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8-180063

EM2040L
High-Speed CNC Vertical Machining Center

MACHINE FEATURES

CHEVALIER's EM series VMCs are designed for high precision, productivity, and high speed machining in different industries, such as aerospace, mold, automotive industries, or any job shop, etc. Features include all high-speed linear ways on all axes that ensure fast linear movement during cutting. All Meehanite cast iron construction with ribbed frame and wide stance machine base provide excellent support and damping character. The pre-tensioned class C3, ball screws are used in all axes. All servo motors are direct coupled to ball screws. It increases sensitivity of movement; meanwhile, it reduces the backlash dramatically.

Chevalier also designs spindle with **BIG-PLUS®** spindle. It provides solid contact surface between the tool holder and spindle' taper and flange surfaces. Simply by switching holders, you can greatly increase tool rigidity, reduce run out and add significant productivity to your machining applications. However, this spindle can run either dual contact holder or regular CT40 holders without changing anything.

The powerful FANUC 0i-MF control has been used in this machine. There are more than $15,000 control package includes in this machine without extra charge. An Ethernet connection, USB, easy-access Flash memory card slot, coordinate rotation and scaling, helical interpolation, rigid tapping, spindle orientation, and conversational program are among the many standard features. The optional AICC high speed-machining mode provides a 200-block look-ahead high-speed machining function and smooth 3D interpolation. It is most powerful and valuable control in its class.

SPECIFICATIONS

Table

Table Size	47.5” x 20.1”
Table Height from Floor	33.5”
Max. Table Load	1,320 lbs.

TRAVEL

X Travel	40.1”
Y Travel	20.8”
Z Travel	20”

HEADSTOCK

Spindle Motor	20 HP
Spindle Speed	10,000rpm
Spindle Nose to Table	5.9”–25.1”
Spindle Center to Z-axis covers	23”
Spindle Taper	CT-40 **BIG-PLUS® spindle**

X-AXIS

Rapids	1417 ipm
Cutting Feedrate	39.3-394 ipm
Linear Positioning Accuracy	JIS B6338 ±0.00016”
Repeatability	JIS B6338 ±0.0001”

Y-AXIS

Rapids	1417 ipm
Cutting Feedrate	0.04-394ipm
Ballscrew Diameter	1.57”
Linear Positioning Accuracy	JIS B6338 ±0.00016”
Repeatability	JIS B6338 ±0.0001”

Z-AXIS

Rapids	945 ipm
Cutting Feedrate	0.04-394ipm
Linear Positioning Accuracy	JIS B6338 ±0.00016”
Repeatability	JIS B6338 ±0.0001”

TOOL CHANGER

Tool Capacity	24 arm type
Tool Shank	CT40
Maximum Tool Diameter w/ adjacent tool	3”
Maximum Tool Diameter w/o adjacent tool	4.72”
Maximum Tool Length	11.81”
Maximum Tool Weight	15 lbs.
Tool Change Time	Tool to tool: 2.5 secs
	Chip to chip: 5.0 secs
Tool Selection	Random

COOLANT SYSTEM

Coolant Tank Capacity	63 gallons
Coolant Pump	1 HP
Max Coolant Pressure	30psi
Max Coolant Flow Rate	17gpm

GENERAL

Power required	220V, 3 phases, 20KVA
Air required	85psi, 200L/min
Floor Space (L x W X H)	107” x 83” x 90”
Net Weight	13,640 lbs.

MODEL EM2040L $59,800.00

STANDARD ACCESSORIES

10,000 rpm belt drive spindle	Pilot light
24+1 arm type ATC	Rear chips flush system
Air blast chip blow	Semi high splash guards
Air gun	Air purge spindle
Auto central lubrication w/ pressure detection	Tool box and hand tools
Coolant system	Three axes way cover
Level bolts and pads	Work light
Operation manual	Internal chip auger (X axis) & cart
Remote MPG	High speed rigid tapping
BIG-PLUS® spindle	

OPTIONAL ACCESSORIES

Part Number	Description	Price
B93-5A17*	External lift-up steel type chip conveyor	$4,580
D30-70-60HZ-NTUS*	1000 PSI **Chip BLASTER** D-30 (8 GPM) Coolant through spindle with rotary coupling, plumbing, and wiring	$9,900
B93-1A24*	300 PSI Chevalier coolant through spindle system with rotary coupling, plumbing, and wiring	$7,650
H03-4A39	Roof enclosure (recommend ordered with coolant through spindle)	$650
B93-1A33* 2934-01048000*	CTS Pre-wired with rotary coupling, plumbing, and wiring	$2,650
B93-6A10*	Automatic tool length measurement (Renishaw TS27R, custom macro B included)	$5,500
B93-3L15*	210mm (8") 4th axis rotary table (includes drive & motor) (Prep included)	$11,000
B93-3A10	4th axis prep. (interface ready w/o servo driver)	$1,000
B93-3E47	Manual tailstock	$1,200
B93-8T10	Spindle oil chiller (Prep. included)	$2,600
	Spindle Chiller Prep	$160
B93-5J11	Water gun	$285
B93-8G32*	Oil skimmer	$700
B93-8J53*	3-axis Linear scales	$15,500
A02B-0340-J665*	AICC High speed machining mode w/ 40 blocks look ahead	$920
A02B-0340-S808* A02B-0340-S678* A02B-0340-S687*	AICC II High speed machining mode w/ 200 blocks ahead NANO smoothing Jerk control	$3,730
A02B-0340-J948*	Part program storage 2MB	$1,360
A02B-0340-S790*	Manual Guide I	$1,800
	Extra M code with relay board	$250
2934-08060Q00	BT-40 Tool Arm in lieu of CT40	$250 net
B49-14183	SKYMARS monitoring software- lights off operation and remote monitoring	$2,100

0iMF specifications ●:Standard Type 3 □ : Option

Controlled axes	**STM functions**
●Controlled axes X/Y/Z axes	●Spindle speed function 5 digit S code
●Simultaneously Positioning/linear/circular	●Spindle speed override 50~120%
●Max. Simultaneously Controllable axes 4	●Tool function 4 digit T code
Programmable methods	●M function 3 digit M code
●Least input increment 0.001mm(0.0001 in)	**Tool offset**
●Least command increment 0.001mm(0.0001 in)	●Tool length compensation
●Max. command value 99,999.999(9,999.9999 in)	●Tool offset memory C
●Absolute/incremental programming G90/G91	●Tool offset pairs 400 pairs
●Decimal point programming	●Cutter compensation C G40-G42
●Increment system 0.0001mm(0.000001 in)	●Tool length compensation G43,G44,G49
Interpolation	●Tool offset
●Position	●Tool life management
●Linear interpolation	**Coordinate system**
●Circular interpolation	●Inch/metric coversion
□Cylindrical interpolation	●Automatic coordinate system setting
●Helical interpolation	●Coordinate system setting
Feed function	●Work coordinate system G54~G59
●Manual handle feed 1 unit	●Addition of work coordinate system pair 48
●Manual handle feed rate x1 , x10 , x100	**Operation support function**
●Feedrate override 0 ~ 150%	●Single block
●Rapid traverse rate override F0/25/50/100%	●Dry run
●Feed per minute 0 ~ 1260 mm/min	●Machine lock
●Override cancel	●Mirror image
●Dwell	●Extended part program editing
●Automatic acceleration/ deceleration	●Load meter display Screen display
●Spindle orientation	●Control axis detach
●Automatic corner deceleration	●Tool length measurement
Reference Function	●Machining condition selecting screen
●Manual reference position return	●Program restart
●Automatic reference position return	●Sequence number comparison and stop
●2nd reference position return G30	●Manual handle interruption
●Reference position return check G27	**Programming support function**
Program storage and editing	●Maximum programmable dimension +9 digits
●Part program storage 512KB	●Interpolation functions Positioning/Linear/Circular
□Part program storage 2MB	●Circular Interpolation by radius R
●Number of stored programs 400 programs	●Canned cycles for drilling
□Number of stored programs 1000 programs	●Single Direction Positioning G60
Operation and display	●Exact stop mode G61
●Display section 8.4 inch TFT LCD	●Exact stop G09
□Display section 10.4 inch TFT LCD	●Programmable data Input G10
●Running time display/Number of parts display	●Rigid tapping
●Clock function Screen display	**Setting and display**
I/O Function and units/ I/O	●Servo setting screen
●I/O interface/ I/O RS-232	●Graphic display
●Memory card interface PCMCIA (front slot)	●Dynamic graphic display
●Usb memory interface/Usb (front slot)	**Operation guidance function for milling**

0iMF specifications	**●:Standard Type 3 □ : Option**
●Ethernet	●MANUAL GUIDE 0i
●DNC operation with memory card (front card slot)	□MANUAL GUIDE i
	Mechanical accuracy compensation
●Program end M02 , M30	●Backlash compensation
●Program stop M00 , M01	●Pitch error compensation
●Normal direction control	●Rapid traverse/cutting feed backlash compensation
●Automatic corner override	□Bi-directional pitch error compensation
●Background editing	
●Custom macro B	
●Optional chamfering / corner R	
●Interruption type custom macro	
●Programmable mirror image	
●Addition of custom macro common variable	
●Scaling	
●Coordinate system rotation	
●Polar coordinate command	
●Pattern data input	
●Skip G31	
●High-speed skip	
●AI advanced preview control	
□AI contour control (40 block)	
□AI contour control II (200 block)	
□Data servo editing	
□Nano Smoothing	
□Jerk control	
□Macro executor	
□Multi-step skip	
□Dual position feedback	
□3-dimensional coordinate conversion	
□Titled working plane indexing	
□Rigid tapping by manual handle	
Safety and maintenance	
●Over travel	
●Stored stroke check 1	
●Self-diagnosis function	
●Alarm history display	
●Help function	
●Operation history display	
●Stored stroke check 2	

LIMITED WARRANTY

All Chevalier Machinery machines are warranted to be free from defects in parts and workmanship- for a period of one (1) year from the date of machine shipped and invoiced. Any and all repairs must be performed by an authorized Chevalier Machinery dealer service- organization. The qualified dealers for Chevalier Machinery shall provide warranty service for one (1) year from the date of machine installation. Chevalier Machinery shall provide replacement parts for warranty. FANUC control is covered by a two (2) year warranty from the date of machine shipped and invoiced. The control manufacturer shall provide replacement parts for warranty and assistance for service and service person for their equipment.

STANDARD WARRANTY COVERAGE

One (1) Year on machine (parts & labor)

Two (2) Years on FANUC CNC control (parts & labor)

WARRANTY EXCLUSIONS

This warranty shall remain in effect only if the machine is used and maintained in accordance with all operating and maintenance instructions set forth in the manuals and instruction sheets furnished by Chevalier Machinery. Chevalier Machinery shall have no liability to repair or replace defective parts until the Purchaser has fulfilled its payment obligations. No allowance will be made for repairs or alterations made without Chevalier Machinery's prior written consent or approval. The limited warranty provided by Chevalier Machinery excludes the following:

1. Damage, malfunction, or failure caused by or resulting from improper maintenance, misuse, neglect, accident or any other cause beyond the control of the Chevalier Machinery.
2. Damage, malfunction, or failure caused by modification of the machine (mechanical or electrical) without written authorization by Chevalier Machinery.
3. Damage, malfunction or failure caused by installation or use of accessories or peripherals not purchased through or authorized in writing by Chevalier Machinery.
4. Paint, batteries, filters, fluids, fuses, light bulbs, or any commonly expendable item.
5. Damage to machines and/or components while being transported from Chevalier Machinery's warehouse or facility to destination.
6. Accessories or peripherals not manufactured by Chevalier Machinery, which shall be subject only to whatever warranty that is supplied by the manufacturer of such product.
7. Fanuc CNC control, FANUC spindle motors and FANUC servo motors, spindle and servo drives, which are covered by a two (2) year manufacturer warranty.

PARTS WARRANTY POLICY

8. All new parts Chevalier Machinery sells are under warranty for 90 days from the date of sale. (Please refer to the parts policies for complete details)
9. Returned parts are subject to a 15% restocking fee. Only new (unused and uninstalled parts) can be returned for credit. (Please make sure that you are ordering the correct parts so that you do not have to pay for what you don't need)

WARRANTY ON APPROVED ATTACHMENTS

Chevalier Machinery does not warrant any unapproved attachments and parts.

TERMS AND CONDITIONS

If needed we may assist you in finding a suitable and affordable source of finance options for the purchase of Chevalier Machinery equipment.

All prices are F.O.B. Santa Fe Springs, CA or F.O.B. port of entry and include standard packing for domestic truck shipment. Prices do not include any applicable taxes, which will be added to the invoice unless an appropriate exemption certificate or number is provided with your order.

If customer cancels the order after production is complete, a cancellation fee of 15% of the total invoice amount will be charged. Chevalier Machinery will not be responsible for any delays in deliveries. Customer agrees that payment will not be withheld or delayed due to back order of any accessories or options. Financing is the responsibility of customer.

A check for the down payment must accompany with order. Payment in full on the balance of this sales order must be made upon completion of terms. Late payments are subject to an interest charge of 1% per month on the unpaid balance. Customer will pay all costs and expense of collection including reasonable attorney's fee.

Price is F.O.B. Santa Fe Springs, CA or F.O.B. port of entry. Our responsibility ceases when delivery is made to the carrier. All list prices of optional accessories are good for new machine orders only. Prices for in-field upgrades or retrofit options may vary from this price list. Prices do not include local applicable tax. Any claim for loss or damage must be handled by the purchaser against carrier. Price and specifications subject to change without prior notice.

*** FACTORY INSTALLATION IS RECOMMENDED**

SET UP AND TRAINING IS AVAILABLE FOR AN ADDITIONAL CHARGE.

ONE YEAR MACHINE & TWO YEARS CONTROL WARRANTY

CHEVALIER®
Grinding / Turning / Milling

Chevalier Machinery Inc.
9925 Tabor Place, Santa Fe Springs, CA 90670
T: 562-903-1929 • F: 562-903-3959

www.ChevalierUSA.com