



CNC Double Column Machining Center

PV Series

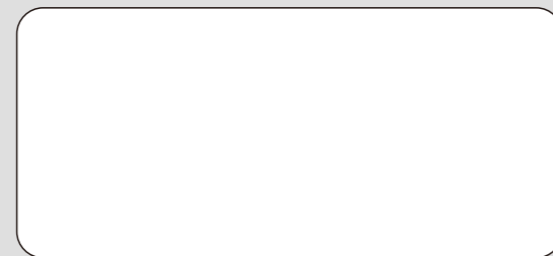


Campro Precision Machinery Co., Ltd.

No. 12, Jingke 1st Rd., Nantun, Taichung
40852, Taiwan

TEL: +886-4-23500501 FAX: +886-4-23500213

E-mail: sales@campro.com.tw



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• Machine specifications and design are subject to change without prior notice due to on-going innovation.

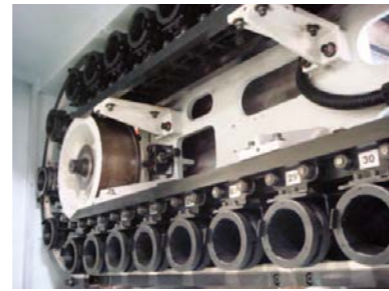
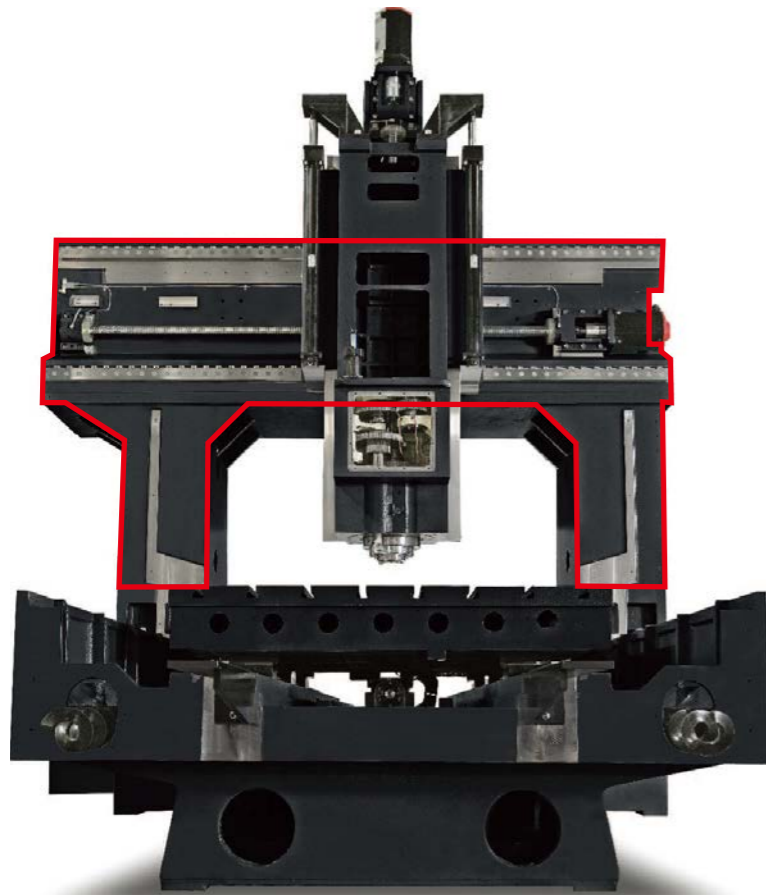
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Campro Precision Machinery Co., Ltd.
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PV-2216 / 3216 / 4216

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

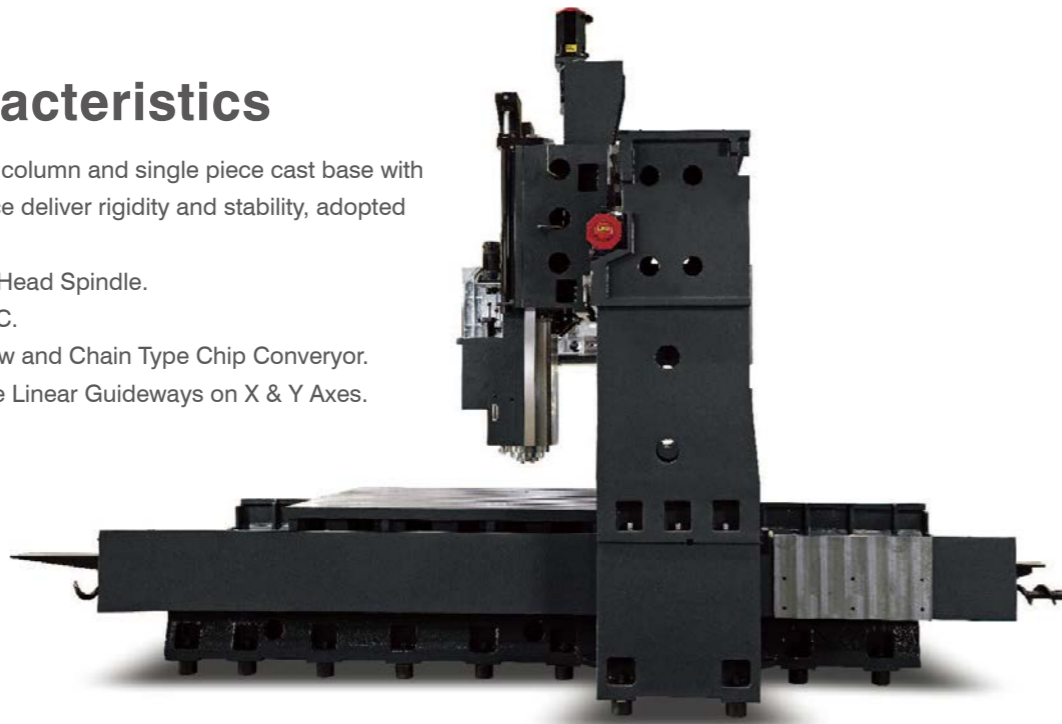
One-piece monoblock column and single piece cast base with scraped contact surface deliver rigidity and stability, adopted following as standard.

25HP 6,000 rpm Gear-Head Spindle.

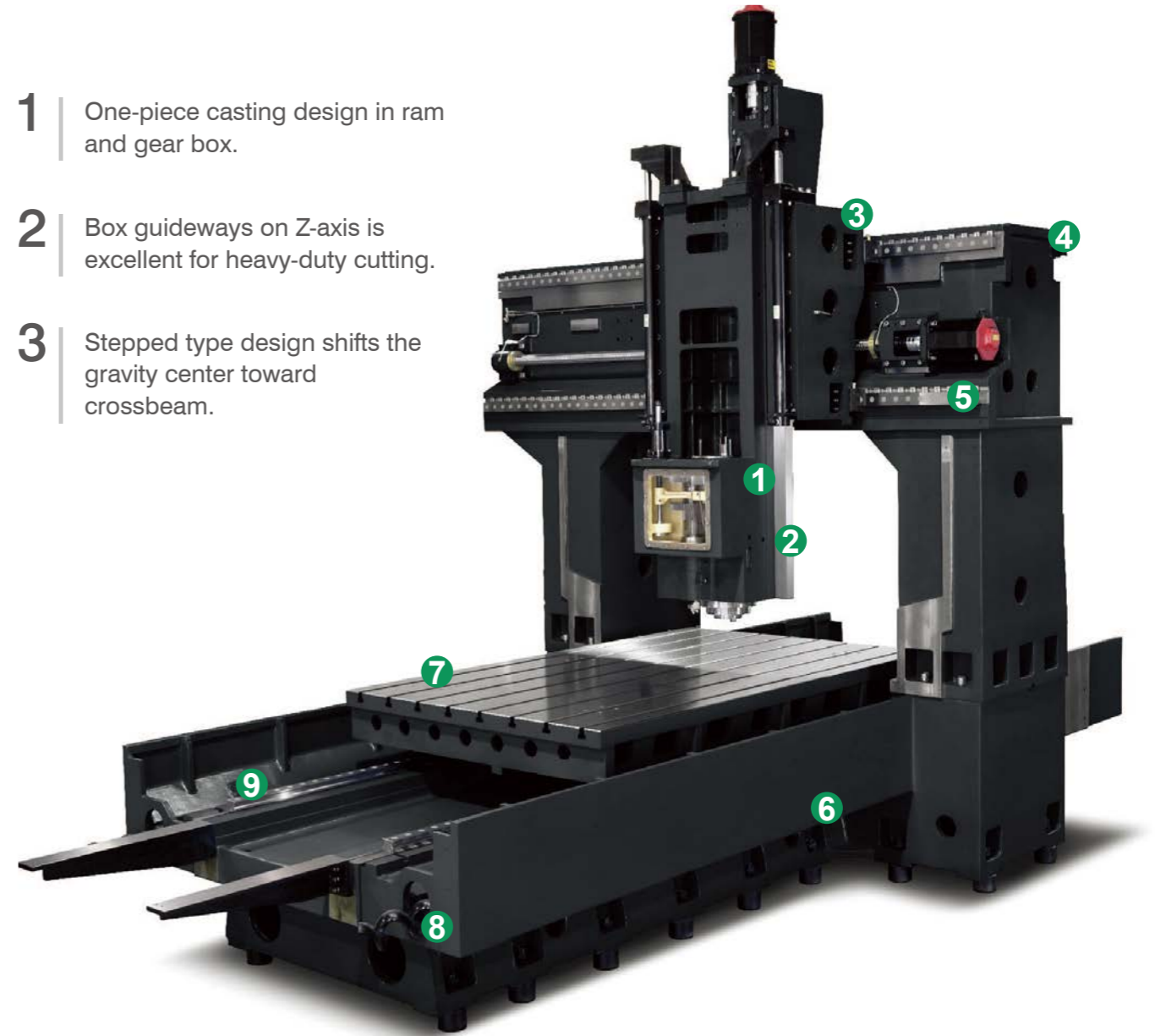
32-Tool Chain Type ATC.

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

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



- 1 One-piece casting design in ram and gear box.
- 2 Box guideways on Z-axis is excellent for heavy-duty cutting.
- 3 Stepped type design shifts the gravity center toward crossbeam.



- 4 Crossbeam guideways with max. span design.
- 5 Roller linear guideways on Y-axis increases rigidity while in axial and lateral directions.
- 6 The base is made of pure casting structure ensures long term accuracy and stability.
- 7 Optimal span between guideways supports working table.
- 8 One-piece cast base with two chip slots minimizes cleaning time and provides higher durability and leakage prevention.
- 9 Roller linear guideways on X-axis increase table loading capacity and rigidity.

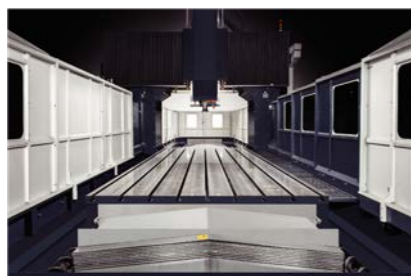
Wider door span, bigger machining range
PV-3221 / 4221 / 5221 / 3226 / 4226 / 5226



Campro Double Column Series retained Campro's traditional machine characteristics:

Strong, Rigidity, and Precision.

Its lengthen X-axis with over 2 meters oversized column offers versatility and rigidity. The structure provides wide range of options and customer can adopt different milling heads to finish large workpiece(s) as in the automobile and aerospace industries.



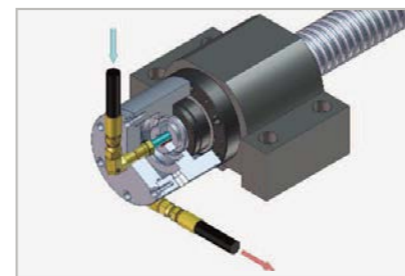
Twin chip screws as standard.



Ultra loading roller type linear guideways on X & Y axes.



PV-3226 / 4226 / 5226 are equipped with 3 guideways on the X-axis.



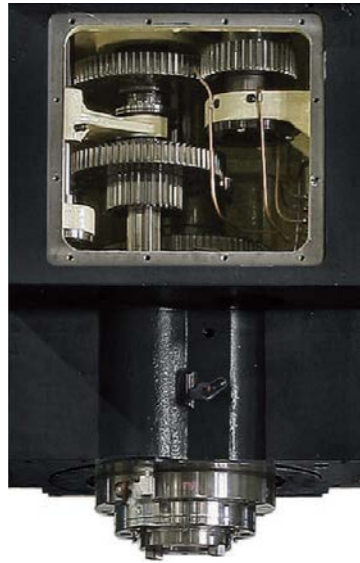
Central cooling ballscrew (Optional) controls thermal expansion efficiently.



Fully Enclosed top roof cover as option.



Linear scale (Optional) helps maintaining working accuracy of long-hour operation.



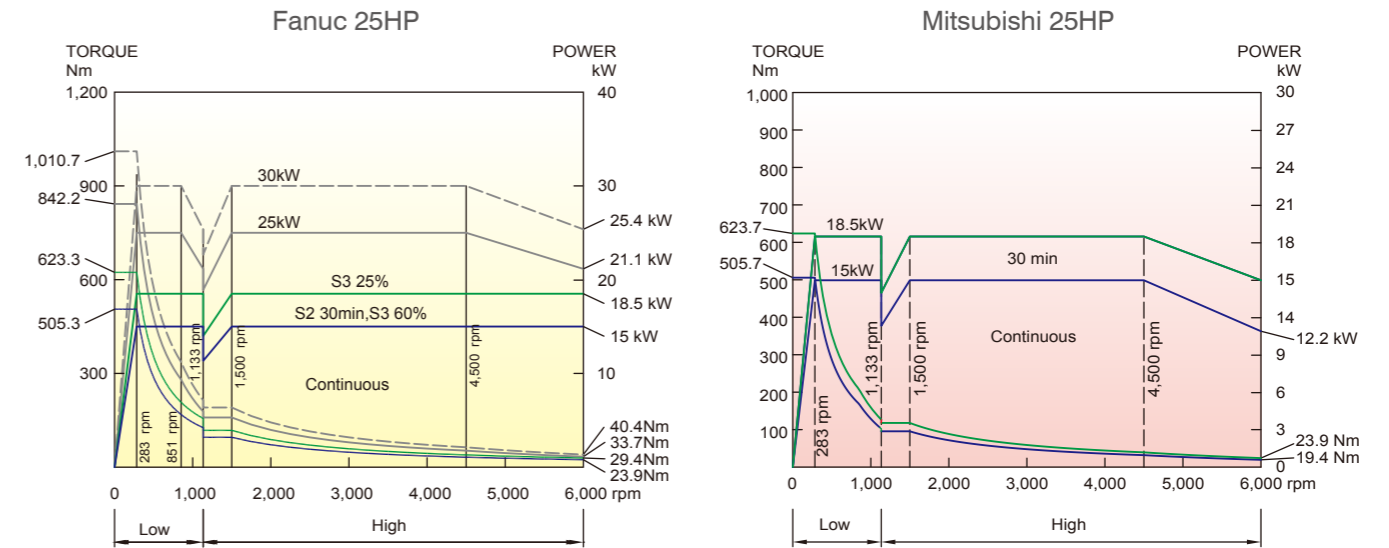
High reliability and high power double column machine

BT-50 Big Plus, 25HP spindle motor 6,000 rpm two steps variable Gear-Head for heavy cutting.
 Output torque is 623 Nm, provides wide range of cutting capacity for heavy cutting at low speed and fine cutting at high speed.

BT-50 Big Plus, 34HP 10,000 rpm Built-In motor spindle for robust performance and unsurpassed reliability (Optional).

Spindle Diagram

Gear Type



Optional Milling Heads



90° Angular Head			
Tool clamping :	Manual	Hydraulic	Hydraulic
Head clamping :	Manual	Manual	Auto Hydraulic Clamping
C-axis index :	Manual	Auto 5°	Auto 5°
Max. Speed :	2,000 rpm / 2,500 rpm	2,000 rpm / 3,500 rpm	3,500 rpm

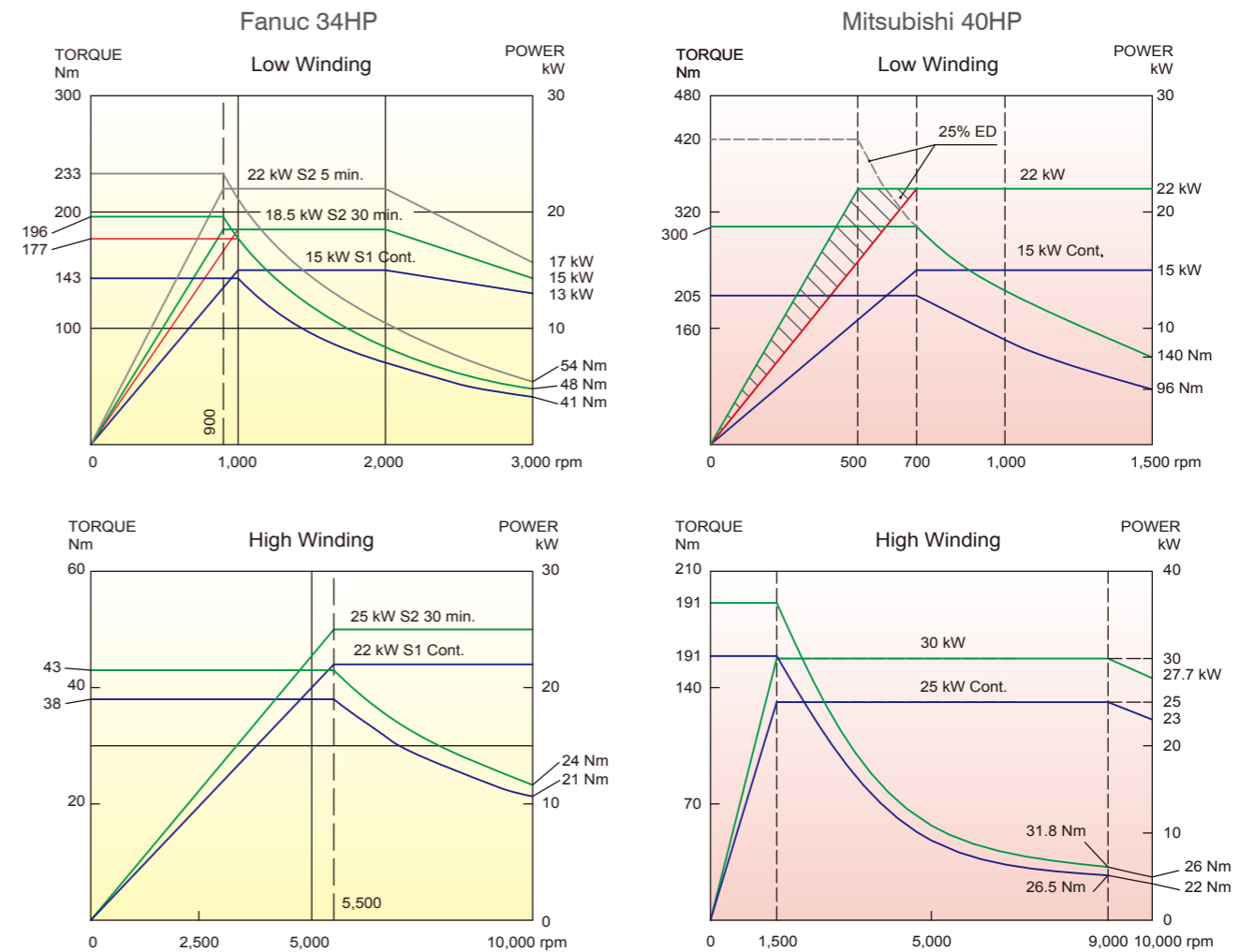


Extended Head		
Tool clamping :	Hydraulic	Hydraulic
Head clamping :	Manual	Manual
Length :	300 mm	500 mm
Max. Speed :	3,500 rpm	3,500 rpm



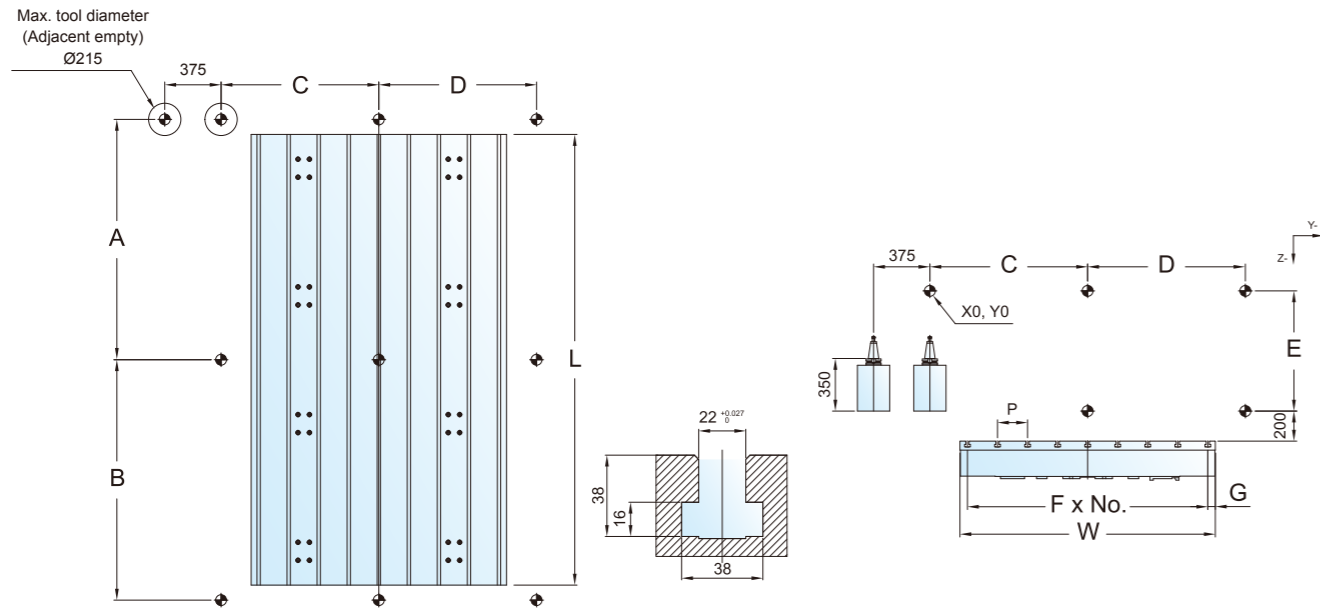
2 Axis Head		
Tool clamping :	Manual	Manual
Head clamping :	Manual	Manual
C-axis index :	Manual	Auto 5°
B-axis index :	Manual	Manual
Max. Speed :	3,500 rpm	3,500 rpm

Built-in Motor Spindle (Optional)



Working Range & Table Dimension

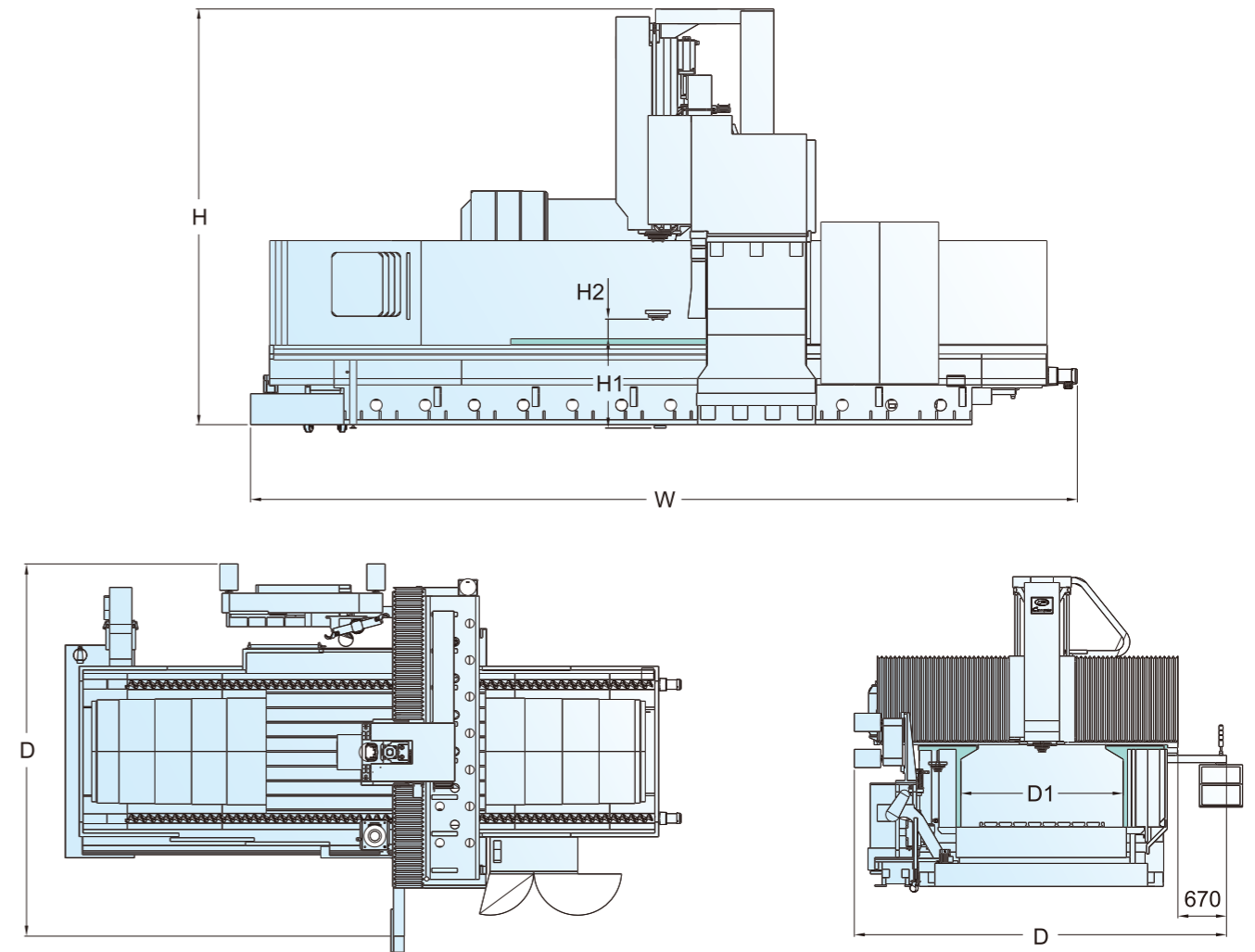
Unit : mm



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

Machine Dimension

Unit : mm



Model	W	D	D1	H		H1 Table to floor	H2 (Spindle nose to table)	
			Dist. between columns	Z-axis (STD)	Z=1,000mm		Z-axis (STD)	Z=1,000mm
PV-2216	6,600	4,840	1,730	3,950	X	935	200	X
PV-3216	8,800	4,840	1,730	3,950	X	935	200	X
PV-4216	10,800	4,840	1,730	3,950	X	935	200	X
PV-3221	8,800	5,000	2,200	4,200	4,600	910	200	250
PV-4221	10,800	5,000	2,200	4,200	4,600	910	200	250
PV-5221	12,800	5,000	2,200	4,200	4,600	910	200	250
PV-3226	8,800	5,500	2,700	4,200	4,600	910	200	250
PV-4226	10,800	5,500	2,700	4,200	4,600	910	200	250
PV-5226	12,800	5,500	2,700	4,200	4,600	910	200	250

Machine Specifications

MODEL	UNIT	PV-2216	PV-3216	PV-4216	PV-3221	PV-4221	PV-5221	PV-3226	PV-4226	PV-5226	
TRAVEL											
X-axis travel	mm (in)	2,200 (86.6")	3,200 (125.9")	4,200 (165.3")	3,200 (125.9")	4,200 (165.3")	5,200 (204.7")	3,200 (125.9")	4,200 (165.3")	5,200 (204.7")	
Y-axis travel	mm (in)	1,600 (62.9")			2,100 (82.6")			2,600 (102.3")			
Z-axis travel (OPT)	mm (in)	750 (29.5")			800 (1,000) 31.4" (39.3")			800 (1,000) 31.4" (39.3")			
Distance between columns	mm (in)	1,750 (68.8")			2,200 (86.6")			2,700 (106.2")			
Spindle nose to table surface	mm (in)	200~950 (7.8"~37.4")			200~1,000 (250~1,250) 7.8"~39.3" (9.8" ~ 49.2")			200~1,000 (250~1,250) 7.8"~39.3" (9.8" ~ 49.2")			
TABLE											
Table dimension	mm (in)	2,300 x 1,450 (90.5" x 57")	3,300 x 1,450 (129.9" x 57")	4,300 x 1,450 (169.2" x 57")	3,000 x 1,700 (118.1" x 66.9")	4,000 x 1,700 (157.4" x 66.9")	5,000 x 1,700 (196.8" x 66.9")	3,000 x 2,200 (118.1" x 86.6")	4,000 x 2,200 (157.4" x 86.6")	5,000 x 2,200 (196.8" x 86.6")	
Max. loading weight	kg (lb)	6,000 (13,227)	8,000 (17,636)	10,000 (22,046)	8,000 (17,636)	10,000 (22,046)	12,000 (26,455)	12,000 (26,455)	14,000 (30,864)	16,000 (35,273)	
T-slots (W x No.)	mm (in)	22 x 8 (0.86" x 8)			22 x 9 (0.86" x 9)			22 x 11 (0.86" x 11)			
SPINDLE											
Spindle speed	rpm	6,000 rpm Gear-head spindle				6,000 rpm Gear-head spindle					
Spindle motor	kW (HP)	15 / 18.5 (25HP)				15 / 18.5 (25)HP					
Spindle taper	type	7 / 24 taper No. 50				7 / 24 taper No. 50					
AUTO. TOOL CHANGE											
Tool shank	type	BT-50			BT-50			BT-50			
Tool storage capacity (OPT)	pcs.	32 (40 / 60)			32 (40 / 60)			32 (40 / 60)			
Max. tool diameter	mm (in)	Ø125 (4.9")			Ø125 (4.9")			Ø125 (4.9")			
Max. tool diameter (Adjacent empty)	mm (in)	Ø215 (8.4")			Ø215 (8.4")			Ø215 (8.4")			
Max. tool length	mm (in)	350 (13.7")			350 (13.7")			350 (13.7")			
Max. tool weight	kg (lb)	20 (44)			20 (44)			20 (44)			
FEEDRATE											
Rapid feedrate (X / Y / Z)	m (in) / min	20 / 20 / 16 (787.4 / 787.4 / 629.9)			12 / 15 / 15 (472.4 / 590.5 / 590.5)		10 / 12 / 12 (393.7 / 472.4 / 472.4)		12 / 15 / 15 (472.4 / 590.5 / 590.5)		10 / 12 / 12 (393.7 / 472.4 / 472.4)
Cutting feedrate	mm (in) / min	1 ~ 10,000 (393.7)			1 ~ 8,000 (314.9)			1 ~ 8,000 (314.9)			
OTHERS											
Floor plan (W x D)	mm (in)	6,600 x 4,800 (259" x 188")	8,800 x 4,800 (346" x 188")	10,800 x 4,800 (425" x 188")	8,800 x 5,000 (346" x 196")	10,800 x 5,000 (425" x 196")	12,800 x 5,000 (503" x 196")	8,800 x 5,500 (346" x 216")	10,800 x 5,500 (425" x 216")	12,800 x 5,500 (503" x 216")	
Machine weight	kg (lb)	25,000 (55,115)	27,000 (59,524)	30,000 (66,138)	35,000 (77,161)	38,000 (83,775)	42,000 (92,594)	39,000 (85,980)	42,000 (92,594)	48,000 (105,821)	
Max. machine height	mm (in)	3,950 (155")			4,200 (165")			4,200 (165")			
Air source	kgf / cm ² (PSI)	6 ~ 8 (85 ~ 113)			6 ~ 8 (85 ~ 113)						
Power capacity	KVA	40 kVA			40 kVA						

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Standard accessories	Optional accessories
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| <ul style="list-style-type: none"> ● 6,000 rpm gear-head spindle ● Spindle oil cooler ● 32 tools chain type ATC ● Foot switch for tool clamping / unclamping ● Coolant flushing system ● Chip air blast ● Built-in chip crews ● Chip conveyor with bucket | <ul style="list-style-type: none"> ● Oil-skimmer ● Heat exchanger ● Automatic lubrication unit ● Pneumatic system ● Hydraulic counter-balance ● Working lamps ● Working stair ● Leveling bolts | <ul style="list-style-type: none"> ● BT-40 I.D.D. spindle ● 10,000 rpm built-in motor spindle ● 40 / 60 tools chain type ATC ● Coolant through spindle ● Deep hole adaptor ● High pressure pump ● Linear scales ● 4 Roller type linear guideways on Z-axis (PV-XX16 / XX21) | <ul style="list-style-type: none"> ● CNC rotary table ● Auto tool length measurement ● Workpiece measurement ● Milling head ● Air condition ● Central cooling ballscrews ● CE modification ● Transformer |
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