

# FSG-618M/2A618

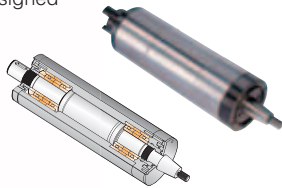
## HIGH PRECISION SURFACE GRINDER

### MACHINE FEATURES

- This high-precision surface grinder has been specially developed to help manufactures with a wide range of needs.
- The tool cabinet in the machine base is specially designed for operator's convenience (618M).
- The interlock between electrical cabinet door and power supply is established to ensure safe operation.
- The maximum distance from the table surface to the spindle centerline is 450mm (177"), which provides more clearance for grinding.
- The manual grinders feature a spring-loaded-type table travel-stops that dampen the over travel caused by abnormal operations.
- The optimum span of double-V crossfeed guideways is designed based on bending moment, kinematics and supporting force.
- All essential castings are high-grade Meehanite cast iron which the stress-relieved has been done through annealing to eliminate internal stress.
- With the impressive stiffness and stability of its castings, this machine is suitable for both precision surface grinding and form grinding.
- This grinder is offered with one-year warranty for mechanical and electrical parts.

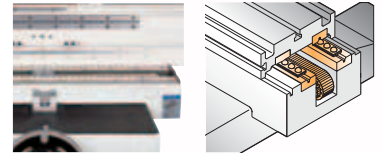
### High Precision Cartridge Type Spindle

- The spindle is supported by four pieces of Class 7 (P4) super-precision angular contact ball bearings, which have been accurately measured, selected and pre-loaded. Then it's assembled in a temperature controlled room to ensure better grinding accuracy and surface finish. The labyrinth seal type structure is designed to offer better water resistance, enhancing the longevity of the spindle bearings.



### Continuous-Loop-Type Table Transmission Mechanism

- A continuous-loop wire reinforced-cog timing belt drives the table. This system ensures slip-free and smooth transmission of table, enabling at least three-times longer life of a continuous-cog timing belt compared to that of the wire type or reciprocating timing belt type. The table traverses on hardened and ground guideways with steel ball bearings providing smooth, accurate and efficient table movement (618M).



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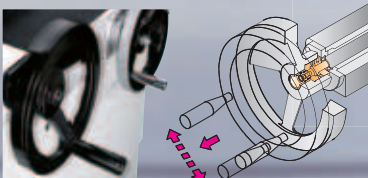
### FSG-618M

Note: Machine shown with optional accessories



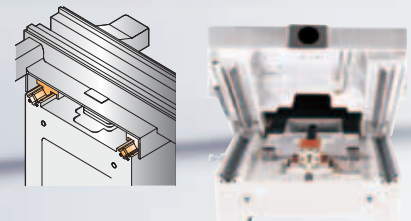
### Indexable-Table Handwheel

- The table handwheel can be indexed to a comfortable position to enhance the ease of table traverse. (618M only)

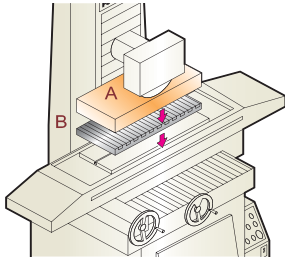


### Durable Slideways

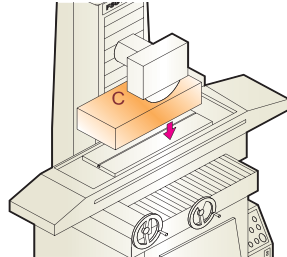
- Machine base slideways are laminated with Turcite-B and precisely hand scraped. The low-friction slideways incorporated with automatic forced lubrication system ensures high-accuracy and longer way life.



## PERMISSIBLE LOAD OF MACHINE



Grinding with  
Electromagnetic Chuck

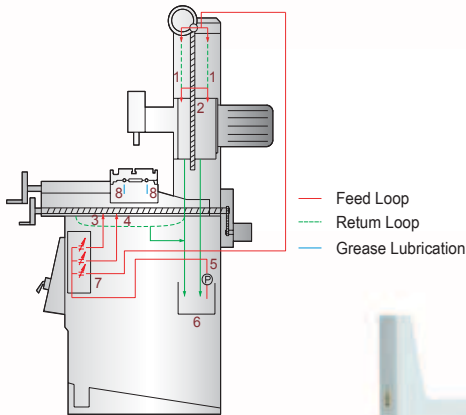


Grinding without  
Electromagnetic Chuck

The total suggested maximum workloads of table are shown as follows:

MODEL	Kg (lbs.)	
	FSG-618	FSG-2A618
<b>A</b>	180 (396)	
<b>B</b>	30 (66)	
<b>C</b>	210 (462)	

## Automatic Lubrication



1. Column slideways
2. Elevating leadscrew
3. Crossfeed leadscrew
4. Machine base Double-V slideways
5. Solenoid pump
6. Lubricator
7. Flow divider
8. Table guideways with ball bearings lubricated by grease

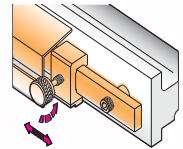


## FSG-2A618

Note: Machine shown with optional accessories

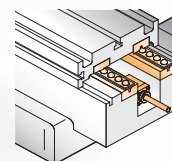
## Table-Reversing Mechanism (2A618)

- By using proximity switches, operator can easily set a suitable table stroke for each workpiece to save grinding time and to obtain higher grinding efficiency. The proximity switches have been properly covered for operator's safety (2A618).



## Table Guide Ways (2A618)

- The table transverse features hardened and ground guideways with steel ball bearings, which have been accurately sieved, for smooth, accurate and efficient table movement. (2A618)



# SPECIFICATION

Description		Unit	FSG-618M	FSG-2A618	
<b>Table size</b>		mm (")	150 x 460 (5 7/8" x 18.1")		
<b>Max. grinding length</b>	Longitudinal	mm (")	462 (18.18")		
<b>Max. grinding width</b>	Crosswise	mm (")	152 (6")		
<b>Max. distance from table surface to spindle centerline</b>		mm (")	450 (17 3/4")		
<b>Standard magnetic chuck size</b>		mm (")	150 x 450 (5 7/8" x 17 3/4")		
<b>Longitudinal movement of table</b>	Travel, hydraulic	mm (")	N/A	500 (19 3/4")	
	Max. travel, manual	mm (")	482 (18.98")	510 (20")	
	Table speed, variable	m/mm (fpm)	N/A	5~25 (16~82)	
<b>Cross movement of table</b>	Rapid travel, approx.	mm/min (ipm)	N/A	960 (48)	
	Auto increment	mm (")	N/A	0.4~6 (0.016"~0.24")	
	Max. auto travel	mm (")	N/A	171 (6 3/4")	
	Max. manual travel	mm (")	180 (7")		
	Handwheel per revolution	mm (")	3 (0.12")		
	Handwheel per graduation	mm (")	0.01 (0.0005")	0.01(0.0005")	
	Micro Feed	mm (")	N/A		
<b>Wheelhead vertical infeed</b>	Automatic infeed	mm (")	N/A		
	Handwheel per revolution	mm (")	2 (0.08")		
	Handwheel per graduation	mm (")	0.01 (0.0005")		
	Micro feed	Rapid travel, approx.	mm/min (ipm)	N/A	
		Per revolution feed	mm (")	1 (0.04")	
Per graduation		mm (")	N/A		
<b>Grinding spindle drive</b>	Speed	Hz / rpm	60 / 3,450, 50 / 2,850		
	Power rating	Kw (HP)	1.5 (2)		
<b>Hydraulic drive</b>	Standard accessory/ Power rating	Kw (HP)	N/A	0.75 (1)	
<b>Crossfeed drive</b>	Standard accessory/ Power rating	W (HP)	N/A	40 (0.05)	
<b>Elevating drive</b>	Standard accessory/ Power rating	Kw (HP)	N/A		
<b>Standard grinding wheel</b>	Diameter	mm (")	Ø203 (8")		
	Width	mm (")	12.7 (1/2")		
	Bore	mm (")	Ø31.75 (1 1/4")		
<b>Floor space (L x W x H)</b>	Total space required	mm (")	1,900 x 1,400 x 2,130 (74.8" x 55" x 83.86")	1 900 x 1,600 x 2 ,130 (74.8" x 63" x 83.86")	
<b>Net weight</b>	Approx. Based on 3A	Kg (lbs.)	680 (1,496)	800 (1,760)	
<b>Rated power</b>	approx.	Kw (HP)	1.65 (2.2)	2.5 (3.3)	
<b>Packing dimensions (L x W x H)</b>		mm (")	1,120 x 1,016 x 2,159 (44" x 40" x 85")	1,550 x 1,120 x 2,133 (61" x 44" x 83.98")	

※ All content is for reference only and may be subject to change without prior notice or obligation.

	FSG-2A818	FSG-3A818	FSG-2A1224	FSG-3A1224	612SP	618SP	818SP
	203 x 457 (8" x 18")		305 x 610 (12" x 24")		152 x 330 (6" x 13")	152 x 480 (6" x 18.89")	203 x 480 (8" x 18.89")
	457 (18")		610 (24")		355 (14")	500 (19 3/4")	
	203 (7 7/8")		305 (12")		203 (8")		230 (9")
	450 (17 3/4")		630 (24.8")		500 (19 3/4")		
	200 x 450 (7 7/8" x 17 3/4")		300 x 600 (11 3/4" x 23 5/8")		150 x 300 (5 7/8" x 11-3/4")	150 x 450 (5 7/8" x 17 3/4")	200 x 450 (7 7/8" x 17 3/4")
	500 (19 3/4")		650 (25 5/8")		N/A		
	530 (20.87")		700 (27 1/2")		360 (14 1/8")	510 (20")	
	5~25 (16~82)		5~25 (16~82)		N/A		
	960 (48)		1,100 (56)		N/A		
	0.4~6 (0.016~0.24")		1~12 (0.04~0.47")		N/A		
	230 (9")		360 (14 1/8")		N/A		
	240 (9 1/2")		370 (14 1/2")		203 (8")	230 (9")	
	4 (0.16")		4 (0.16")		5 (0.2")		
	0.02 (0.001")		0.02 (0.001")		0.02 (0.001")		
	N/A		N/A		Opt. 0.001 (0.000050)		
	N/A	0.002~0.04 (0.0001"~0.002")	N/A	0.002~0.04 (0.0001"~0.002")	N/A		
	2 (0.08")		2 (0.08")		1(0.04")		
	0.01 (0.0005")		0.01 (0.0005")		0.005 (0.0002")		
	OPT.	330 (13) (3A only)	OPT.	330 (13)	330 (13) (opt.)		
	OPT.	0.2(0.01")(3A only)	OPT.	0.2 (0.01")	0.02 (0.001")		
	OPT.	0.002 (0.0001") (3A only)	OPT.	0.002 (0.0001")	0.001 (0.00005")		
	60 / 3,450, 50 / 2,850		60 / 1,750, 50 / 1,450		60/3,450, 50/2,850		
	1.5 (2)		3.7 (5)		1.5 (2)		
	0.75 (1)		1.5 (2)		N/A		
	40 (0.05)		40 (0.05)		N/A		
	0.19 (0.25) (2A opt.)		0.19 (0.25) (2A opt.) Standard Accessory		0.19 (0.25) (opt.)		
	Ø203 (8")		Ø355 (14")		Ø203 (8")		
	12.7 (1/2")		50 (1.97")		Opt. 12.7 (1/2"), Max. 25.4 (1")		
	Ø31.75 (1 1/4")		Ø127 (5")		Ø31.75 (1 1/4")		
	2,200 x 1,575 x 1,950 (86.6" x 62" x 76.78")		2,670 x 1,810 x 2,050 (105.12" x 71.26" x 80.7")		2,040 x 1,360 x 2,134 (80.3" x 53 1/2" x 84")	1,750 x 1,360 x 1,870 (68.89" x 53 1/2" x 73 3/4")	
	1,320 (2,907)		2,100 (4,620)		900 (1,980)	950 (2,090)	1,050 (2,310)
	3.7 (5)		7.5 (10)		1.65 (2.2)		
	1,854 x 1,549 x 2,210 (73" x 61" x 87")		2,743 x 1,905 x 2,235 (108" x 75" x 88")		1,473 x 1,232 x 2,134 (58" x 48.5" x 84")		