



PV-4221



Campro USA

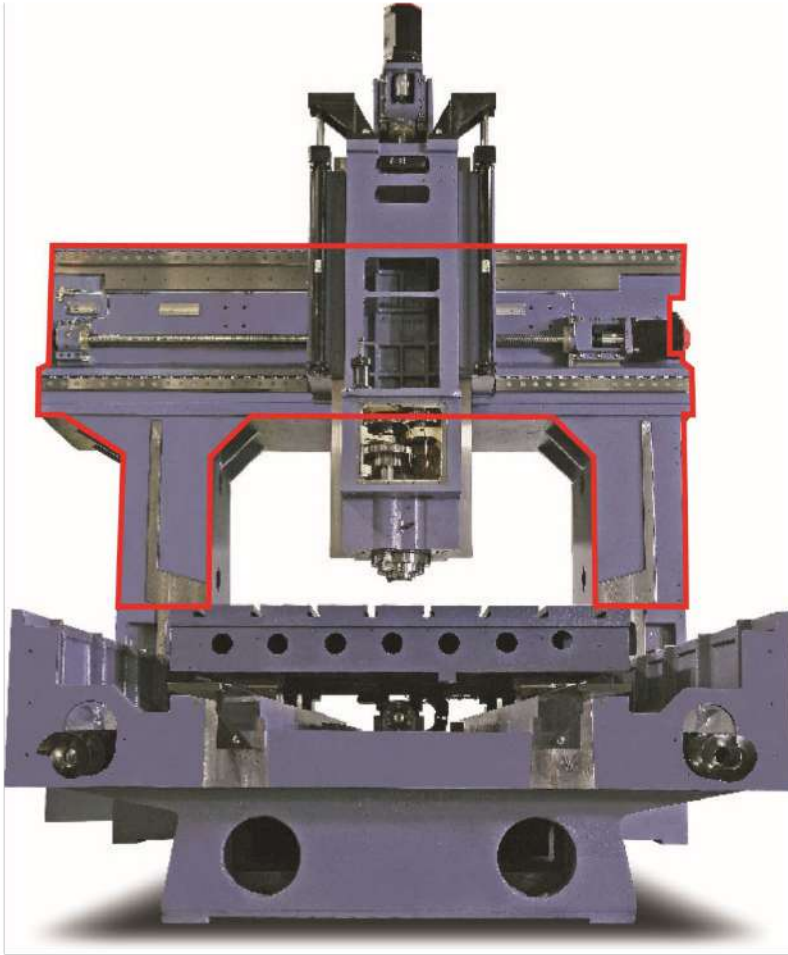
5 Highland Avenue • Suite C • Bethlehem, PA 18017

Phone (484) 892-6333 • Fax (484) 892-6334

sales@campro-usa.com

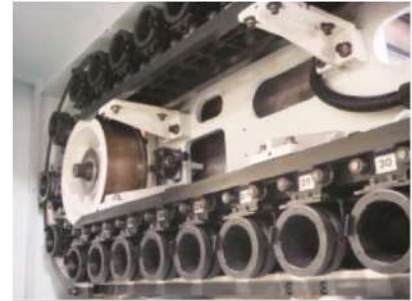
STANDARD FEATURES:

- * Fanuc Oi-MF PLUS Control (Package 1)
- * AI APC Contour Control
- * 6,000 RPM Spindle with Gear Head (10,000 RPM Built In is optional)
- * Spindle Oil Chiller
- * Powerful 35 HP high torque spindle motor
- * High Column (39.4" 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.

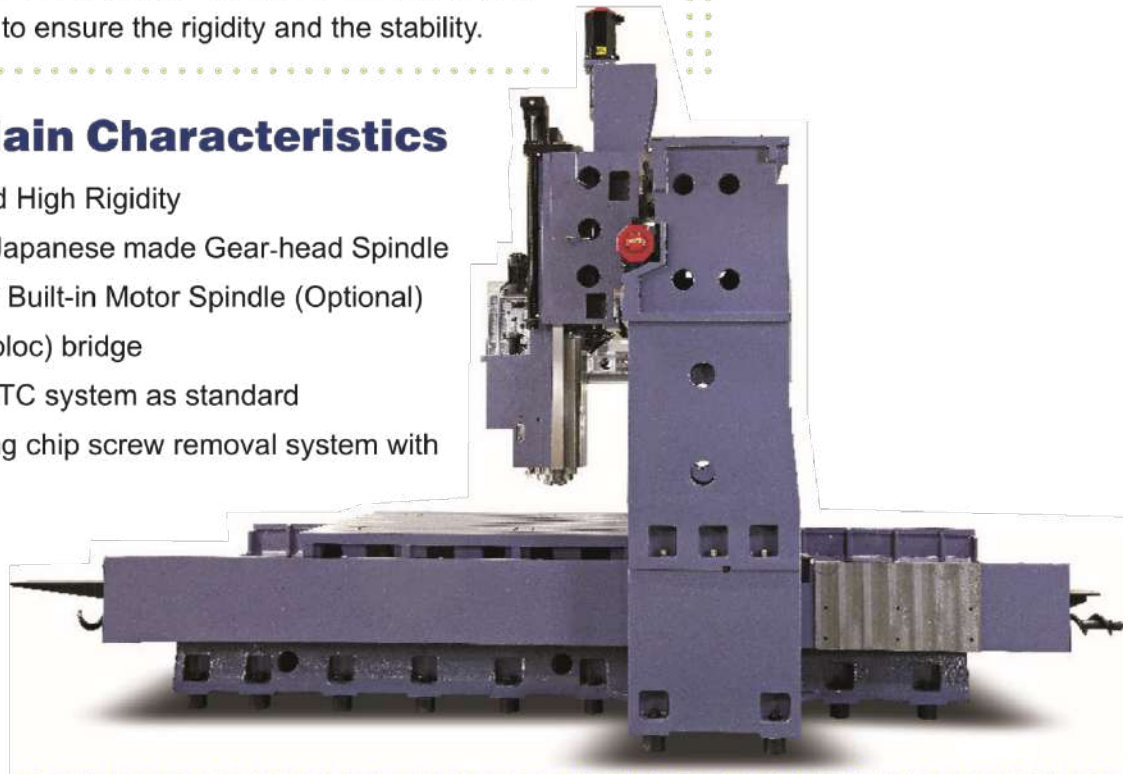
Automatic Tool Change Capacity



- 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

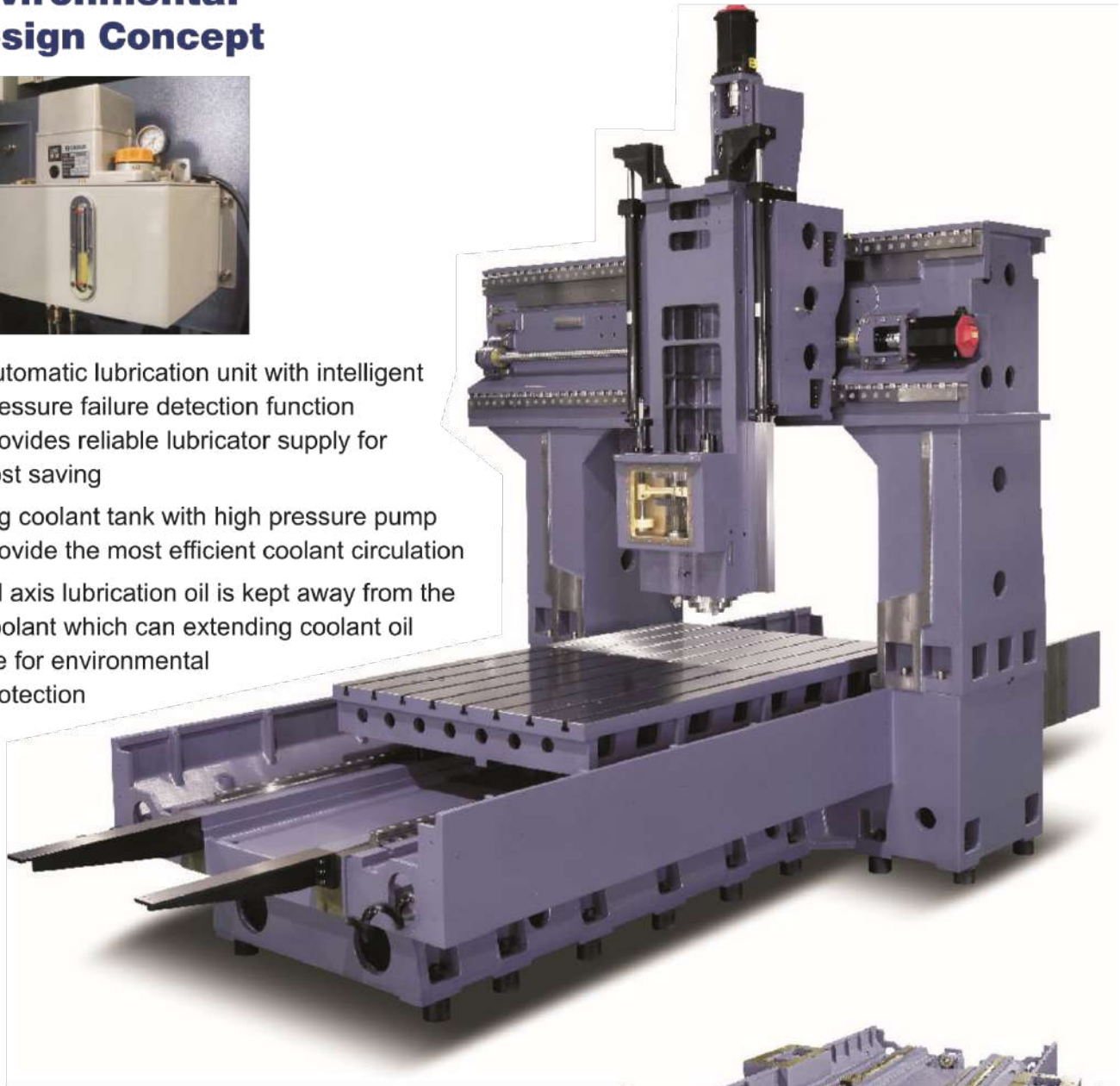
- High Accuracy and High Rigidity
- 25 hp, 6,000 rpm Japanese made Gear-head Spindle
- 34 hp, 10,000 rpm Built-in Motor Spindle (Optional)
- Single unit (monobloc) bridge
- Largest 32-tools ATC system as standard
- Dual built-in casting chip screw removal system with chip conveyor
- Roller type linear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



Environmental Design Concept

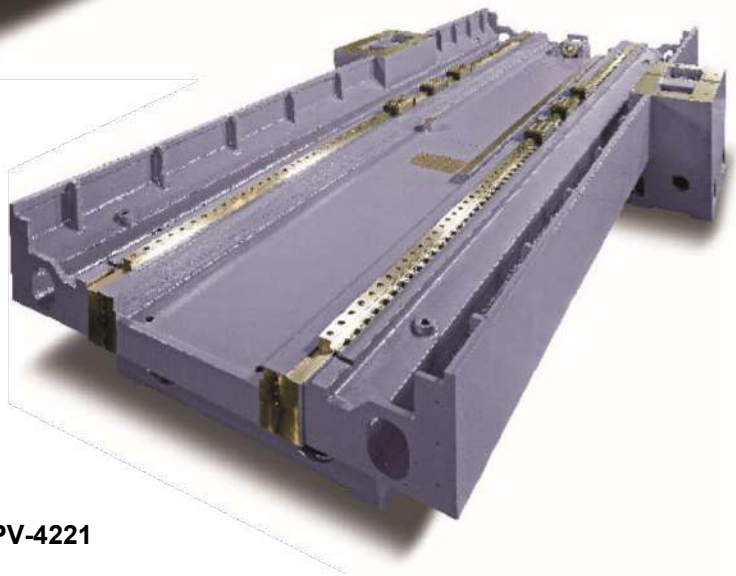


- Automatic lubrication unit with intelligent pressure failure detection function provides reliable lubricator supply for cost saving
- Big coolant tank with high pressure pump provide the most efficient coolant circulation
- All axis lubrication oil is kept away from the coolant which can extending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



Base Structure

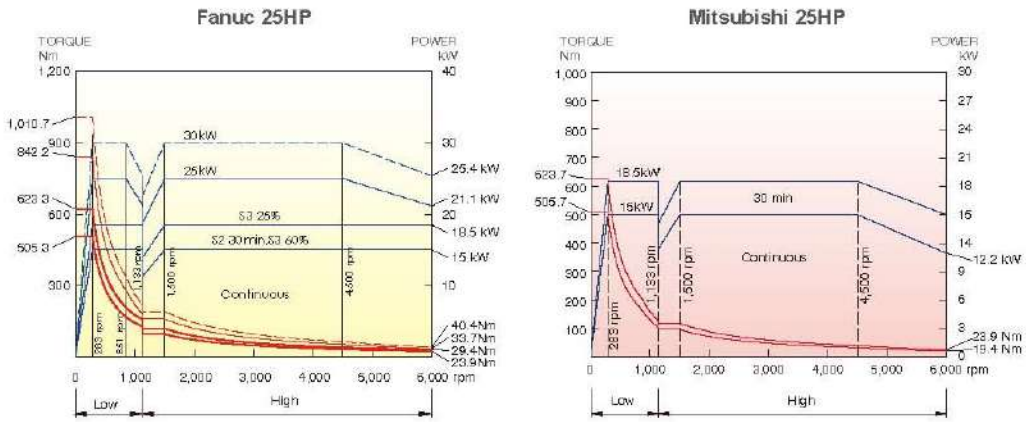
- Extra heavy load recirculating roller linear guideway on X-axis and Y-axis
Fast rapid feedrate on X-axis and Y-axis are 20 m/min, and Z-axis is 16 m/min
Automatic lubrication to the sliding points
Final laser inspection and ball bar testing ensure repeatability and positioning accuracy. Linear scales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



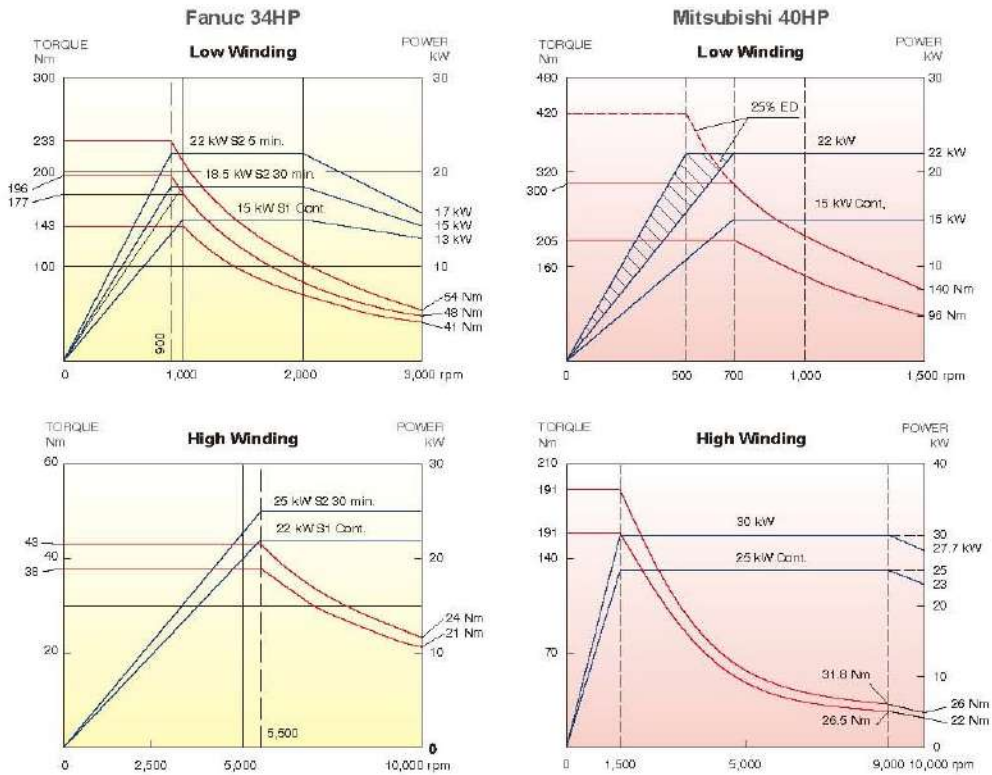
PV-4221

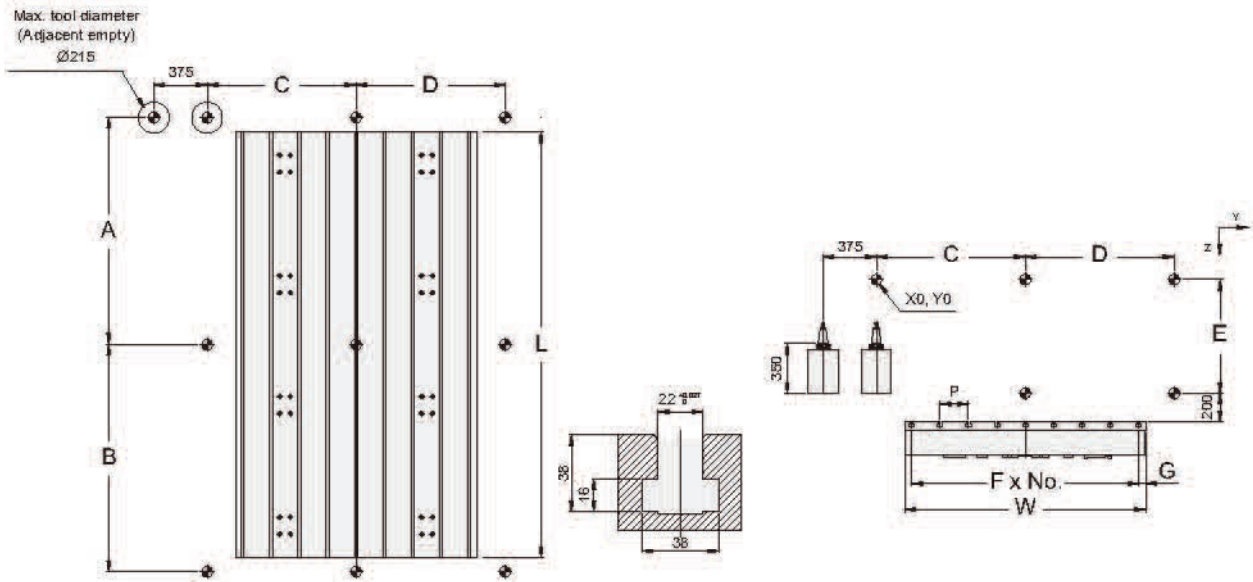
Spindle Diagram

Gear Type



Built-in Motor Spindle (Optional)





Unit: mm

Model	A	B	C	D	E	F	NO.	G	L	W
						(F x No.) + (G x 2) = W				
PV-2216	1,100	1,100	800	800	750	180	7	95	2,300	1,450
PV-3216	1,600	1,600	800	800	750	180	7	95	3,300	1,450
PV-4216	2,100	2,100	800	800	750	180	7	95	4,300	1,450
PV-3221	1,600	1,600	1,050	1,050	800(1,000)	200	8	50	3,000	1,700
PV-4221	2,100	2,100	1,050	1,050	800(1,000)	200	8	50	4,000	1,700
PV-5221	2,600	2,600	1,050	1,050	800(1,000)	200	8	50	5,000	1,700
PV-3226	1,600	1,600	1,300	1,300	800(1,000)	200	10	100	3,000	2,200
PV-4226	2,100	2,100	1,300	1,300	800(1,000)	200	10	100	4,000	2,200
PV-5226	2,600	2,600	1,300	1,300	800(1,000)	200	10	100	5,000	2,200
PV-4231	2,100	2,100	1,550	1,550	800(1,000)	200	13	50	4,000	2,700
PV-5231	2,600	2,600	1,550	1,550	800(1,000)	200	13	50	5,000	2,700

PV-4221

SPECIFICATIONS

TABLE:

Table loading area	157.48" x 66.93"
Allowable table load	22,046 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 (max 15 min.)	35 HP
Spindle torque (max 15 min)	621 ft. lbs.
Spindle Driving Method	Gear Type

FEED:

X axis travel	165.35"
Y axis travel	82.68"
Z axis travel	31.47"
Spindle nose to table surface	7.87" – 39.4"
Distance between Columns	88.61"
Rapid Traverse X axis	472 IPM
Rapid Traverse Y and Z axis	590 IPM

AUTOMATIC TOOL CHANGER:

Number of Tools	32
Tool Shank	CAT 50
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)	425.2" x 196.85"
Height	165.35"
Machine Weight	83,776 lbs.

Control Specifications - Fanuc OiM-F PLUS Control

10.4" color LCD screen
Color graphics
Simultaneous Controlled Axis
Part Program Storage 2 MB
AICC-2
 AI Contour Control
 Fine Surface Machining
 Jerk Control
Setup Guidance Function
Dynamic Graphic Display
Manual Guide I
1,000 Registerable Programs
Multi Step Skip
Manual Handle Retrace
Quick Program Restart
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 torque detection
Stored pitch compensation
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 Feedrate Direct Command)
Feedrate Override 0-200% (10% Unit)
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)
Helical Interpolation
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 pgm 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)

Program Number O4 Digit
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
Reader/Puncher Interface RS232C
Memory Card input/output
Embedded Ethernet (100 Mbps)
Part Program Storage Length: 320M
Registered Programs 400 ea
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 Feedrate Display
Spindle / Servo Setting Screen
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
PCMCIA data card slot on left side of LCD for program input / output – up to 2GB storage
Advanced Preview Control (Look ahead of multi-blocks – 20 blocks look ahead)
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