CHEVALIER
Grinding / Turning / Milling

FSG-2A818/3A818
AUTOMATIC SURFACE GRINDER

MACHINE FEATURES

This series has been specially developed and recently improved to continuously offer reliable high-performance precision surface grinders. The high-precision FSG-3A series surface grinder has recently improved the control panel with easy to read LED numerals. Chevalier offers a one year limited-warranty that includes parts for mechanical and electrical components.

The Double-V crossfeed guideway span has been designed by applying kinematics to calibrate for minimum bending moments, thus achieving maximum support capability for table and workpiece.

All essential castings are made of a high-grade cast iron that is stress relieved by annealing, ensuring the greatest stability and rigidity with low-stress.

An interlock is placed between the electrical cabinet door and the power supply as an added safety feature. The maximum distance from table surface to spindle centerline is 450mm (177"), which provides more clearance for grinding.

High Precision Cartridge Type Spindle

- The spindle is supported by four pieces of Class 7(P4) super-precision angular contact ball bearings. The bearing are accurately measured, selected and preloaded, then assembled to offer superior water resistance, increasing the life of the spindle bearings in the temperature-controlled rooms. This ensures better grinding accuracy and surface finish. The labyrinth seal type structure is designed to offer superior water resistance, increasing the life of the spindle bearings.

Table Reversing Mechanism

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

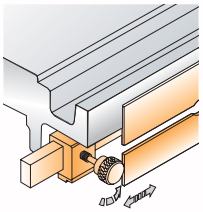
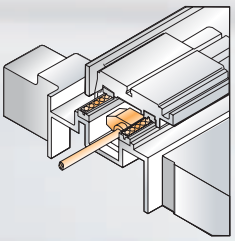


Table Guideways

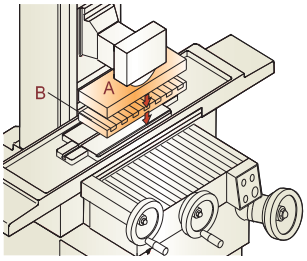
- The table traverses on hardened and round guideways with accurately sieved steel ball bearings, providing smooth, accurate and efficient table movement.



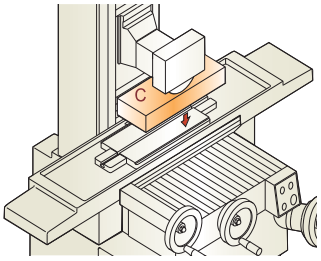
FSG-2A818

Note: Machine shown with optional accessories
Longitudinal table movement is driven by hydraulic unit. Cross movement is driven by AC motor.

PERMISSIBLE LOAD OF MACHINE



Grinding with
Electromagnetic Chuck



Grinding without
Electromagnetic Chuck

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

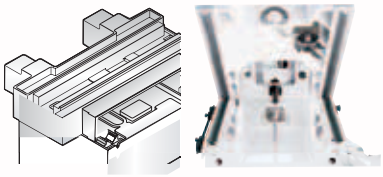
A=Workpiece B=Magnetic Chuck C=A+B

Kg (lbs.)

MODEL	FSG-2A818	FSG-3A818
A	215 (474)	
B	35 (77)	
C	250 (551)	

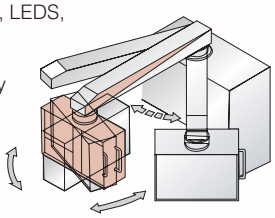
Durable Slideways

- Machine-base slideways are laminated with Turcite-B and precisely hand-scraped, low-friction slideways incorporated with an automatic intermittent lubrication system to ensure high accuracy and longer life of slideways.



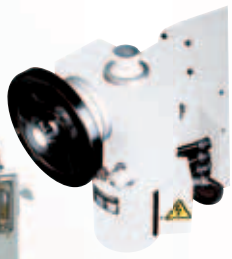
Control Station (FSG-3A818)

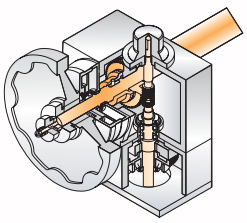
- The control station can be easily adjusted to a comfortable position for the operator's convenience. All switches, indicators, lamps, LEDS, and displays are ergonomically designed for easy operation.



Elevating Micro-Feed Device (FSG-3A818)

- The elevating system is equipped with a precision 0002mm (00001") graduated micro-feed device, consisting of a worm and wormgear for precise manual positioning of the Y-axis.





FSG-3A818

Note: Machine shown with optional accessories
Longitudinal table movement is driven by hydraulic unit. Cross movement is driven by AC motor. Vertical feed is driven by AC motor and equipped with automatic downfeed device and manual micro downfeed device.

SPECIFICATION

Description			Unit	FSG-618M	FSG-2A618	
Table size			mm (")	150 x 460 (5 7/8" x 18.1")		
Max. grinding length	Longitudinal		mm (")	462 (18.18")		
Max. grinding width	Crosswise		mm (")	152 (6")		
Max. distance from table surface to spindle centerline			mm (")	450 (17 3/4")		
Standard magnetic chuck size			mm (")	150 x 450 (5 7/8" x 17 3/4")		
Longitudinal movement of table	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)	
Cross movement of table	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		
Wheelhead vertical infeed	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		
Grinding spindle drive	Speed		Hz / rpm	60 / 3,450, 50 / 2,850		
	Power rating		Kw (HP)	1.5 (2)		
Hydraulic drive	Standard accessory/ Power rating		Kw (HP)	N/A	0.75 (1)	
Crossfeed drive	Standard accessory/ Power rating		W (HP)	N/A	40 (0.05)	
Elevating drive	Standard accessory/ Power rating		Kw (HP)	N/A		
Standard grinding wheel	Diameter		mm (")	Ø203 (8")		
	Width		mm (")	12.7 (1/2")		
	Bore		mm (")	Ø31.75 (1 1/4")		
Floor space (L x W x H)	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")	
Net weight	Approx. Based on 3A		Kg (lbs.)	680 (1,496)	800 (1,760)	
Rated power	approx.		Kw (HP)	1.65 (2.2)	2.5 (3.3)	
Packing dimensions (L x W x H)			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.

Unit : mm (")

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")		