



CHAPARRAL MACHINERY



FEMCO “VL-12” CNC VERTICAL LATHE

The machine consists of a Spindle Motor Driven Turn Table with manually actuated 4-jaw chuck for chucking a workpiece and a cutting tool manipulation device consists of a servo motor driven ram for vertical motion (Z) and a carriage for the ram, which traverse horizontally (X) on the cross rail. The cross rail, which is program elevated or descended to a desired level, is fixed to the double columns.

The Turn Table Drive consists of a 50 HP A.C. spindle motor and a gearbox, which provides 2 speed ranges (2.8 rpm - 280 rpm). The turntable sits on a Timken tapered roller bearing inside the bed.

The Tool Holder has an ISO # 50 taper shank and is similar to Bullard type tool holders. The ram has a #50 ISO taper receptacle with two hydraulically rotated cams to pull the shank tight.

An Optional Tool Holder changing device allows program commanded tool holder changing process. A carousel type magazine attached to the end of the cross rail keeps 8 tool holders thus allowing for rapid tool changes.

The Rigid Surface Hardened and Ground Ram moves up and down via servomotor actuated ball nut against a fixed screw. The 8 5/8" x 8 5/8" square sectioned ram slides inside Turcite lined narrow guide of the ram carriage. This design allows easy boring of relatively small diameter but deep holes.

The Horizontal Traverse of ram carriage is actuated by rotating ball screw with servomotor attached to the edge of the cross rail.

The Crossrail is made of boxed sectioned meehanite with sufficient rigidity against the weight of the ram and ram carriage and the thrust from machining. The cross rail is program elevated and descended to the desired height then clamped tight against the double columns. Leveling of the cross rail is achieved by having two precision ground 100 mm pitched hook up racks attached to the double columns. The relative height level of these two racks can be manually adjusted when necessary.

The Double Columns which support the cross rail are fixed to the bed (of the turntable) at the bottom ends and are linked to each other at the top ends. The cross rail is made of stress relieved Meehanite castings.

Both the Ram and the Ram Carriage positions are measured with Glass digital scale feed back. Therefore it is possible to measure the dimensions of a workpiece in addition to having closed loop positioning of the cutting tool. The Sheet metal splashguard and coolant supply are standard equipment.

All Servo Motors and the Spindle Motor, Tool Changing and Crossrail Elevation etc. are all controlled with FANUC OIT-C controller having all push buttons and display provided on a pendant. The pulse generator can be detached from the pendant so that an operator can take only the pulse generator with him when he has to reach close to or inside a workpiece when manual inching of cutting tool position is necessary.

There are two kinds of **Lubrication** supporting this machine. One is the continuous lubrication system for the gearbox of the rotating table and also for its bearing. The other is the automatic interval lubrication system for all the slide ways.

Tool Magazine: (Carrousel Type): There is one carrousel type 8 station tool magazine mounted on the right side of crossrail. Through NC control, various tool holders can easily get in/out the carrousel. Furthermore, every tool holder is designed to be hydraulically cam-locked and centering aligned with the ram therefore, high repeatability and machining accuracy are assured to be attained.

MACHINE SPECIFICATIONS:

Table Diameter	49.2"
Max. Swing	62.9"
Max. Turning Height	43.3"
Max. Work piece Weight	10,000 lbs.
Max. Cutting Force	10,845 ft. lbs.
Table Speed	2.8-280 RPM (Stepless)
Ram Dimensions	8 5/8" x 8 5/8"
Turning Tool Size	1-1/4"
Horizontal Travel (X Axis)	51"
Vertical Travel (Z Axis)	42"
X-Axis Rapid Traverse	394"/min.
Z-Axis Rapid Traverse	394"/min.
Cross rail Elevation Speed	15.7" IPM
Vertical Travel	Rail 39.4"
Motor:	
Main Table Drive	50/60 cont./30 min
Crossrail Elevation	5 HP
Hydraulic	5 HP
Lubrication of Turntable	0.37 HP
Lubrication of Slideway	0.1 HP
X-Axis Servo Motor	4.5 HP
Z-Axis Servo Motor	4.5 HP
Electric Power	120 AMP, 60 Hz, 3 phases
Weight of machine (approximate)	39,690 lbs
Dimension (L x W x H)	146" x 208" x 206"
(Maintaining space not included)	

STANDARD CONTROL FEATURES FANUC OiT:

Simultaneously Controllable Axes: 2	Minimum Programmable Increment:0.0001
Program Storage Length (640m)	Registered Programs: 63
Backlash Compensation	Constant Surface Speed Control
Self Diagnostic Functions	

PROGRAMMING FEATURES:

Background Editing	Tool Nose Radius Compensation (G70-42)
Combined Absolute/Incremental Commands	Inch / Metric Programming
Multiple Repetitive Cycles (G70-76)	Canned Cycles (G90, G92-G76)
Reference Point Return (G27-G30)	Sub Programming

OPERATION FEATURES:

High Resolution 8.4" Monochrome CRT
16 pairs of Tool Offsets
Thread Cutting Retract
Direct Input of Offset Value Measured
Machine Lock Key Switch
Rapid Traverse Override
Spindle Speed Override
Tape Code: EIA, ISO Automatic Recognition
Canned Cycles for Turning
Manual Continuous Feed
Single Block

Geometry and Wear Offsets
Run Hour Display
Automatic Tool Offset Calculation
Input / Output Interface (RS232C)
Incremental Offset
Feed Rate Override
Manual Pulse Generator
Optional Block Skip
Mirror Image
Dry Run
Clock Function

STANDARD ACCESSORIES:

Coolant Supply and Recirculation System.
Automatic Slideway Lubrication System
4-Jaw Manual Chuck (Mutually Independent).
Glass Linear Scales (for X Axis and Z Axis) for Position Feed Back to Servo System.
6 Tool Holders
Bed Leveling and Fastening Parts.
Splash Guard.
Lamp
Crossrail Slideway Telescope Cover.
FANUC OiT with Detachable Manual Pulse Generator.
Necessary Operation and Maintenance Documentation
1 Set of Hand Tools for Maintenance

Investment: (F.O.B. Port of Entry)

WVL-12 with FANUC OiT Control **\$399,000.00**

MACHINE OPTIONS:

Additional Tool Holders (preferable to be purchased with the machine so that the curvic coupling piece on each tool holder matches well with the piece on the ram).	\$ 5,000.00
ATC Carrousel 8 Tool Positions	\$ 24,500.00
Chip Conveyor	\$ 4,000.00
Transformer Per Your Requirement	\$ 3,000.00

TERMS AND CONDITIONS:

Terms: 20% Down, 70% On Arrival, Balance due Net 10 Days from Delivery

Installation; By Chaparral Machinery with any necessary support from FEMCO

Service Support; is a High Priority at FEMCO & Dealers are backed by FEMCO Service/Parts

One Year Parts New Machine Warranty; 12 months Mechanical & Fanuc components carry a (2) Year Parts Warranty.

Delivery: Stock subject to prior sale; FOB Port of Entry until otherwise quoted

Quote Valid for Thirty (30) days; Specifications may change without notice.

Best Regards,

Chaparral Machinery

3435 Roy Orr Blvd., Suite 100 * Grand Prairie, TX 75050

972/313-1987 * Fax 972/313/1984

www.chaparralmachinery.com