



**CAMPRO PV-3216  
HEAVY DUTY BRIDGE MILL**

**Campro USA**  
5 Highland Avenue • Suite C • Bethlehem, PA 18017  
Phone (484) 892-6333 • Fax (484) 892-6334  
[sales@campro-usa.com](mailto:sales@campro-usa.com)

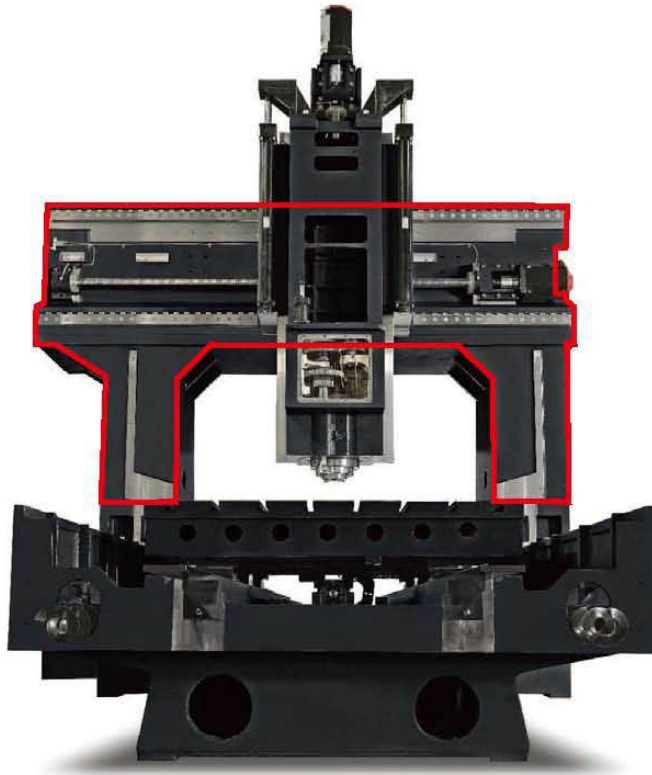
## **MACHINE FEATURES:**

- 35 HP 6,000 rpm Gear-head spindle
- One-piece casting design in ram and gear box
- Box guideways on Z-axis is excellent for heavy-duty cutting
- Stepped type design shifts the gravity center toward crossbeam
- Crossbeam guideways with max. span design
- Roller linear on Y axis increases rigidity while in axial and lateral directions
- The base is made of pure casting structure ensuring long term accuracy and stability
- Optimal span between guideways supports working table
- One-piece cast base with two-chip slots minimizes cleaning time and provides higher durability and leakage prevention
- Roller linear guideways on X-axis increases table loading capacity and rigidity

## **STANDARD FEATURES:**

- \* Fanuc 0i-MF PLUS Type 1
- \* AICC2+
- \* 6,000 RPM Spindle with Geared Head (10,000 RPM Built In Spindle Optional)
- \* Spindle Oil Chiller
- \* Powerful 35 HP high torque spindle motor
- \* High Column (37.4" Spindle nose to table)
- \* Cartridge Spindle Design
- \* CAT50 Big Plus Spindle
- \* Coolant thru spindle prep (290 PSI Coolant thru Spindle System Optional)
- \* Spindle Air Blow
- \* Rigid tapping
- \* Twin Arm 32 Tool ATC
- \* Portable Manual pulse generator
- \* Program and data protection key switch
- \* Massive One-piece Meehanite cast iron bed
- \* X & Y Heavy Duty Roller Type Guideways
- \* Z axis Heavy Duty Box Way
- \* Two Chip Augers
- \* Chip Conveyor (W/ Bucket)
- \* Double Anchored, Pre-tensioned Ballscrews
- \* Fast X & Y - 787, Z - 630 IPM Rapid Traverse rate
- \* Flood coolant with large coolant tank
- \* Work light
- \* Heat exchanger for Electrical Cabinet
- \* Automatic Lubrication Unit
- \* Instruction manual, parts list, and electrical diagram
- \* Fanuc operator and maintenance manuals
- \* One-year Parts warranty: Parts w/o Labor
- \* Two-year NC Control Warranty: Parts and Labor

## PV-2216 / 3216 / 4216



## Automatic Tool Change Capacity



PV series comes with standard 32-tool #50-Chain Type ATC.

Dual arm system ensures the stability during tool change.

Max. Tool Dia.: 125 mm

Tool Length: 350 mm

Tool Weight: 20 kgs

The bridge part of the PV series is made from one-piece (monobloc) box type construction, which is annealed and stress released to ensure rigidity and stability.

## Main Characteristics

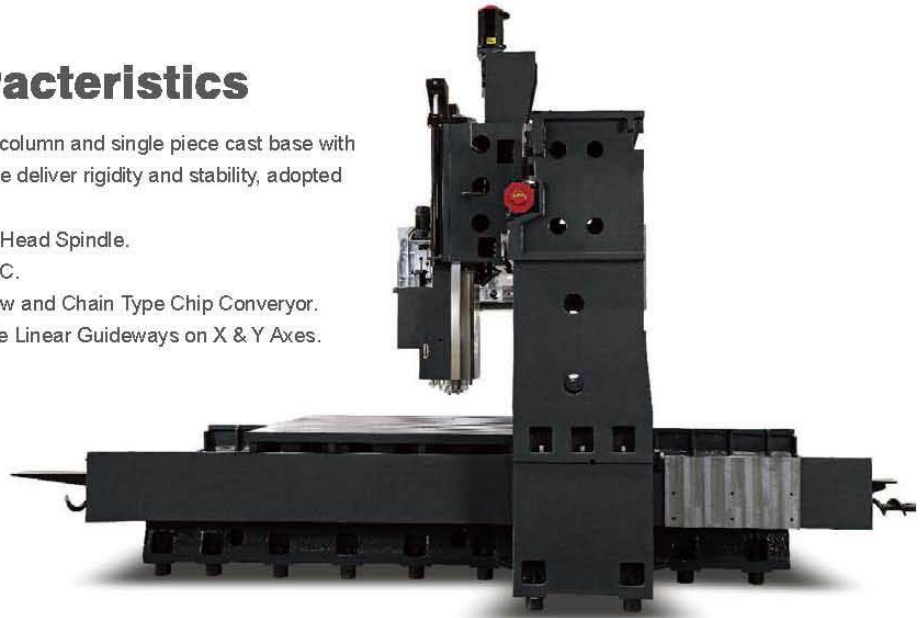
One-piece monoblock column and single piece cast base with scraped contact surface deliver rigidity and stability, adopted following as standard.

30HP 6,000 rpm Gear-Head Spindle.

32-Tool Chain Type ATC.

Built-In Twin Chip Screw and Chain Type Chip Conveyor.

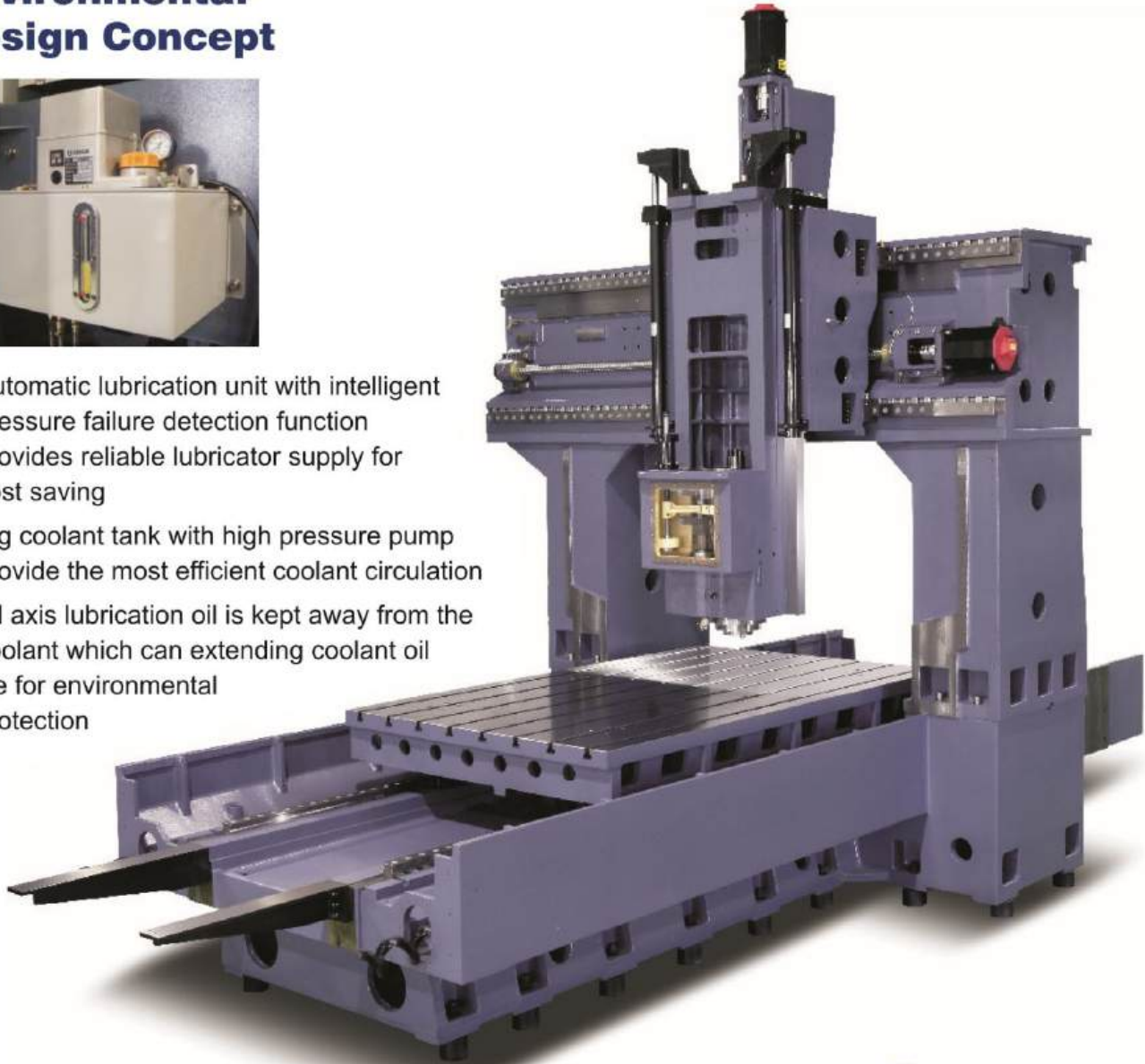
Heavy Duty Roller Type Linear Guideways on X & Y Axes.



## Environmental Design Concept

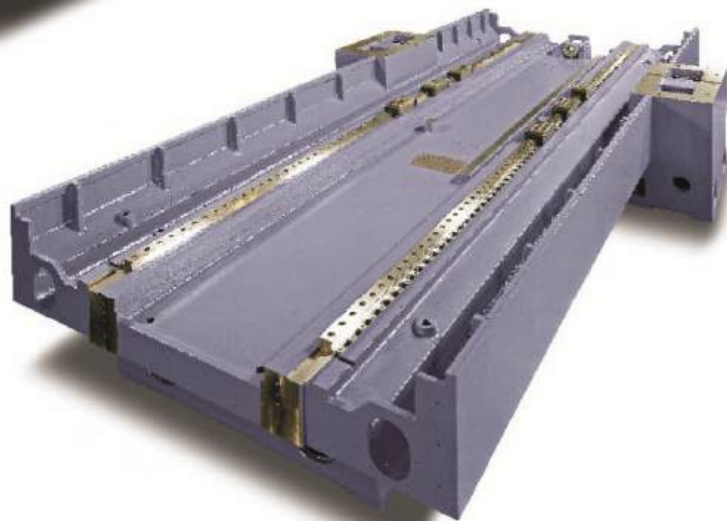


- Automatic lubrication unit with intelligent pressure failure detection function provides reliable lubricator supply for cost saving
- Big coolant tank with high pressure pump provide the most efficient coolant circulation
- All axis lubrication oil is kept away from the coolant which can extending coolant oil life for environmental protection



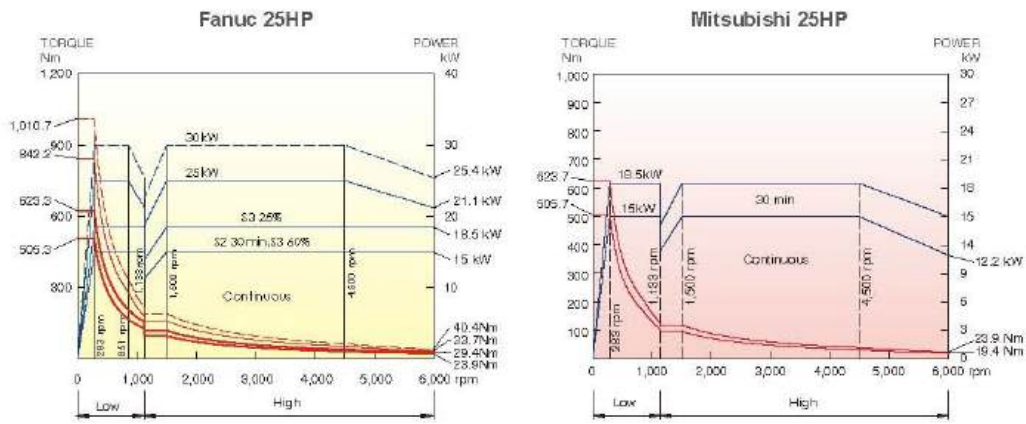
## Base Structure

- Extra heavy load recirculating roller linear guideway on X-axis and Y-axis  
Fast rapid feedrate on X-axis and Y-axis are 20 m/min, and Z-axis is 16 m/min  
Automatic lubrication to the sliding points  
Final laser inspection and ball bar testing ensure repeatability and positioning accuracy. Linear scales for high precision feedback system (Optional)

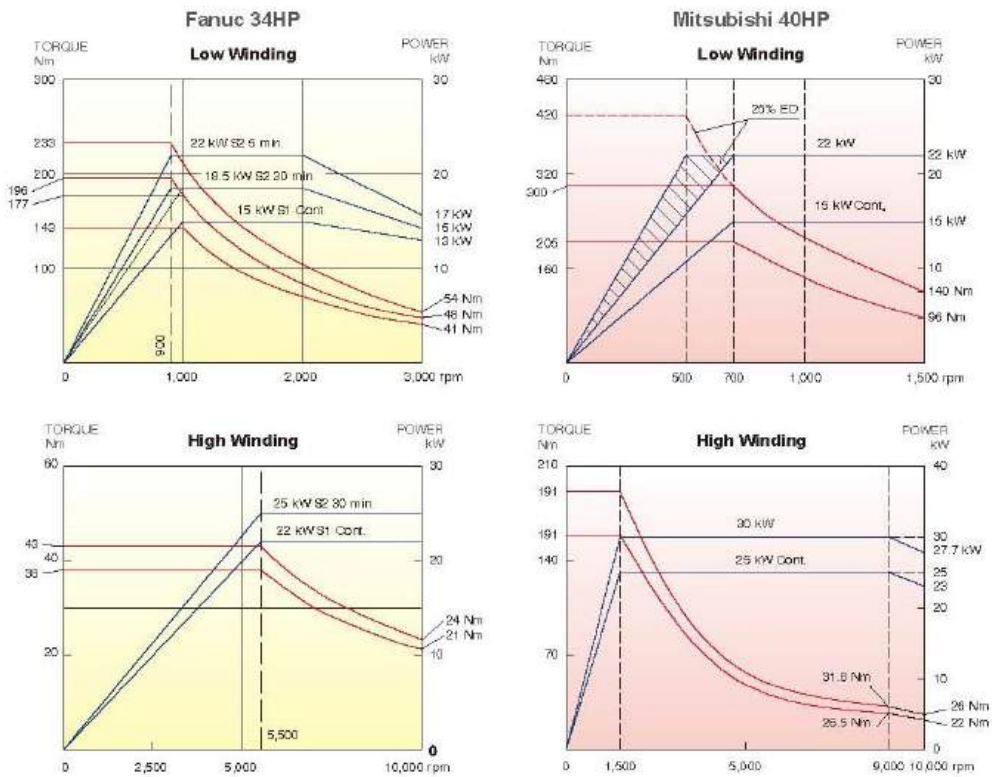


# Spindle Diagram

## Gear Type



## Built-in Motor Spindle (Optional)



## SPECIFICATIONS:

### TABLE:

Table loading area	129.91" x 57.08"
Allowable table load	17,637 lbs.
T Slots, width x spacing x # slots	.86" X 8"

### SPINDLE:

Spindle taper	CAT-50 Big Plus
Spindle RPM	6,000 RPM
Spindle Power Output	35 HP
Spindle torque	621 ft. lbs.
Spindle Driving Method	Gear Type

### FEED:

X axis travel	125.98"
Y axis travel	62.98"
Z axis travel	29.52"
Spindle nose to table surface	7.87" – 37.40"
Distance between Columns	68.89"
Rapid Traverse X and Y axis	787 IPM
Rapid Traverse Z axis	629.9 IPM

### AUTOMATIC TOOL CHANGER:

Number of Tools	32
Tool Shank	CAT 50 Big Plus
Max. Tool Dia.	4.92
With adjacent pocket open	8.46
Max. Tool Length	13.7 inches
Max. Tool Weight	44.1 lbs.
Tool Selection Method	Random

### TANK CAPACITY:

Coolant Tank	53 Gallons
Lubricating Tank	.5 Gallons
Hydraulic Tank	30 Gallons

### POWER SUPPLY:

Electric Power Supply Voltage / KVA	220V 3 Phase (60HZ) / 40
Minimum Air Supply	85 PSI (3/8 ID Supply Hose)

### FEED AND ACCURACY:

Cutting feed rate	393 IPM
Least command increment	.001mm
Positioning accuracy	+/- .00020" (full stroke)
Repeatability	+/- .00008"

### MACHINE:

Floor Space Required (L X W)	259.8" x 188.9"
Height	155.51"
Machine Weight	59,524 lbs.

## **Control Specifications - Fanuc 0i-MF PLUS:**

10.4" Color LCD Screen  
MANUAL GUIDE i  
2 MB Program Storage Size  
1000 Part Program Storage  
AICC2+  
Fine Surface Machining:

- 200 Block Look-Ahead
- Smooth Tolerance Control
- Jerk Control
- Machining Quality Level Adjustment

Machine Condition Selecting (Programmable, G05.1 R1-10 sets accuracy level)  
USB Reader  
RS-232 Interface  
PCMCIA Memory Card  
Embedded Ethernet  
Back Ground Editing  
Extended Part Program Editing (Copy, Move, Change of NC Program)  
Set-up Guidance  
Dynamic Graphic Display  
Skip Signal  
Multi-Step Skip Signal  
Multi-language Display  
Color graphics  
Simultaneous Controlled Axis  
Least input Increment on X, Y, and Z is .001 mm  
Least command increment on X, Y, and Z is .001mm  
Inch/Metric Conversion (G20/G21)  
Interlock on All Axes  
Machine Lock on All Axes  
Emergency Stop  
Stored Stroke Check 1, 2, 3,  
Mirror Image  
Backlash Compensation  
Unexpected disturbance torque detection  
Stored pitch compensation  
Automatic Operation (Memory)  
MDI Operation  
Search Function (Sequence, Program)  
Program restart  
Dry Run  
Single Block  
Buffer Register  
Manual Handle Interrupt  
Manual Jog Feed (Rapid, Jog, Handle)  
Manual Handle Feed Rate (x1, x10, x100)  
Feed Command (F Code Feed Rate Direct Command)  
Feed rate Override 0-200% (10% Unit)  
Jog feed 0-5,000 mm/min (197 ipm)  
Rapid traverse override (F0, F25%, F50%, F100%)  
Override Cancel  
Rapid Traverse Bell-Shaped Acceleration/Deceleration  
Block Skip

## **Control Specifications - Fanuc 0i-MF PLUS CONT'D:**

Exact Stop Mode / Exact Stop (G61/G09)  
Dwell (G04)  
Helical Interpolation  
Threading/Synchronous Feed  
Manual Reference Point Return  
1<sup>st</sup> Reference Point Return G28  
Reference Point Return Check G27  
2<sup>nd</sup> Reference Point Return G30  
3<sup>rd</sup> and 4<sup>th</sup> Reference Point Return  
Program stop, optional stop, end of program M00, M01, M02, M30  
Tape Code EIA RS-244/ISO 840 (Automatic Recognition)  
Optional Block Skip (9 ea.)  
Maximum Programmable Dimensions +/- 9999.9999" (+/- 8 digits)  
Absolute and Incremental Command G90/G91  
Decimal Point Input  
Plane Selection G17 G18 G19  
Work Coordinate System Setting (G52 – G59)  
Work Coordinate Preset  
Additional Work Coordinate System 48 pairs  
Manual Absolute "On" fixed  
Programmable Data Input G10  
Sub Program Call 4 Levels of Nesting Custom Macro #100 to #199  
Addition to Custom Macro Common Variables #500 to #999  
Circular Interpolation by radius R  
Canned Cycle (G73, G74, G76, G80 ~ G89)  
Optional Chamfering / Corner R  
Skip Function (G31)  
Automatic Coordinate System Setting  
Coordinate System Rotation  
Programmable Mirror Image  
Single direction positioning (G60)  
External Data Input (Tool Offset, message, machine zero-point shift)  
Cylindrical interpolation  
A1 Advance Preview Control (G5.1)  
Polar Coordinate Command  
Miscellaneous Function (M3 digits)  
Miscellaneous Function Lock  
Spindle Speed Command (S5 Digits, binary output)  
Spindle Speed Override (50% ~ 120%) 10% Unit  
Rigid Tapping  
Cutter Compensation C (G40-G42)  
Tool Length Measurement  
Tool Length Compensation (G43, G44, G49)  
Tool Offset Amount (+/- 6 Digits)  
Tool Offset Pairs (400 Pairs)  
Tool Life Management  
Memory Lock  
Back Ground Editing  
Extended Part Program Editing (Copy, Move, Change of NC Program)  
Self-Diagnosis Function  
History Display of Alarm and Operator Message  
Help Function  
Run Hour / Parts Count Display  
Actual Cutting Feed Rate Display  
Spindle / Servo Setting Screen  
Multi-language display (Selection of 5 Optional Language)  
Erase CRT Screen Display (Screen Saver)



## **Control Specifications - Fanuc 0i-MF PLUS CONT'D:**

Bi-Direction Pitch Error Compensation

Tool Management Function

Protection of Data at 8-Levels

Tool Monitoring Function (HWTM – Built-on Fanuc Type)

Alpha i AC digital servo system with 1,000,000 pulse encoders

Full MDI keyboard

Automatic Acceleration / deceleration with Bell Shaped rapid acc / dec

3 axes simultaneous control std. (4 axis opt.)

Scaling

Custom Macro B

High speed skip signal