**CAMPRO PV-2216**

HEAVY DUTY BRIDGE MILL

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

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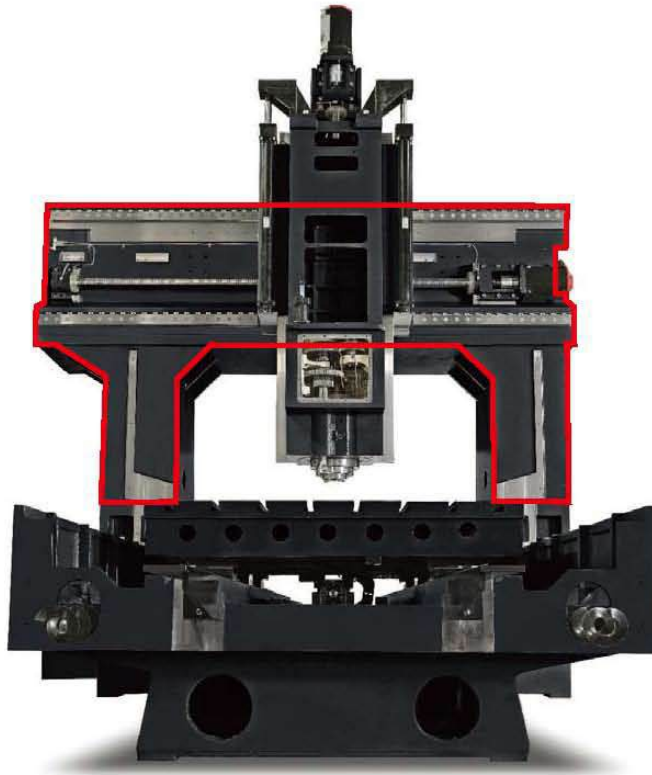
Automatic Tool Change Capacity

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.
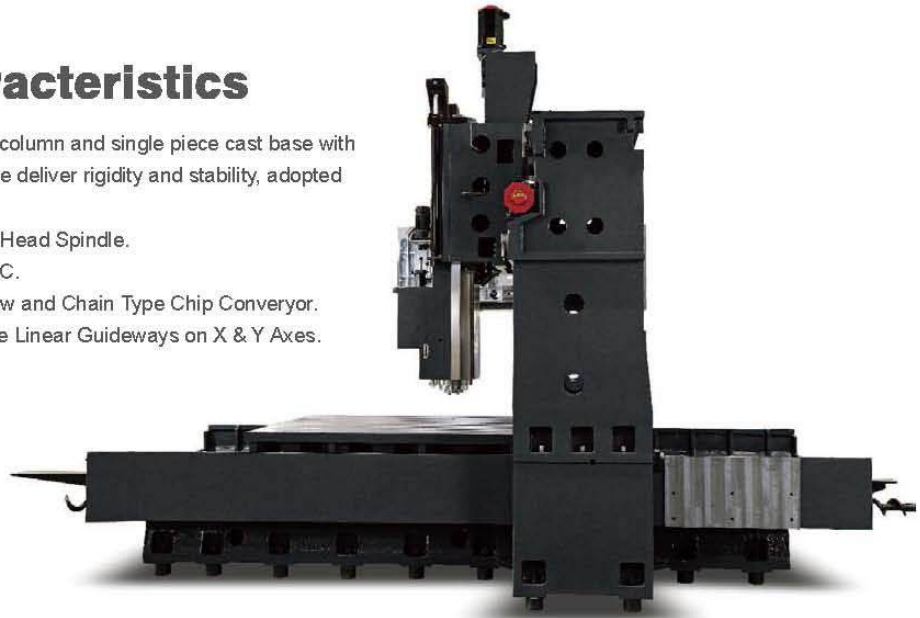
Main Characteristics

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 Converyor.
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
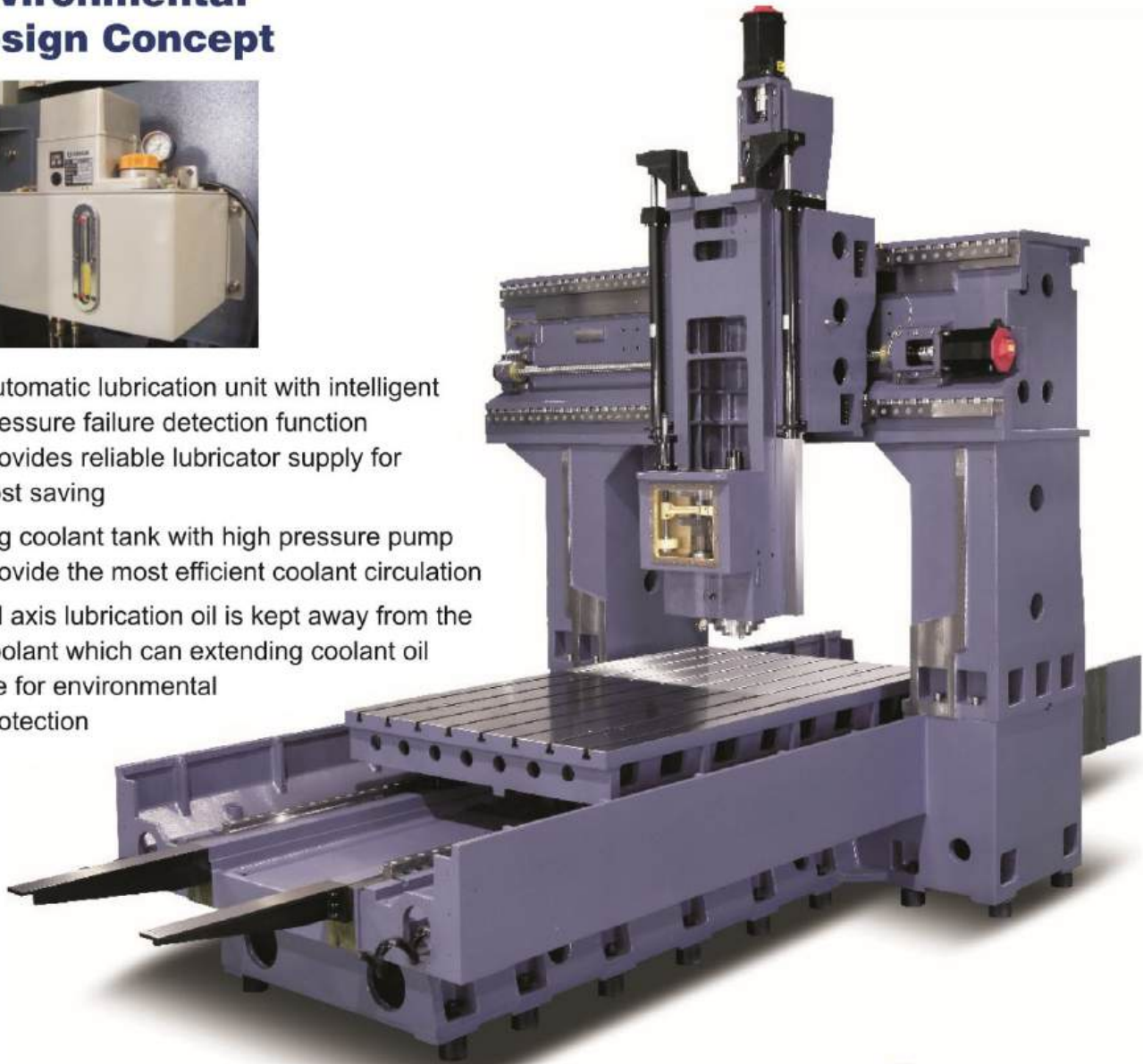

Base Structure

- 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)
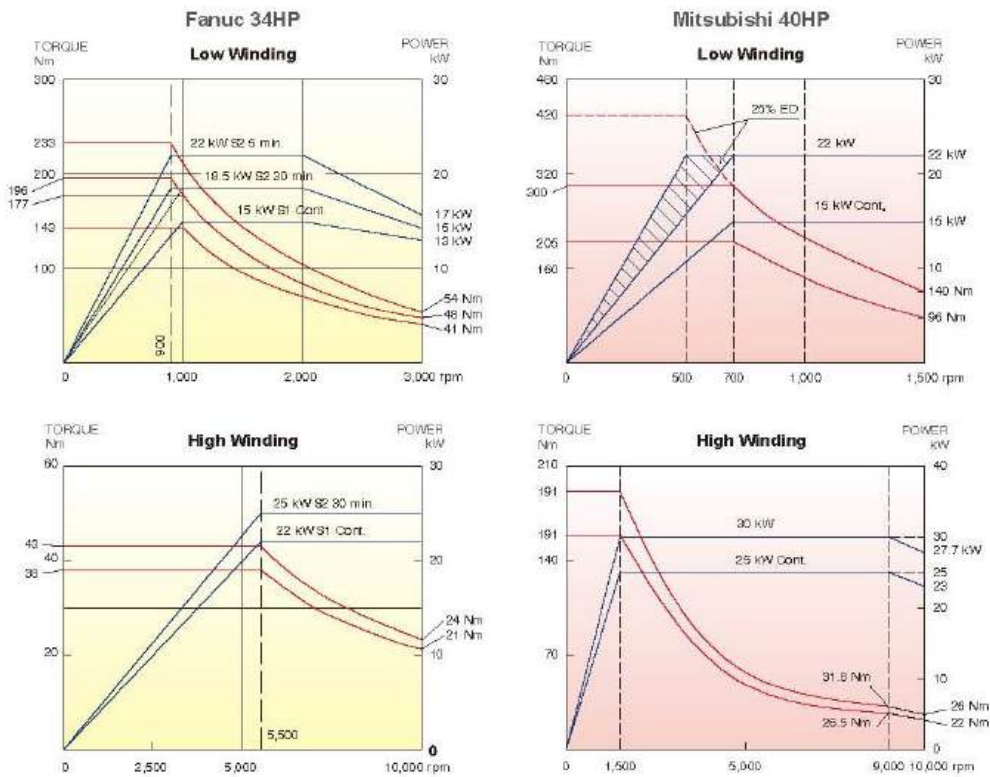

PV-2216

Gear Type

Fanuc 25HP

Mitsubishi 25HP
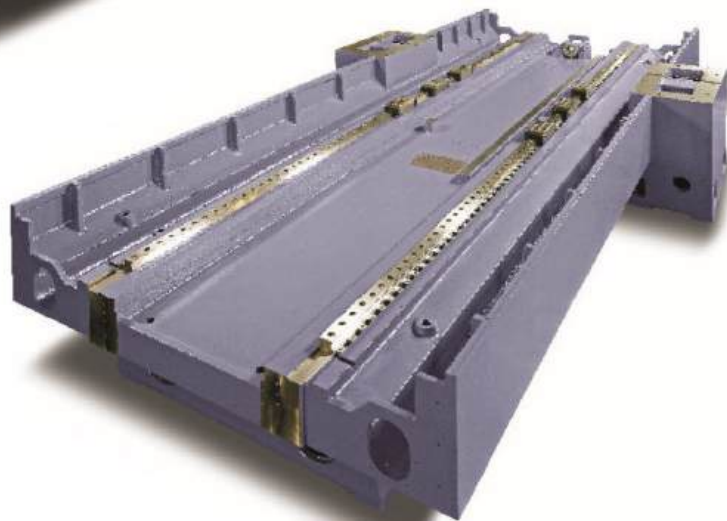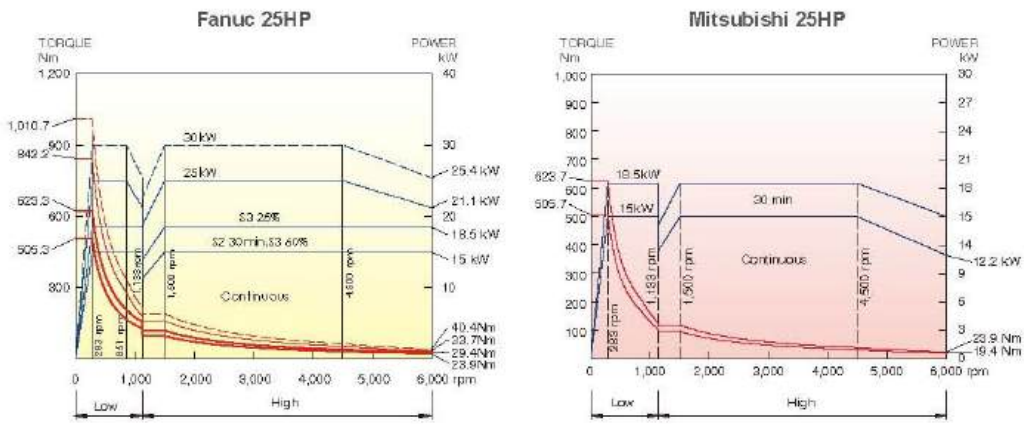
Built-in Motor Spindle (Optional)

Fanuc 34HP

Low Winding

Mitsubishi 40HP

Low Winding

High Winding

High Winding

SPECIFICATIONS:

TABLE:
Table loading area	90.50" x 57.08"
Allowable table load	13,227 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	86.60"
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	55,115 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
1st Reference Point Return G28
Reference Point Return Check G27
2nd Reference Point Return G30
3rd and 4th 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)