



PV-5231



Campro USA

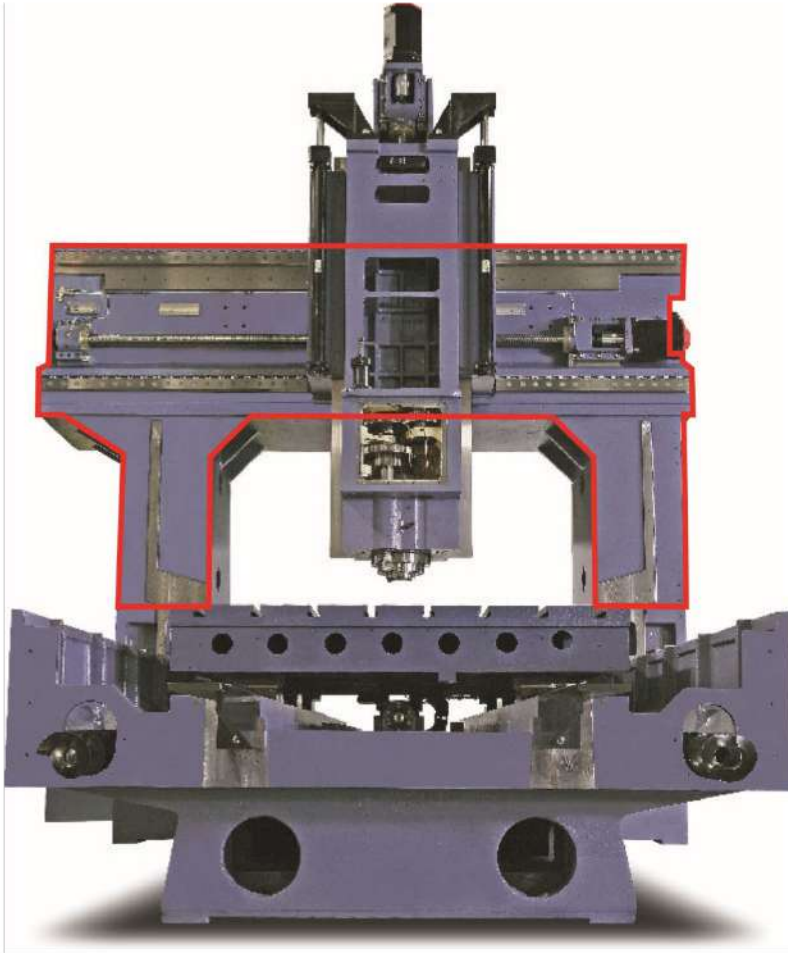
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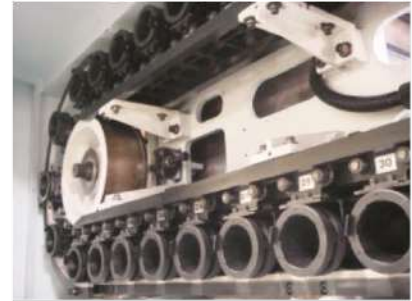
STANDARD FEATURES:

- * Fanuc Oi-MF Control (Package B)
- * AI APC Contour Control
- * 6,000 RPM Spindle with Gear Head (10,000 RPM Built In is optional)
- * Spindle Oil Chiller
- * Powerful 35 HP (30 min) high torque spindle motor
- * High Column (37.4" Spindle nose to table)
- * Cartridge Spindle Design
- * CAT50 Big Plus Spindle
- * 1,000 PSI Coolant thru spindle prep
- * 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 Linear Guides
- * Z axis Heavy Duty Box Way
- * Chip Auger
- * Chip Conveyor (W/ Bucket)
- * Double Anchored, Pre-tensioned Ballscrews
- * 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
- * Two-year NC Control Warranty: Parts and Labor by control builder



The single unit (monobloc) oversized bridge is made from one piece box type beam construction which is annealed and stress released to ensure the rigidity and the stability.

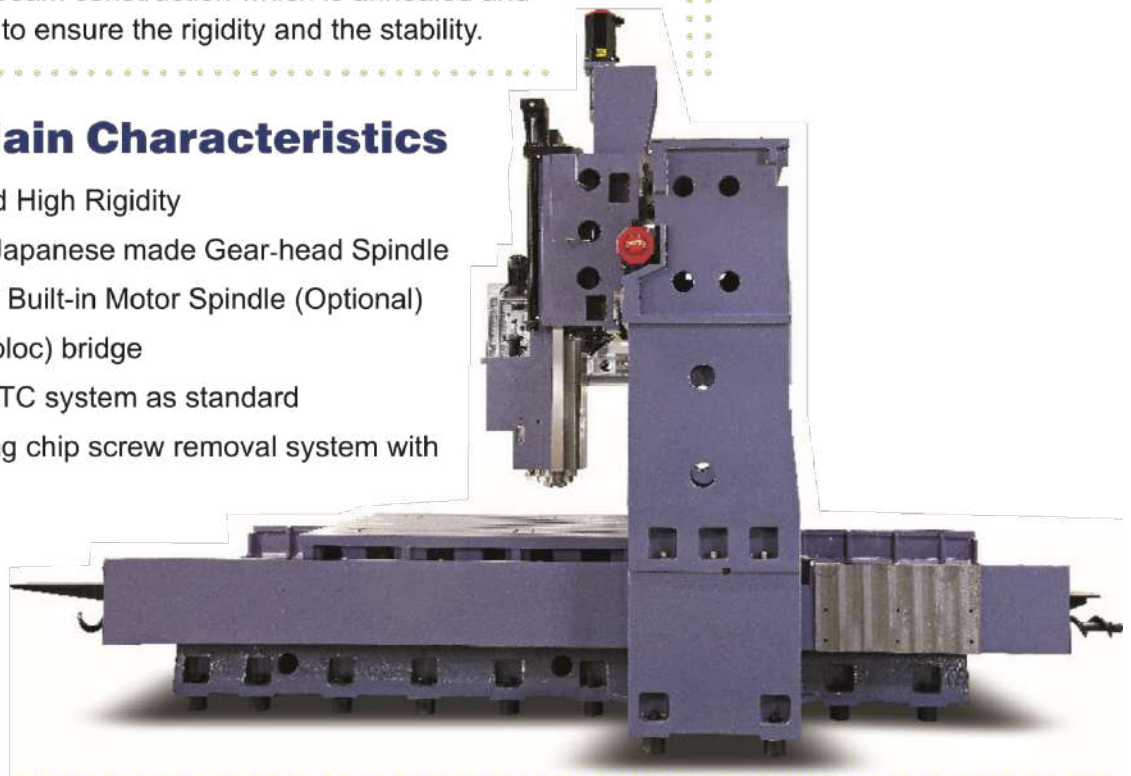
Automatic Tool Change Capacity



- 32-tool BT-50 chain type tooling system
- Maximum tool diameter 125 mm, tool length 300 mm and tool weight 15 kg
- Dual arm ATC system to ensure the no system with user-friendly design

PV Series Main Characteristics

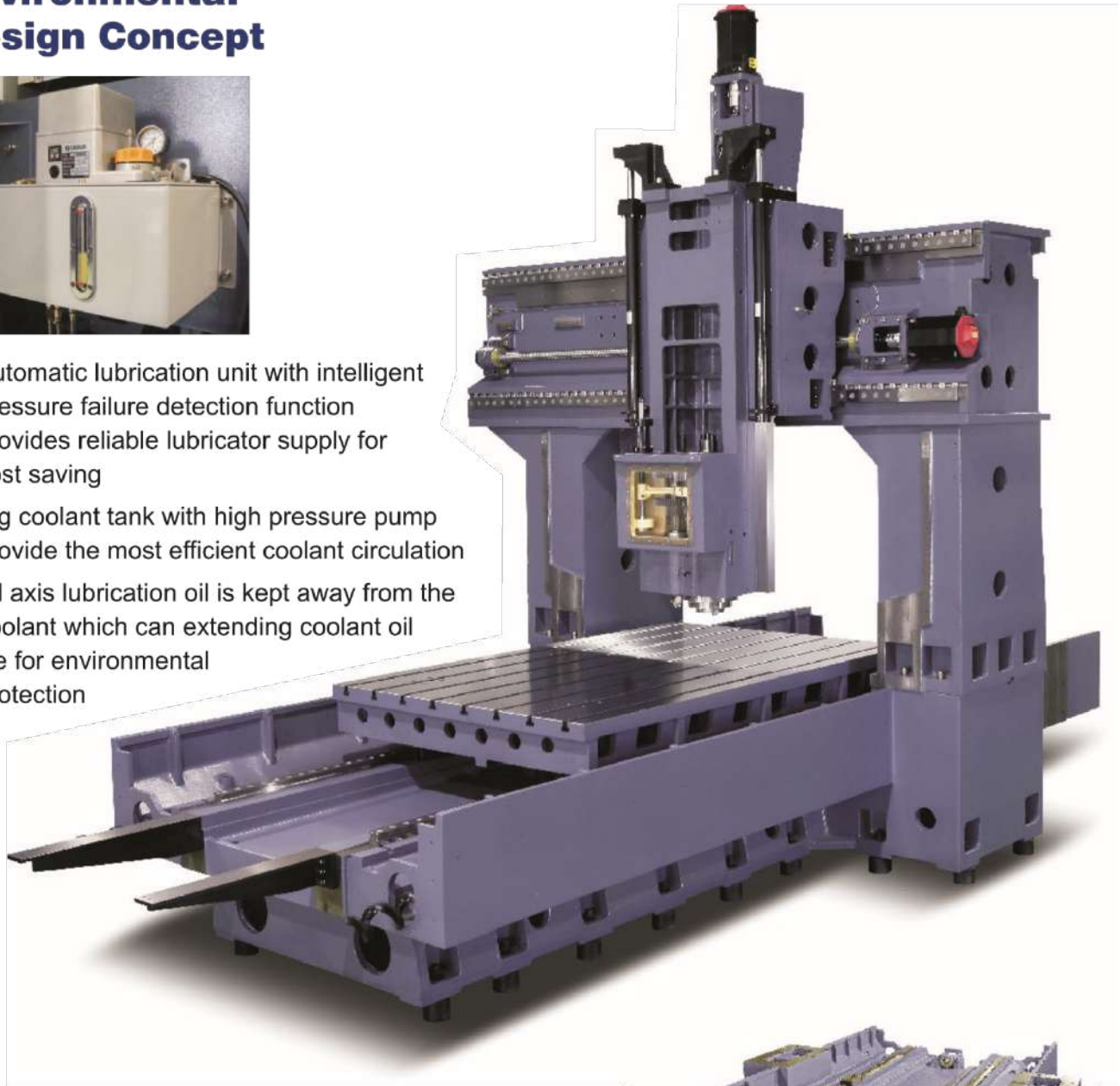
- High Accuracy and High Rigidity
- 25 hp, 6,000 rpm Japanese made Gear-head Spindle
- 34 hp, 10,000 rpm Built-in Motor Spindle (Optional)
- Single unit (monobloc) bridge
- Largest 32-tools ATC system as standard
- Dual built-in casting chip screw removal system with chip conveyor
- Roller type linear guideways on X-axes and Y-axes



Environmental Design Concept

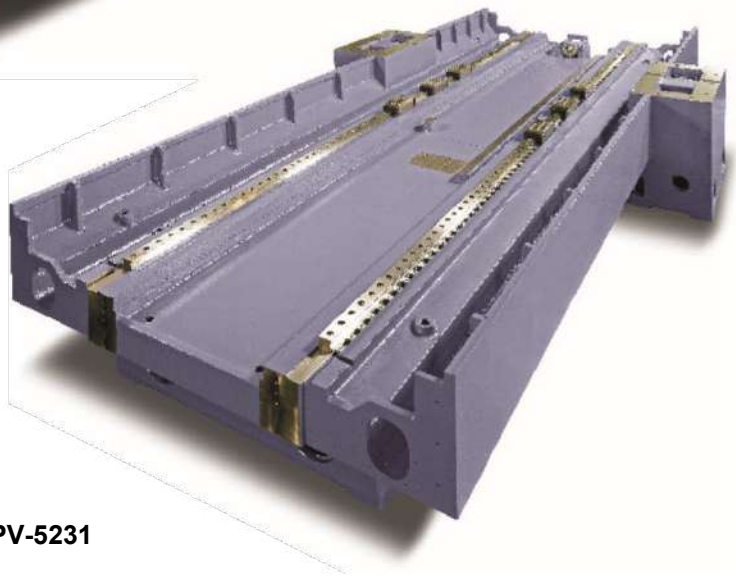


- Automatic lubrication unit with intelligent pressure failure detection function provides reliable lubricator supply for cost saving
- Big coolant tank with high pressure pump provide the most efficient coolant circulation
- All axis lubrication oil is kept away from the coolant which can extending 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-5231



High reliability and high power double column machine

- BT-50 25 HP spindle motor 6,000 rpm
Japanese made two steps variable gear-head for heavy cutting
- Output torque is 521 Nm, provide wide range of cutting capacity for heavy cutting at low speed and fine cutting at high speed
- BT-50 34 HP 10,000 rpm built-in motor spindle for robust performance and unsurpassed reliability (Optional)

Spindle System

• 2-stage variable gear-head spindle

Power : 15 / 18.5 kW
Torque : 521 Nm
Speed : 50~6,000 rpm
Spindle taper : 7/24 Taper No. 50
Tooling : BT

• Built-in motor spindle

Power : 22 / 25 kW
Torque : 233 Nm
Speed : 10,000 rpm
Spindle taper : 7/24 Taper No. 50
Tooling : BT / HSK

Optional Accessories



Hydraulic-clamped 90° Angular Milling Head with four positions at 0°, 90°, 180°, and 270°.

- Manual • 2,000 rpm
- Automatic • 3,500 rpm



3,000 rpm manual Universal Milling Head



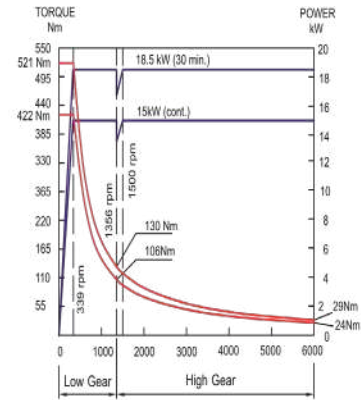
3,500 rpm, 300 mm lengthened Extended Head with tool clamp/unclamp



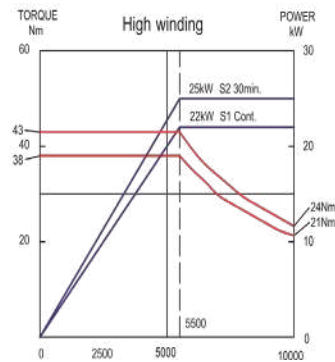
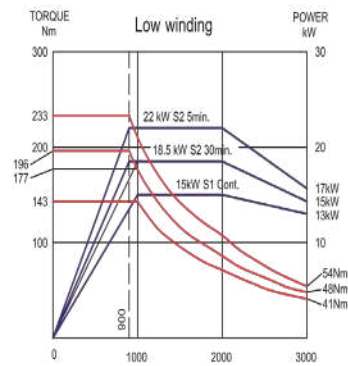
30° / 45° Angular Milling Head

Spindle Diagram

FANUC 25HP



Built-in Spindle Motor (Optional)



SPECIFICATIONS

TABLE:

Table loading area	196.85" x 106.3"
Allowable table load	44,092 lbs.
T Slots, width x spacing x # slots	.86" X 14

SPINDLE:

Spindle taper	CAT-50 Big Plus
Spindle RPM	6,000 RPM
Spindle Power Output (max 30 min.)	35 HP
Spindle torque (max 30 min)	459.5 ft. lbs.
Spindle Driving Method	Gear Type

FEED:

X axis travel	204.72"
Y axis travel	122.05"
Z axis travel	31.49"
Spindle nose to table surface	7.87" – 39.37"
Distance between Columns	125.98"
Rapid Traverse X axis	394 IPM
Rapid Traverse Y axis and Z axis	472 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	315 IPM
Least command increment	.001mm
Positioning accuracy	+/- .00020" (full stroke)
Repeatability	+/- .00008"

MACHINE:

Floor Space Required (L X W)	504" x 236"
Height	165"
Machine Weight	122,436 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

Exact Stop Mode / Exact Stop (G61/G09)

Dwell (G04)

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

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

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

Multi-language display (Selection of 5 Optional Language)
Erase CRT Screen Display (Screen Saver)
Bi-Direction Pitch Error Compensation
Tool Management Function
Protection of Data at 8-Levels
Tool Monitoring Function (HWTM – Built-on Fanuc Type)
Fanuc Manual Guide i conversational programming
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