

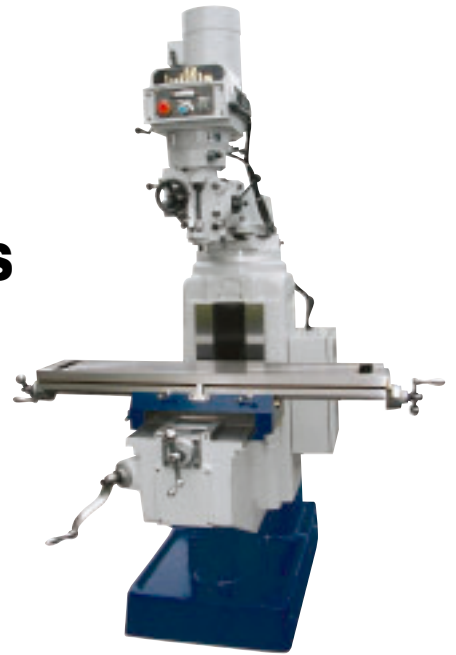
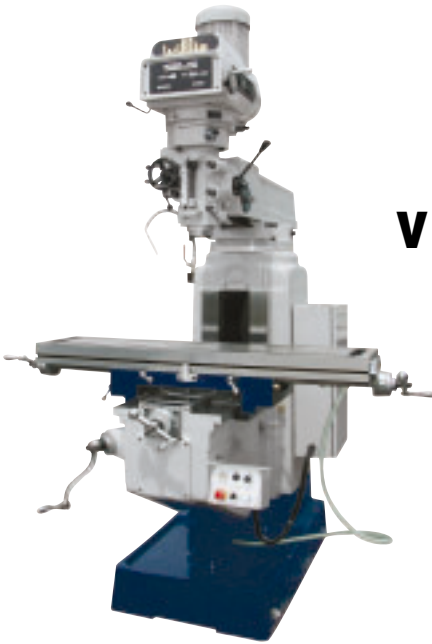


TOOLING & MACHINERY

COMPLETE METALWORKING SOLUTIONS
(800) 991-4225 www.ahbinc.com
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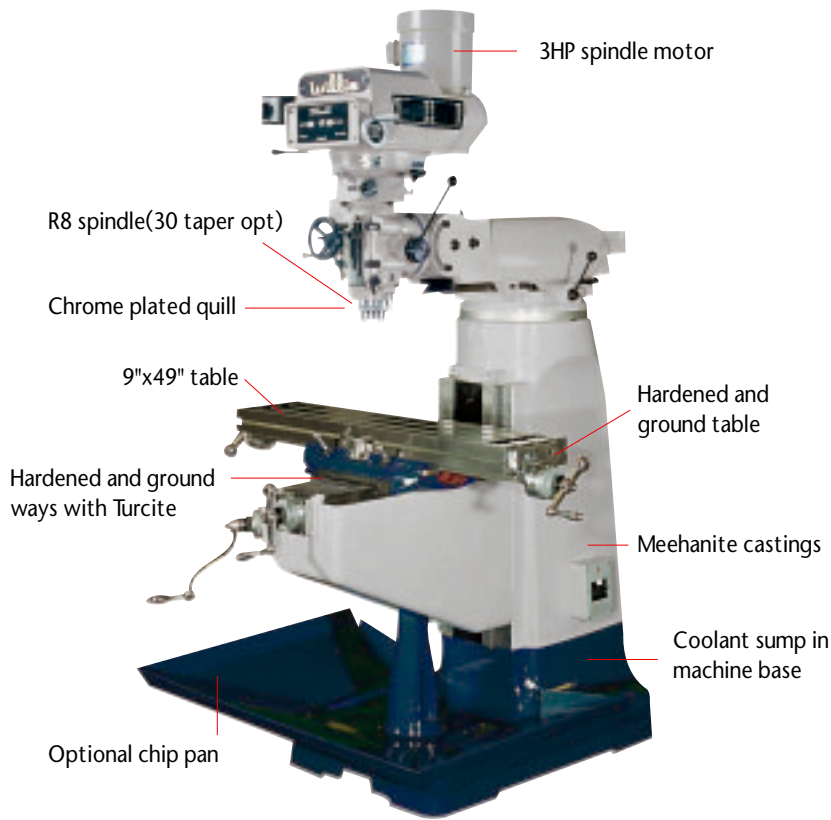


VERTICAL KNEE MILLS



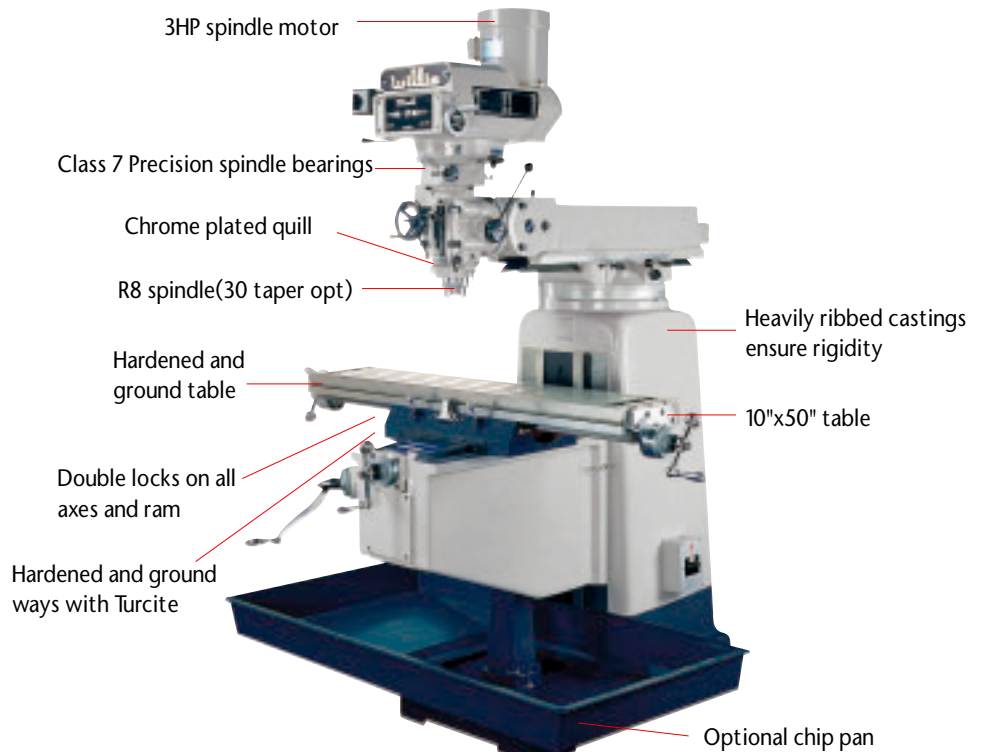
MACHINERY & TOOLS CO.
4545 South Ave. *Toledo, OH 43615
419/537-1717 *fax 419/537-1719
Email:sales@willismachinery.com
www.willismachinery.com

WM3VS AND 1050 MILLING MACHINES



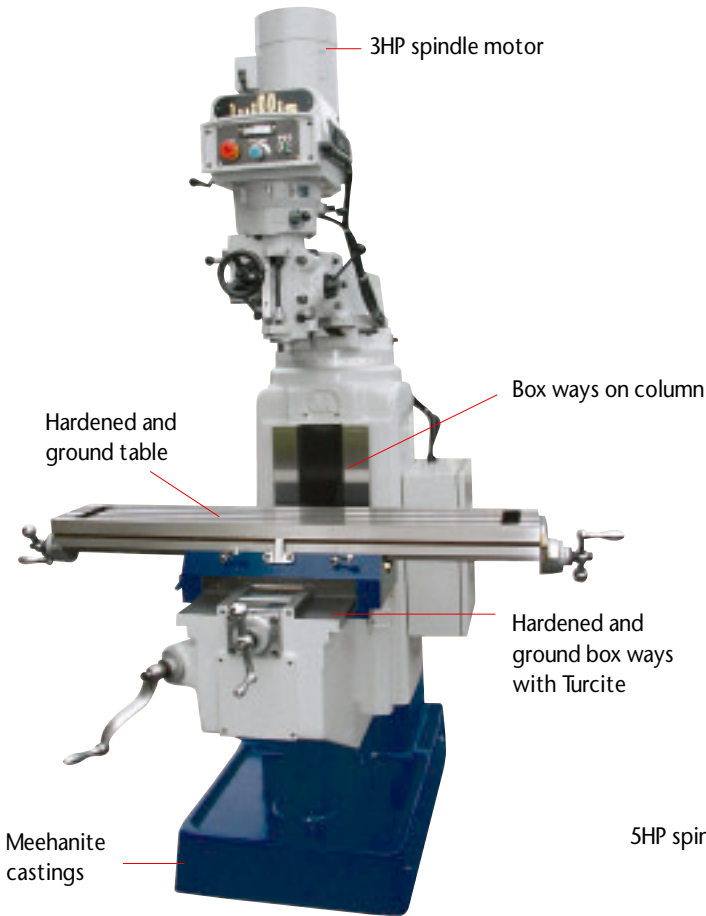
WM3VS

Precision ground and dynamically balanced pulleys for smooth, quiet operation and long belt life



1050

1050II AND 1250II MILLING MACHINES



1050II-EV



Heavy duty knee with box ways provides the rigidity needed for superb support over the full range of travels

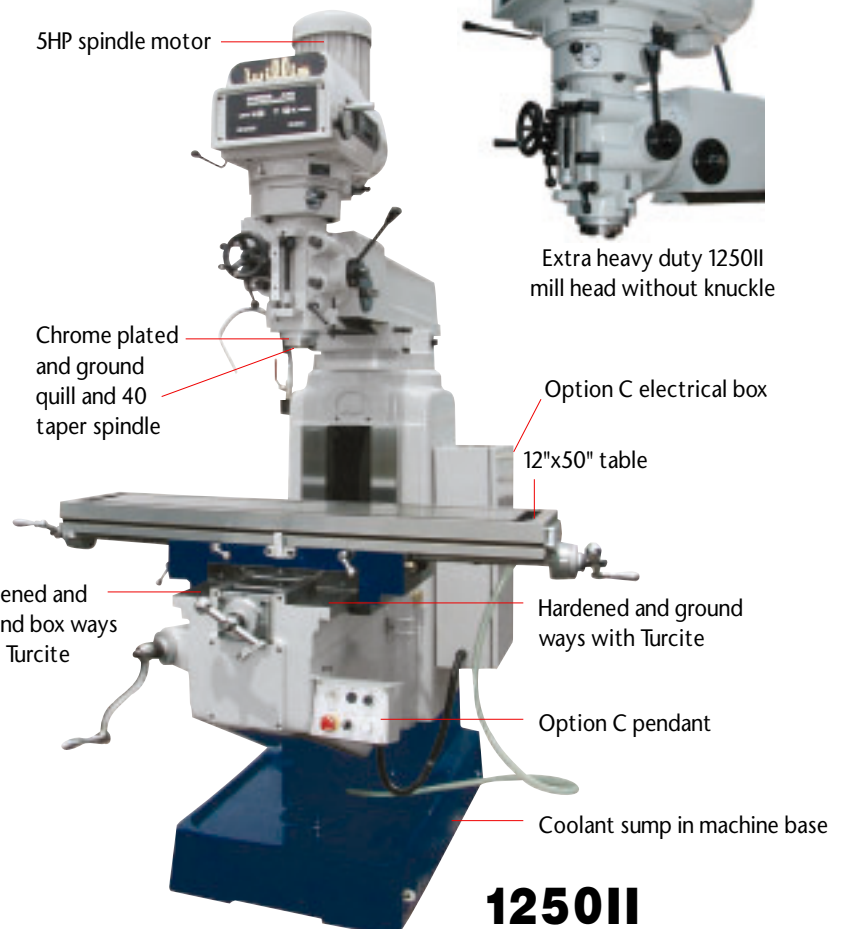
1250II top RPM of 4200 is standard



Extra heavy duty 1250II mill head without knuckle



1050II and 1250II tables are capable of supporting loads up to 1,500 lbs.



1250II

Willis

5000VS

SERIES 2 SIZE MACHINE

47" X-AXIS TRAVEL
15" Y-AXIS TRAVEL

5HP variable speed 60-3600 RPM, 40 taper spindle. Hardened and ground table surface.

Built in tool trays on both ends of table.

Vertical table raising by 2 HP motor with safety limit switch. Chrome plated precision ground quill, full 4-1/8" quill diameter.

47" X-axis travel

15" Y-axis travel

59" x 12" table

12 longitudinal power feed rates operated by 12-speed gear box with 2 HP motor.

Also rapid traverse.

Machine weight 4950 lbs.



Pictured with options



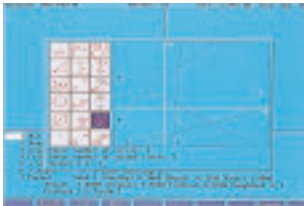
- Hardened & ground square ways with turcite B
- Automatic lubrication system
- 2200 lbs. work piece weight capacity when centered
- Flood coolant system standard
- 110-volt control package with thermal overload protecton, and low-volt push button pendant

- Huge 47"x15" X-Y travels
- Meehanite castings
- Extra wide 33-1/2" saddle for maximum support



Irregular Pocket

Answer a few basic prompts to make clearance of any shape a simple routine.



Geometry

Use the geometry calculator for determining points, lines and circles, similar to a CAD/CAM system. The result automatically becomes part of the program.



User-Friendly Draw Graphics Mode

Before the first chip is cut, the user-friendly draw graphics mode provides program verification. When the image, the program text and the CNC status are all displayed on one screen, program verification becomes a simple function.

Willis CNC KNEE MILLS AND ANILAM CONTROL

Models Available

-additional features and specifications on following page

WM3VS-Fully Supported Travels of 31"x12"x5" quill

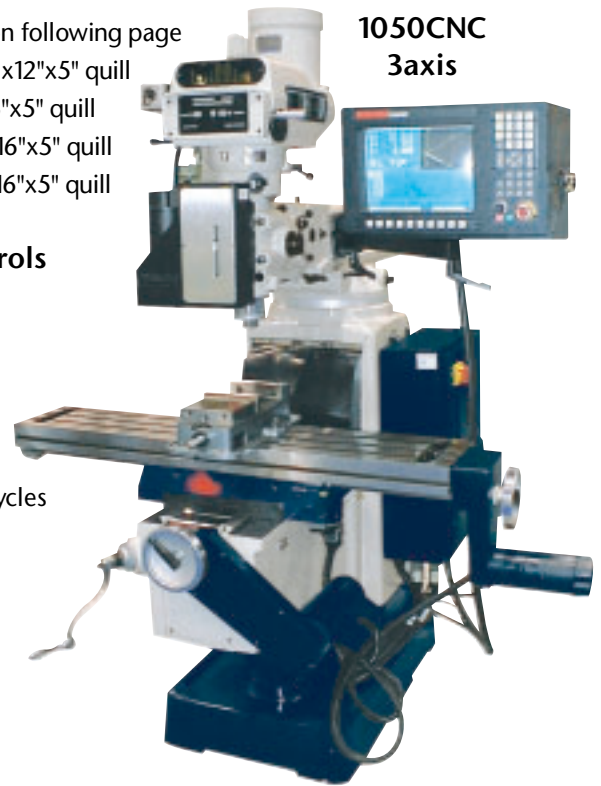
1050-Fully Supported Travels of 30"x16"x5" quill

1050II-Fully Supported Travels of 30"x16"x5" quill

1250II-Fully Supported Travels of 26"x16"x5" quill

ANILAM 3300MK CNC Controls

- * 14" Full Color Display
- * Pentium Processor
- * 8 MB of DRAM
- * Huge Hard Drive
- * 3 1/2" floppy drive
- * DSP2 Dual Processor Design
- * Complete Library of Milling Canned Cycles
- * Advanced Geometry Calculator
- * G Code Converter
- * Made in the USA



Willis KNEE MILLS WITH INVERTER DRIVE

- * No more changing of worn out pulley bushings and keys
- * Extremely low maintenance
- * Accurate RPM readings
- * Direct drive belts-no belt slippage
- * Reduced energy consumption

All New **ELECTRONIC VARIABLE** Speed - "EV"

Models Available

RED HOT PRICES!!!

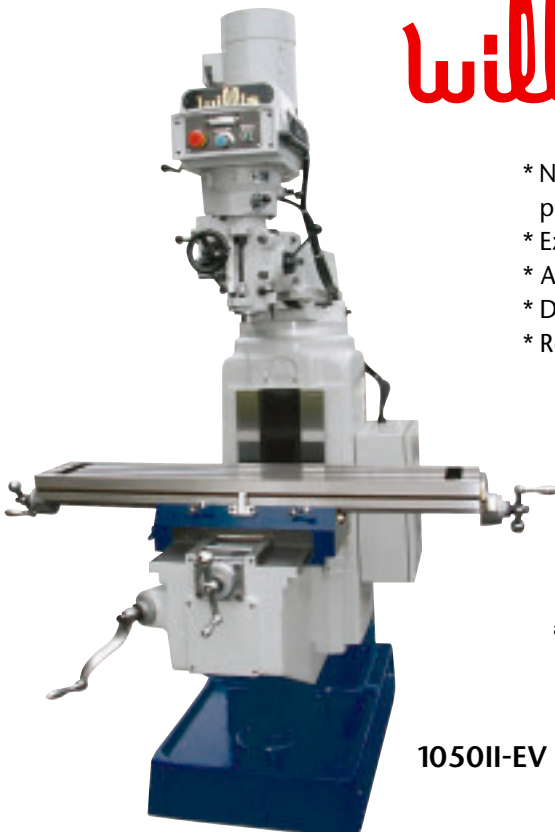
WM3VS

1050

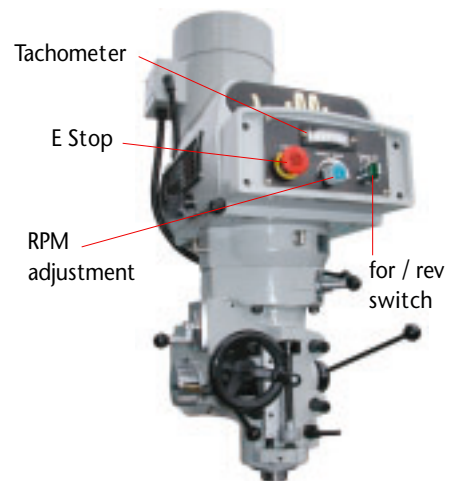
1050II

1250II

additional features and specifications on following page



1050II-EV pictured



5,000 RPM STANDARD!!!

SPECIAL FEATURES



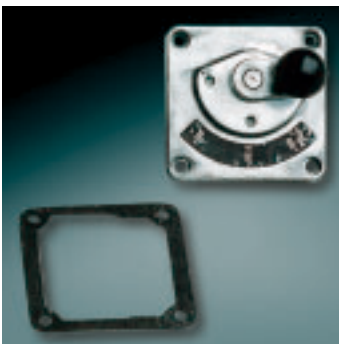
One piece construction is superior to our competitor's 2 piece



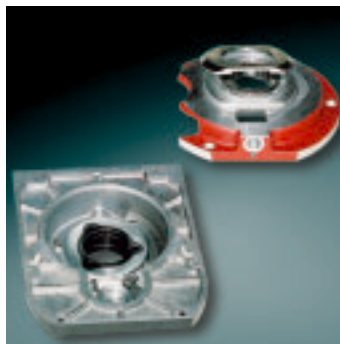
Our design uses a splined pinion shaft which is much stronger and more rigid than the keyed shaft



Our standard spring type micrometer adjusting nut provides quick and easy movement for setting spindle depth



Gaskets are used to prevent grease and oil leakage



One pieces quill housing ensures precise alignment, eliminates vibration, and prevents premature bearing failure



Dynamically balanced pulley with special bronze key attached with 2 screws prevents premature breakage



Our special power down feed parts are so strong, they can be used over 3,000 RPM spindle speeds. Our 1 piece cluster gear is superior to the much used 3 piece design

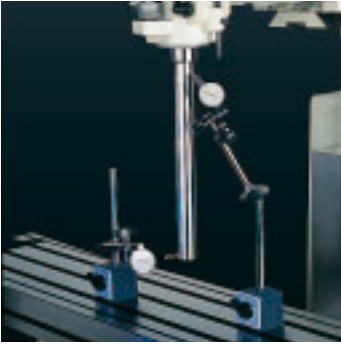


The splined shaft is much stronger and provides greater safety than the keyed shaft



Willis 3HP inverter drive milling head - EV

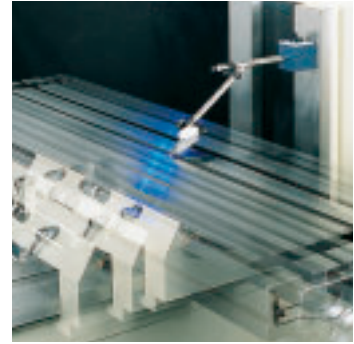
INSPECTION



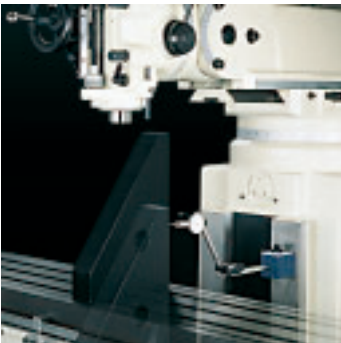
Spindle Bore Runout less than 0.0004"



Spindle Running Noise Measuring
less than 73 db at 1 meter



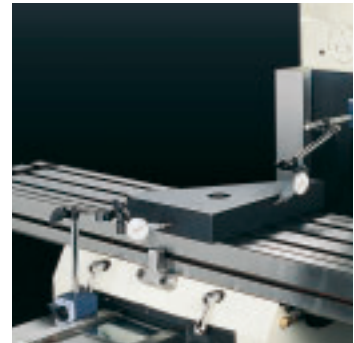
Parallelism of Table Surface to Table Cross Travel Movement
less than 0.0008" per 12" of travel



Squareness of Table Surface to Knee Travel
less than 0.0008" per 12" of travel



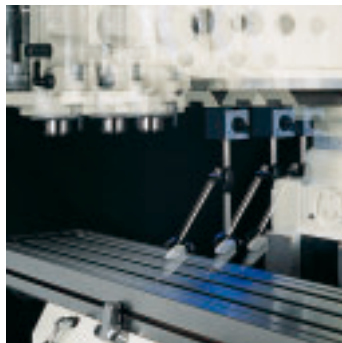
Squareness of Table Surface to Quill Travel
less than 0.0008" per 5" of quill travel



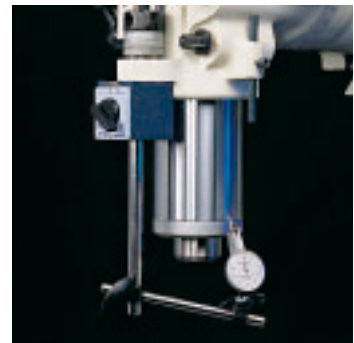
Measuring of Squareness of longitudinal Travel to Cross Travel
less than 0.0008" per 20" of travel



Parallelism of Table Surface to Table Longitudinal Movement
less than 0.0008" per 20" of travel



Parallelism of Table Surface to Ram Cross Transverse Movement
less than 0.0008" per 12" of travel



Stiffness of Head and Quill Combination

Specifications	WM3VS	1050	1050II	1250II	5000VS
Table dimensions	49" x 9"	50" x 10"	50" x 10"	50" x 12"	59" x 11.8"
Travels-longitudinal/ cross (manual)	36" x 13"	36" x 16"	34" x 17"	32" x 17"	47" x 15"
Vertical knee travel	16"	16"	18"	18"	20"
T-slots (3)	5/8"	5/8"	5/8"	5/8"(4)	5/8"
Ram travel	17"	24"	21"	24"	20"
Ram swivel	360°	360°	360°	360°	360°
Quill diameter	3-3/8"	3-3/8"	3-3/8"	4-1/8"	4-1/8"
Quill travel	5"	5"	5"	5"	6"
Spindle motor	3 HP	3 HP	3 HP	5 HP	5 HP
Spindle speeds (variable)	60-4200	60-4200	60-4200	60-4200	60-3600
Spindle taper	R8	R8 or 30	R8 or 30	40 taper	40 taper
Quill power feed rates (inches per revolution)	0.00032" 0.0017" 0.0053"	0.0032" 0.0017" 0.0053"	0.0032" 0.0017" 0.0053"	0.0032" 0.0017" 0.0053"	0.0032" 0.0017" 0.0053"
Head tilting-left to right (degrees)	90-0-90	90-0-90	90-0-90	90-0-90	90-0-90
Head tilting-front to back (degrees)	45-0-45	45-0-45	45-0-45	FIXED	FIXED
Spindle nose to table-min./max.	3"~18"	2"~18"	3"~20"	2"~20"	0"~20"
Center of spindle to column face-min./max.	3"~20"	3"~27"	3"~24"	6"~28"	7"~29"
Ground way surface width	2-1/2"	3-1/2"	4-1/8"	4-1/8"	3-15/16"
Saddle width	18"	21"	21"	21"	33-1/4"
Knee width	12"	14"	15-1/2"	15-1/2"	15-1/2"
Knee height	17"	18"	20-1/4"	20-1/4"	19"
Longitudinal power feed	optional	optional	optional	optional	(12)1"~28" per min.
Longitudinal rapid traverse					94 IPM
Longitudinal feed motor	optional	optional	optional	optional	2 HP
Table rising motor	optional	optional	optional	optional	2 HP
Coolant pump	1/8 HP(opt.)	1/8 HP(opt.)	1/8 HP(opt.)	1/8 HP(opt.)	1/8 HP
Net weight	2400 lbs.	2800 lbs.	3300 lbs.	3700 lbs.	4950lbs.
Maximum work piece weight	750 lbs.	750 lbs.	1100 lbs.	1100 lbs.	1650 lbs(oentered)
Machine dimensions	61" x 64" x 82"	68" x 65" x 85"	68" x 65" x 92"	68" x 65" x 92"	84" x 62" x 95"

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE



MACHINERY AND TOOLS CO.

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