



# RUSH Machinery



The Tool Grinding Specialists

Polycrystalline Tool Grinders



Model FC-500D

Model FC-200D



***Economical manufacturing and regrinding of :  
PCD, CVD, PCBN, Carbide, and HSS tools.***

-Grind angles and radii on standard and special turning and milling inserts, boring tools, milling cutters, grooving tools, reamers, and other special tools.

-Rigid construction with a 3-HP variable speed grinding spindle to provide for vibration-free grinding and fast stock removal.

## The Tool Grinding Specialists



-The coolant system, with a 53 gallon (200 liter) capacity, has a primary paper roll filter and two secondary 5 micron cartridge filters.

-Heavy duty cross table pivots up to 240 degrees with two pairs of precision (ABEC-7) angular contact bearings and two adjustable positioning stops.



-One-piece cast iron base provides extra rigidity and minimizes vibration.

-Infeed slide and grinding head slide use Schneberger precision linear ways for accuracy and long life.

-Oscillation is adjustable in position, stroke and speed.



Model FC-200D Base

-The standard pneumatic brake instantly locks the cross table pivot at any angle.



-Controls are placed for ease of use. On the FC-200D, the infeed handwheel can be fixed in position on the RH side or the LH side, depending on operator preference.

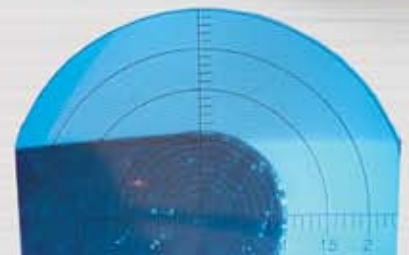
-On the FC-500D, the infeed hand wheel can pivot up or down to suit the height of the operator.



-Worktable moves adjusts into and out of the grinding position under pneumatic control.

-Video Optical System, with a 15x-118x (zoom) magnification range, allows for measurement and inspection of radii from .001" to .375" (.025mm to 9.5mm).

-Optical System moves with the worktable for easy setup and for inspection during or after grinding. The scale shown on the video monitor can be used to represent increments for various applications. The zoom optics provide magnifications from 15x to 118x. The magnification can be adjusted, using a sample of known size, and locked so that the scale will accurately show the desired increments. The "1" on the scale can represent: 1/32" (74x), 1/16" (37x), 1/8" (18x), 1mm (58x), .5mm (116x), .050" (46x), etc.



## Design Features



## Optional Equipment



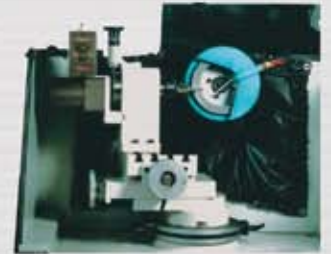
-Powered brake truing device allows truing of the wheel without changing the tool set up (FC-500D only).



• Brake truing device with offset bracket. Mounts in standard or optional quick-clamping fixtures.

-Round tool grinding attachment with 0-60 rpm variable speed drive and 24-position index plate (other divisions available).

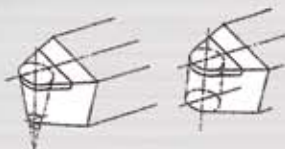
Comes standard with (23) ER-40 collets to hold shank sizes from 3mm (1/8") to 26mm (1").



-Round tool grinding attachment with #40 or HSK63 taper spindle and fine adjustment of angle.

-Comes with a 24-position index plate (other divisions available) and removable tail center.

(For use with the Model FC-500D only).



Conical (L), Cylindrical (R)

-Universal quick-clamping fixture rotates 360 degrees and inclines -20 to +20 degrees in each of two planes to allow conical relief, cylindrical relief, or a combination of both. (Standard quick-clamping fixture is not adjustable - for conical relief only).



## FC-200D and FC-500D Specifications

### Tool Processing Size Ranges:

- Maximum radius ground: 60mm (2.36")
- FC-200D Oscillating straight grinding: Adjustable—0 to 34mm (1.34") long strokes
- FC-500D Oscillating straight grinding: Adjustable—0 to 70mm (2.75") long strokes

### Grinding Spindle & Wheel:

- Grinding Spindle: Variable speed 500-4000 rpm, 3 HP, 3 phase, 220v
- FC-500D allows Vertical Travel of Grinding Spindle 130mm (5.12")
- Grinding wheel size: 150mm (6") diam. X 35-45mm (1.30"-1.77") deep x 40mm bore
- Grinding wheel oscillation frequency: 0-50 strokes/min., infinitely variable
- FC-200D Grinding wheel oscillation stroke: 0-34mm (1.34"), infinitely variable
- FC-500D Grinding wheel oscillation stroke: 0-70mm (2.75"), infinitely variable
- FC-200D Grinding wheel stroke range: 200mm (7.87")
- FC-500D Grinding wheel stroke range: 500mm (19.70")
- FC-200D Grinding wheel inclination: Adjustable from -3 to +25 degrees
- FC-500D Grinding wheel inclination: Adjustable from -3 to +27 degrees (at any height setting)

### Worktable:

- Maximum swiveling angle of worktable: 240 degrees
- Cross table clamping surface: 210mm (8.27") x 160mm (6.30"), with 4 slots
- Cross table handwheel division: .01mm or .0002"
- Cross table travel: 95mm (3.74")
- FC-200D Table infeed: up to 55mm (2.29") travel; handwheel divisions of .001mm or .00005"
- FC-500D Table infeed: up to 160mm (6.30") travel; handwheel divisions of .001 mm or .00005"
- Variable grinding force: 0-450 N (101 lbs) - pneumatic cylinder
- Needle bearing slideways (Schneeberger) on worktable infeed and grinding wheel travel

### Video Optical Measuring System:

- Video optical measuring system with zoom; 15x to 118x magnification range.

### Digital Readout Unit:

- 2-axis digital readout unit: Radius setting (infeed): .001mm/.00005" increments (switchable)  
Swivel angle reading: .05 degree (3 minute) increments

### Coolant System:

- Coolant system: 200 liter (53 gal.) capacity with paper roll filter and (2) 5 micron cartridge filters

### FC-200D Weights & Dimension:

- Machine weight: 1600 kgs. (3520 lbs.) net; 1840 kgs. (4050 lbs.) crated
- Machine dimensions: 125cm (49") wide x 140cm (55") deep x 205cm (81") high  
(crated): 140cm (55") wide x 160cm (63") deep x 190cm (75") high
- Coolant system weight: 200kgs. (440 lbs.) net; 280kgs. (616 lbs.) crated
- Coolant system dimensions: 75cm (30") wide x 125cm(49") deep x 75cm (30") high  
(crated): 80cm (32") wide x 130cm (51") deep x 85cm (33") high

### FC-500D Weights & Dimension:

- Machine weight: 2160 kgs. (4752 lbs.) net; 2680 kgs. (5896 lbs.) crated
- Machine dimensions: 210cm (83") wide x 190cm (75") deep x 220cm (87") high  
(crated): 220cm (87") wide x 200cm (79") deep x 200cm (79") high
- Coolant system weight: 200kgs. (440 lbs.) net; 280kgs. (616 lbs.) crated
- Coolant system dimensions: 75cm (30") wide x 125cm(49") deep x 75cm (30") high  
(crated): 80cm (32") wide x 130cm (51") deep x 85cm (33") high

Rush Machinery is a leading supplier of tool grinding equipment and has been committed to quality, service and innovation since 1983.

Contact us to receive a demo DVD with the complete Rush Machinery line of machines and fixtures.

Go to [www.rushmachinery.com](http://www.rushmachinery.com) to view information on Wheel Truing and Dressing Machines, Oil Filtration Systems, Carbide Rod Cut-Off and Chamfer Machines, PCD Grinders and other tool grinding equipment.