450			200x500			300x600			400x800			500x1000
Longitudinal Movement	Manual Travel	mm	485			600			710			960			1150
	Hydraulic Travel	mm	485			510			650			920			1100
	Table Speed (Infinitely Variable)	M/min	1-25			1-25			3-25			3-25			—
Cross Movement	Manual Travel	mm	180			230			330			430			575
	Feed Rapid (approx)	mm/min	650			650			960			1200			1000
	Automatic Transverse Increment	mm/min	0.5-10			0.5-10			0.5-8			0.5-8			1-20
	Handwheel per Graduation	mm	0.02			0.02			0.02			0.02			0.02
	Handwheel per Revolution	mm	5			5			4			5			5
Vertical Downfeed	Feed Rapid (approx)	mm/min	—			230			—			190			500
	Automatic Transverse Increment	mm	—			0.001-0.099			—			0.001-0.099			0.001-0.099
	Handwheel per Graduation	mm	0.005			0.001mm /MPG			0.005			0.001mm /MPG			0.001mm/MPG
	Handwheel per Revolution	mm	1			0.1mm /MPG			1			0.1mm /MPG			0.1mmMPG
Grinding Wheel	Wheel Size (OD x W x B)	mm	Ø180 x 13 x Ø31.75			Ø180x13xØ31.75			Ø305x31xØ76			Ø355x50xØ127			Ø355x38xØ127
	Speed (50Hz/60Hz)	rpm	3000 / 3600			3000/3600			1425/1710			1425/1710			1450/1750
Motor	Spindle Motor	Hp	1.5Hp/3Hp(opt.)			2Hp/3Hp(opt.)			3			5			7.5HP/10HP(opt.)
	Crossfeed Motor		25W			40W			1/4 HP			1/4 HP			1/4 HP
	Elevating Motor		40W			40W			1/4 HP			1/4 HP			—
	Hydraulic Motor	Hp	1			1			2			3			3
Floor Space	Total Space Required (L x W x H)	mm	1200x1700x1933	1940x2050x1933	1615x2050x1933	2123x2046x2208			4000x2700x2550			4000x2700x2550			4360x2865x2657
	Weight														
Weight	Net, approx.	Kg	910			1470			1750			3500			5900
	Gross, approx.	Kg	1040			1620			2050			3800			6900
Packing Dimensions (L x W x H)	mm	1560x1300x2200			1780x1600x2200			1970x2250x2250			2730x2250x2250			3600x2230x2280	

ESG-618 M: Manual type. H: Table movement by hydraulic. A: Automatic type.

ESG-820/1224/1632 M: Standard type. H:Auto downfeed by hydraulic. A: Auto downfeed by stepping motor.

■ Manufacturer reserves the right to change or improve specifications without notice.