

FRYER[®]
MACHINE SYSTEMS



VB SERIES

VB SERIES

HIGH PERFORMANCE MACHINING

Designed as a high performance machining center without an enclosure, the Fryer VB series offers versatility and value. Ideal for production and job shop applications, the VB open design and rugged construction allow for easy loading of large parts. Extremely simple set-up and programming make this machine highly efficient for even short run parts.

FEATURES & OPTIONS

- ▲ 20, 24 and 40 tool ATC
- ▲ 8,500 RPM 40 taper spindle
- ▲ High torque 40 HP spindle motor
- ▲ Wireless part and tool probe package
- ▲ 20 station carousel or 24 station arm type ATC
- ▲ 4th & 5th axis rotary table packages
- ▲ 2 speed gearbox
- ▲ 350 PSI thru spindle coolant system
- ▲ High torque 40 HP spindle motor
- ▲ Two year warranty



VB SERIES

HEAVY DUTY PERFORMANCE

Fryer builds heavy duty performance into every machine we ship. The VB Series combines solid box way construction with the highest quality components and a list of industry-leading features resulting in a versatile and robust machine.



PERFORMANCE FEATURES

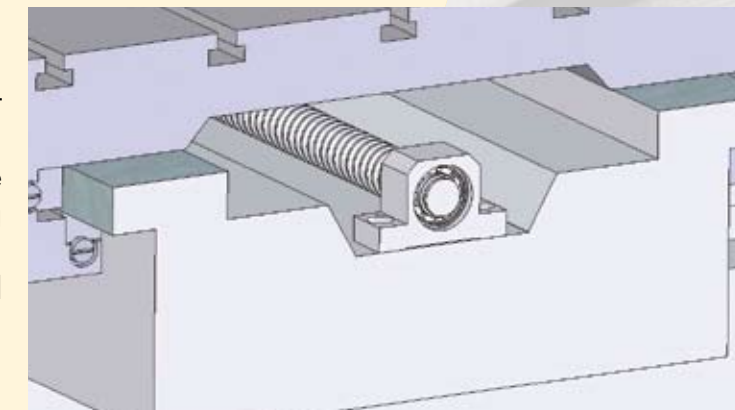
- ▲ High Speed all digital control system
- ▲ Siemens Solution Series motors and drives
- ▲ 10,000, 12,000 & 18,000 spindles
- ▲ 1,000 IPM rapid feedrate

5 MODELS TO CHOOSE FROM

- ▲ VB-60 60" x 30" x 28"
- ▲ VB-80 80" x 35" x 26"
- ▲ VB-100 100" x 35" x 26"
- ▲ VB-120 120" x 40" x 42"
- ▲ VB-160 160" x 40" x 42"

BOX WAY CONSTRUCTION

Fryer Machines are constructed using high performance box ways. The large contact area between the ways and the table, combined with the overall solid structure of the machine, provide outstanding rigidity and vibration absorption allowing for heavier cutting, longer tool life and exceptional accuracy.



CONSTRUCTION

Digital Drive System

The heart of the 2100 is the compact digital drive. Combining axis, spindle, and CPU components for better performance and reliability.



ATC

The optional 24 tool automatic tool changer features an arm type mechanism with a 2 second tool change time.



Wide Column

An extra large cast iron column provides exceptional stability and rigidity for high performance cutting.



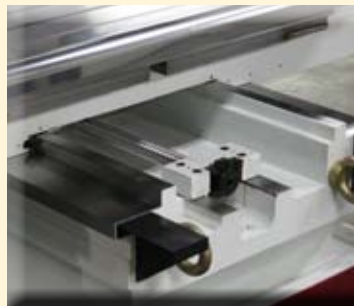
Digital Axis Motors

High performance digital motors offer more torque and better accuracy. Heidenhain absolute encoders mean no homing is ever required.



Box Ways

The induction hardened and ground box ways feature hand scraped turcite liners for exceptional accuracy and rigidity.



25 HP Spindle Motor

The high torque digital spindle motor features 155 ft lbs of torque at only 300 RPM.



Rigid Head

Extra large one piece ram features extended contact area with column for better cutting performance.



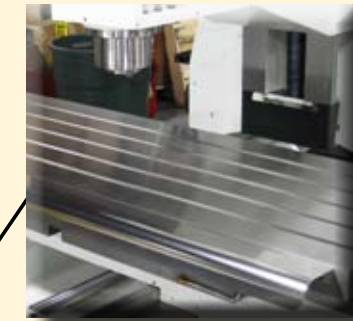
Spindle

The massive 6" 8,000 RPM spindle cartridge provides superior cutting performance and longer tool life.



Hardened Table

Only Fryer offers an induction hardened (55RC) and precision ground table. The T-slots are also ground.



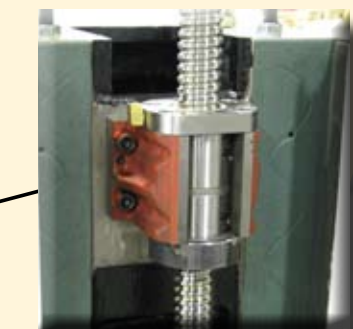
Lubrication System

The metered lube system features spring loaded piston type valves. This ensures an accurate, measured application of oil to all friction surfaces.



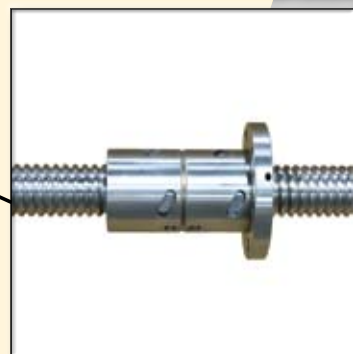
Anti-Friction Turcite Liners

All ways and gibs feature anti-friction Turcite liners for zero slip stick.

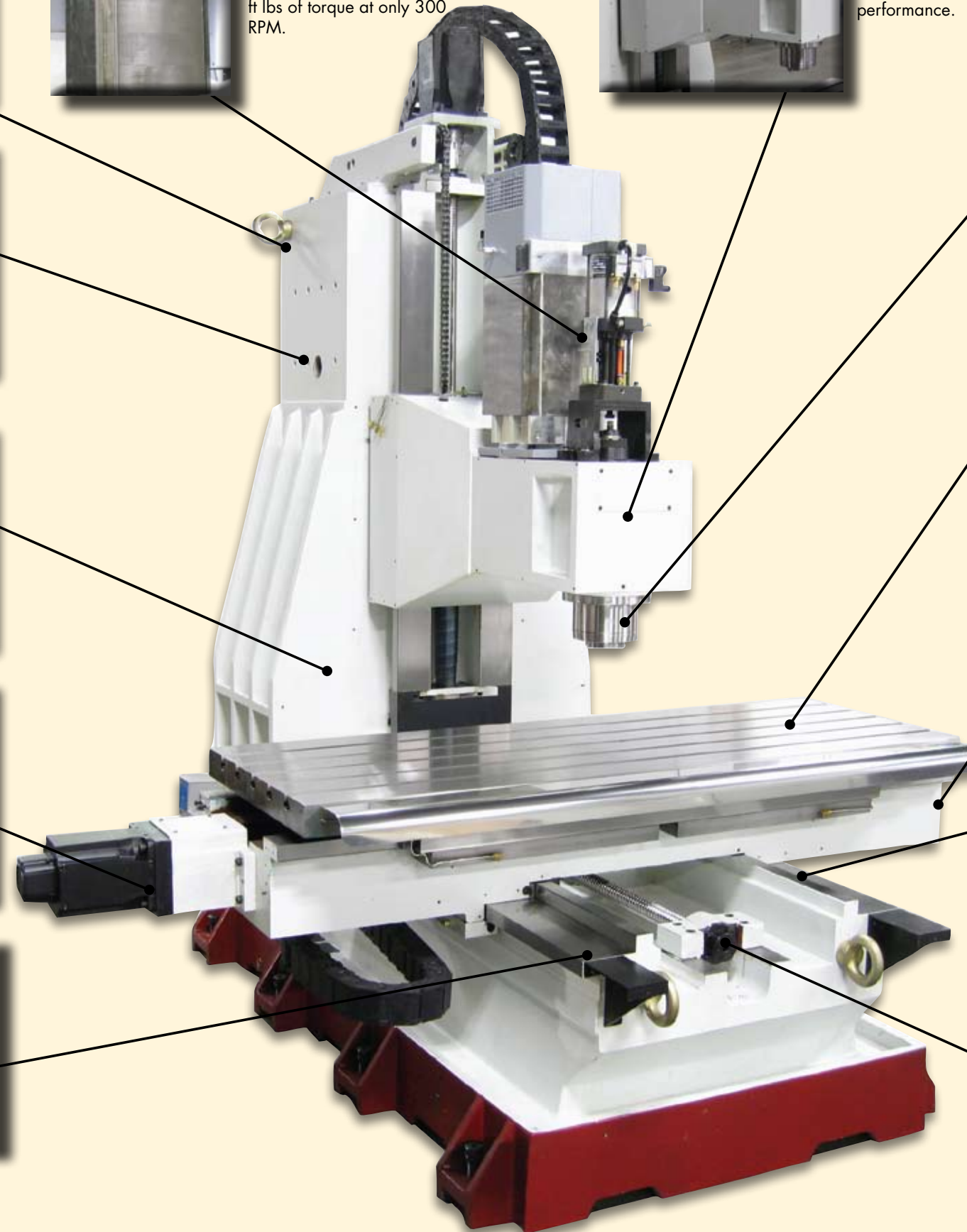


Precision Ballscrew

Only Fryer uses precision ground C3 grade double nut ballscrews. Every ballscrew is supported on both ends by APEC 7 tapered roller bearings.

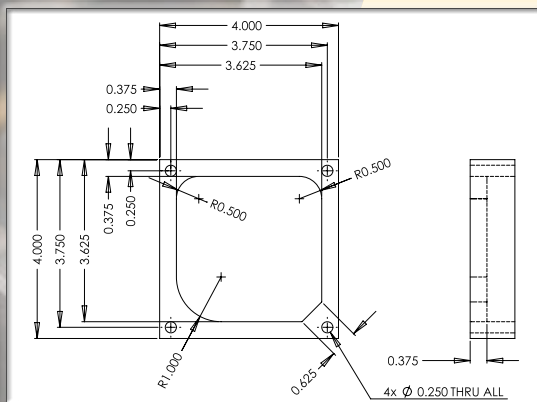


CONSTRUCTION



FROM DRAWING TO FINISHED PART

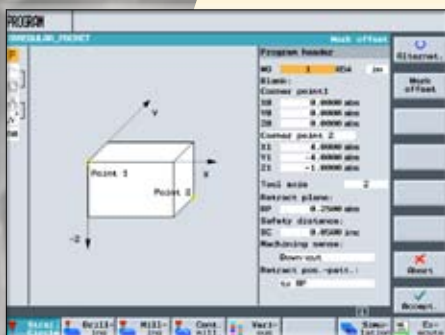
The Touch 2100 makes shopfloor programming simple even for the most complex parts. One touch hot keys for quick and easy set-up; simultaneous verify helps spot program errors quickly; Handwheel Run lets you make the first part faster and safer than other controls.



PART DRAWING

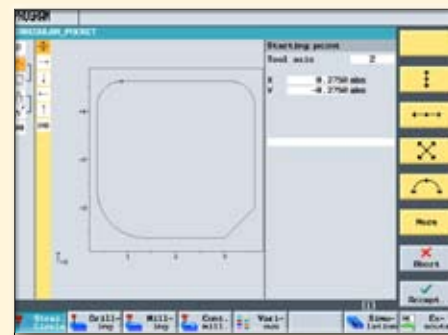
By using the dimensions shown on any part drawing the Touch 2100 is easily programmed. The control is so advanced that even if you are missing dimensions the 2100 will automatically calculate them making programming faster and easier.

PROGRAM THE PART



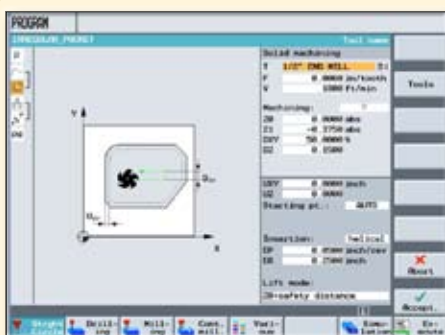
STEP 1 - SET-UP

Answer basic questions about the stock size and tool change position.



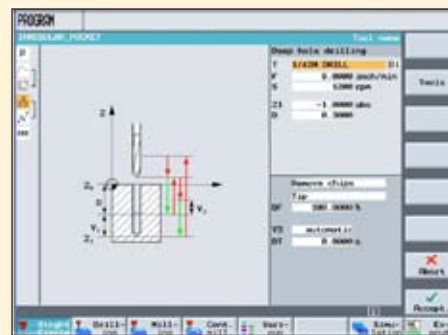
STEP 2 - GEOMETRY

Enter part dimensions using the Simple Geometry Creator. The dimensions are drawn on the screen while you enter them and missing information is automatically calculated.



STEP 3 - ROUGHING CYCLE

Answer basic questions about the depth of cut, tool type and finish stock allowance.

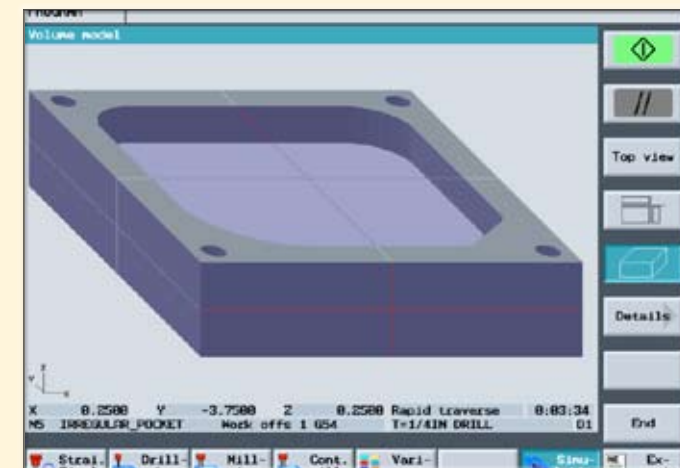


STEP 4 - PECK DRILLING CYCLE

Answer basic questions about depth of hole, peck increment and tool clearance

VERIFY THE PART

Touch 2100 uses sophisticated solid model graphic verification to accurately show what your part will look like BEFORE you cut it. Also choose from wireframe or multi-view screen, which allow you to view your part from three different angles simultaneously.



RUN THE PART

For many people pressing "Cycle Start" is an act of faith, as new operators are not sure where the machine will go. The Touch 2100 builds confidence with its unique Handwheel Run function. By turning the handwheel, the program execution is controlled by you. This unique function allows you to move forward and backwards through a program easily and safely.

FINISHED PART

The Touch 2100's unique simple set up, easy conversational menus, automatic geometry calculator, solid model verification and Handwheel Run function allow you to produce your parts faster and easier than any other control on the market today.



WHO ARE WE

WHO WE ARE

Since our inception 26 years ago, family-owned Fryer Machine Systems has based its operation on three core principles: build a quality product, price it fairly and provide quality service. This philosophy has allowed Fryer's business to grow even in challenging times. Fryer manufactures a diverse line of over 50 models of high quality machine tools in our Patterson, NY facility. Over the years Fryer has become well-respected for our quality and innovation. In addition to our standard line Fryer produces customized machines for a number of major companies in the aerospace and automotive markets.



OUR COMPANY

- ▲ Over 26 years experience
- ▲ Family owned
- ▲ Over 3500 machines in the field

OUR SHOP

- ▲ Modern 50,000 sq. ft. manufacturing facility
- ▲ Sophisticated quality control
- ▲ Hand built/custom configured assembly system



OUR CUSTOMER SUPPORT

- ▲ Remote diagnostics and tele-service
- ▲ Fully stocked parts department with same day shipping
- ▲ No charge phone service



OUR PEOPLE

- ▲ Local New England craftsmen
- ▲ Made in the USA
- ▲ Excellent engineering & application support
- ▲ People who care



QUALITY CONTROL

Fryer uses a variety of quality assurance tools to guarantee problem free operation. Each machine is required to meet the highest standards during mechanical and electronic inspections as well as performance cutting tests. Every machine logs a minimum of 100 hours of run-in to be sure each machine component is functioning properly and is up to spec. Only after all quality inspections are completed do our master builders sign off on the quality certificate.



MECHANICAL INSPECTION

- ▲ 100 hours of run in time
- ▲ Over 89 individual mechanical inspections
- ▲ Granite squares and indicators calibrated yearly
- ▲ Full machine coolant testing

ELECTRONIC INSPECTION

- ▲ Renishaw laser calibration on all 3 axis
- ▲ Renishaw ball bar testing
- ▲ Electronic balancing of all rotating components



PERFORMANCE INSPECTION

- ▲ Circle/diamond/square cut test
- ▲ Precision measurement of test part
- ▲ Test part inspection report

CERTIFICATION

- ▲ Quality certification signed by builder, supervisor and electrician
- ▲ Laser calibration report
- ▲ Ballbar calibration report



QUALITY CONTROL

SPECIFICATIONS		VB-60	VB-80	VB-100	VB-120	VB-160
MACHINE CAPACITY	X Travel	60"	80"	100"	120"	160"
	Y Travel	30"	35"	35"	40" (48')	40" (48")
	Z Travel	28"	26" (33")	26" (33")	42"	42"
	Table Load (Evenly Distributed)	4,000 lbs.	5,000 lbs.	5,000 lbs.	6,500 lbs.	6,500 lbs.
	Table Size	24"x73"	30"x93"	30"x112"	40" x 126"	40" x 165"
	T-Slots (No./Width)	5 / .709"	5 / .709"	5 / .709"	5 / .709"	5 / .709"
	Table Top to Floor	32"	35"	35"	35"	35"
	Motor HP (PEAK)	25.0 HP (40.0 HP Optional)				
	Spindle Speed (RPM)	60-8,000 RPM (10,000 and 12,000 RPM Refrigerated Optional)				
	Spindle Torque	155 ft/lbs @ 350 RPM (204 ft/lbs w/opt 40 HP motor; 800 ft/lbs w/ opt 40 HP motor & gearbox)				
	Speed Ranges	1 Range (2 Speed Gear Box Optional)				
	Tool Type/Taper	CAT 40 or BT-40 (Optional 50 Taper)				
	Spindle Nose to Table	30" - 2"	28" - 2"	28" - 2"	46" - 4"	46" - 4"
	Spindle Center to Column	30.5"	36"	36"	42" (48")	42" (48")
ATC	Tool Storage Capacity	20 (24 Arm Type Optional)				
	Tool Change Time	7 Seconds (2.5 seconds Optional)				
	Tool Selection	Random Bi-Directional				
	Max. Adjacent Tool Diameter	4.10"				
	Max. Tool Weight	13.5 lbs.				
	Max. Tool Length	15"				
PERFORMANCE	Positioning Accuracy	+/-0.0002"				
	Position Repeatability	+/-0.0001"				
	Resolution	0.0001"				
	Rapid Traverse	1,000 IPM X,Y 700 IPM Z	600	400	400	400
	Cutting Feed Rate	.001-600 IPM (400 IPM max VB-80, 100, 120, 160)				
	Servo Type	AC Digital Brushless				
	Axis Thrust (Peak)	3,174 lbs. X,Y 5,395 lbs. Z				
GENERAL INFO	Air Pressure Requirements	90 PSI 5 CFM				
	Coolant Capacity	20 Gallons				
	Coolant Flow	3 GPM				
	Operating Temperatures	Min 50° - Max 100°				
	Power Requirements	40 AMP 430-500 VAC 3 PHASE (205-245 VAC Optional)				
	Shipping Dimensions* (WxDxH)	83"x92"x92"	100"x94"x96"	120"x94"x96"	140"x105"x105"	180"x105"x105"
	Operating Dimensions (WxDxH)	170"x100"x110"	220"x110"x110"	240"x110"x110"	260"x120"x115"	300"x120"x115"
	Machine Weight	15,000 lbs.	18,500 lbs.	20,500 lbs.	32,000 lbs.	37,000 lbs.

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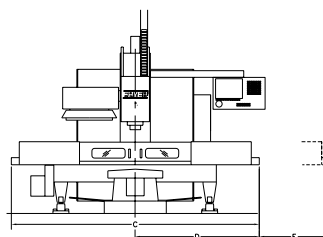
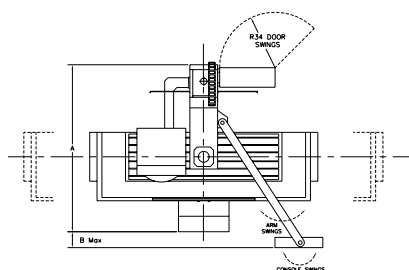
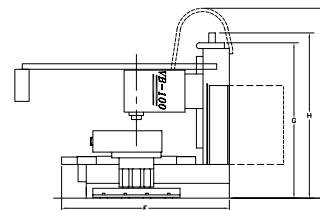
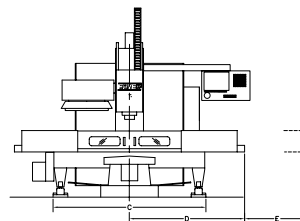
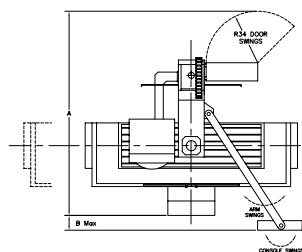
Specifications subject to change without notice

Rev 042601

* Requires some disassembly to meet these minimum dimensions. Contact factory for more information.

MACHINE SPECIFICATIONS

	VB-60	VB-80	VB-100
A	113	135	135
B	30	27	27
C	36	96	120
D	106	70	84.5
E	142	40	50.5
F	91	102	102
G	120	95	95
H	77	101	101
I		116	116



MACHINE SPECIFICATIONS

	VB-120	VB-160
A	120	129
B	27	27
C	164	204
D	82	102
E	60	80
F	129	129
G	105	105
H	115	115
I	126	126



DIMENSIONS ARE IN INCHES

