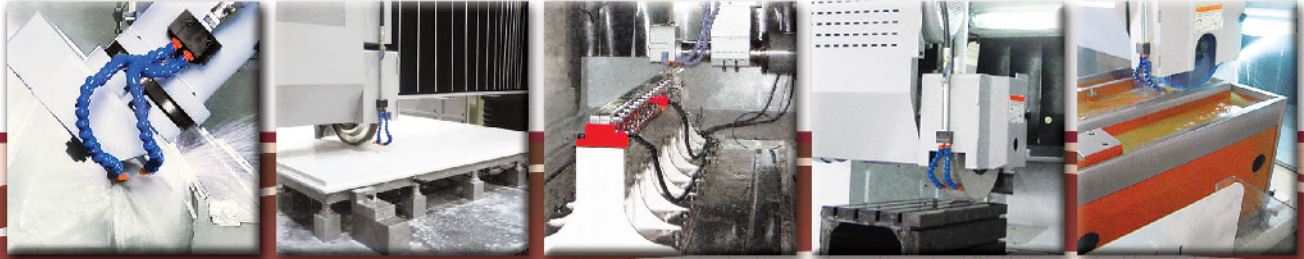


# CHEVALIER®

Grinding / Turning / Milling



## FPG Series

Double Column With  
Moving Beam CNC Grinder

FPG-60120DC • 60160DC • 60200DC  
FPG-100160DC • 100200DC • 100240DC  
100400DC • 100480DC  
FPG-120200DC • 120515DC

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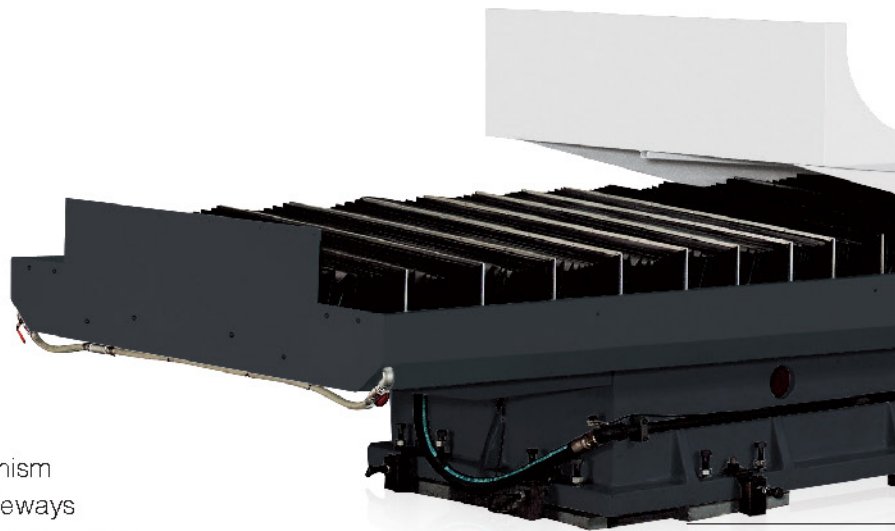
# FPG-60 • 100 • 120 DC

## Double Column with Moving Beam CNC Grinder

The FPG-DC series stands out as the number one choice for double-column moving beam grinders. The easy to use interface, full CNC user-friendly control system, total workpiece capacity and the rigidity and accuracy of the dual column design offers impressive performance.

Chevalier's patented elevation guideways and spindle structure have four heavy-duty square slideways that provide maximum rigidity and heavy-duty grinding capacity. The spindle head on the Y-axis runs on four hardened, ground and wider guides traveling on Turcite-B anti-friction material. A worm gear reducer and servo motor coupled with a high-accuracy ballscrew and a pneumatic counterweight balance system ensures smooth movement and prevents the head from crashing in case of a power failure.

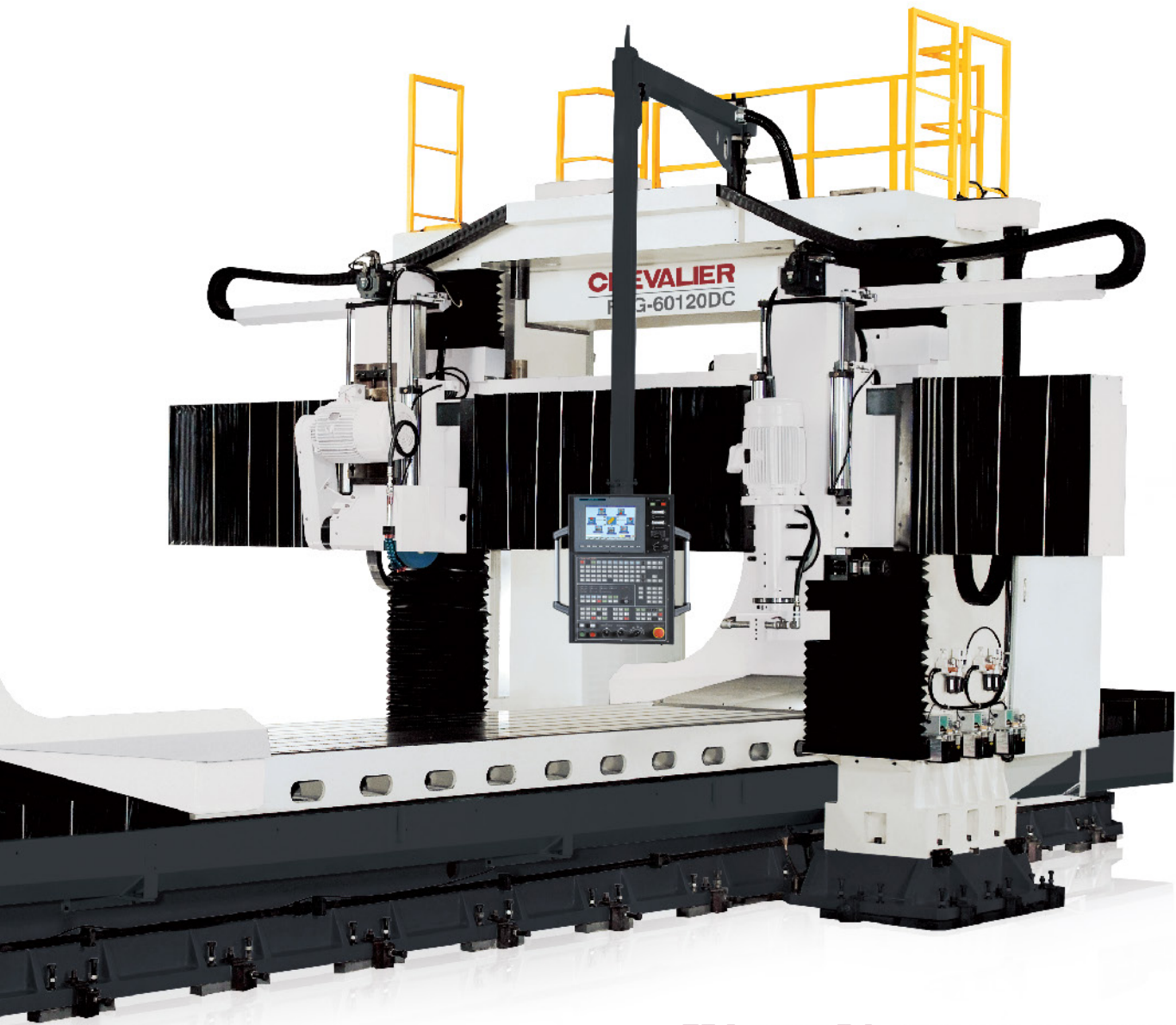
A high-precision, cartridge-type spindle is equipped with four Class 7 (P4) angular contact ball bearings and a set of NN-type, precision-needle roller bearings.



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### FPG-60 • 100 • 120 DC

- Patented Ground Beam Design
- Patented Elevation Guideway and Spindle Mechanism
- Patented Steel Type Railway Design on Cross Slideways
- Patented Enlarged Double "V" Longitudinal Guideway Design
- User Friendly Conversational Programming



**FPG-60120DC** : (W) 6,800 x (L) 10,500mm

Note: The photo shown above contains optional accessories.  
For the latest photos, please contact with sales department.

# FPG-60 • 100 • 120 DC

## Machine Construction

### Horizontal Grinding Head

- The horizontal wheelhead is positioned with a Class 2 ballscrew and is counterbalanced with a pneumatic cylinder to ensure precise movement.
- The  $\varnothing 610 \times 203 \times 100\text{mm}$  ( $\varnothing 20'' \times 8'' \times 4''$ ) grinding wheel is driven by a 40 HP spindle motor. The spindle runs with NN type tapered roller bearings for extreme rigidity and high precision.



### Vertical Grinding Head

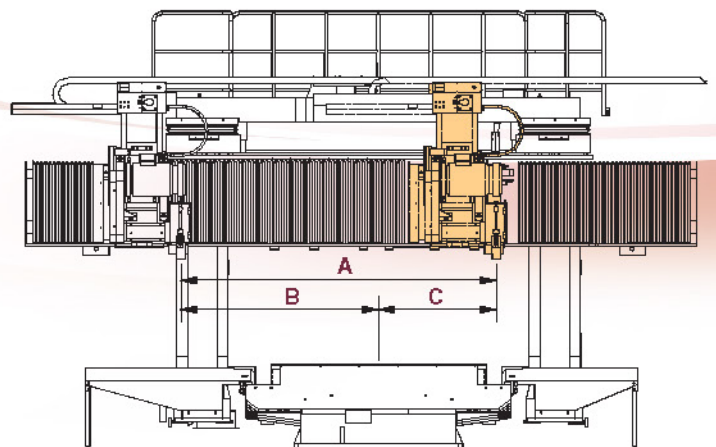
- The vertical wheelhead is also positioned with a Class 2 ballscrew and is also counterbalanced with a pneumatic cylinder to ensure precise movement.
- An optional high resolution rotary encoder can be added for increased rotational accuracy.
- The vertical spindle can be rotated to a maximum swivel angle of  $-90^\circ$  and  $+60^\circ$ .
- The vertical spindle rotates with a Mitsubishi 400W servo motor for easy positioning.



## The Maximum Stroke of Horizontal Grinding Head

Unit:mm (")

Model	FPG-60	FPG-100	FPG-120
A	2,849(112.2")	3,820(150.4")	4,847(190.8")
B	1,826(71.9")	2,297(90.4")	2,827(111.3")
C	1,023(40.3")	1,523(60")	2,020(79.5")

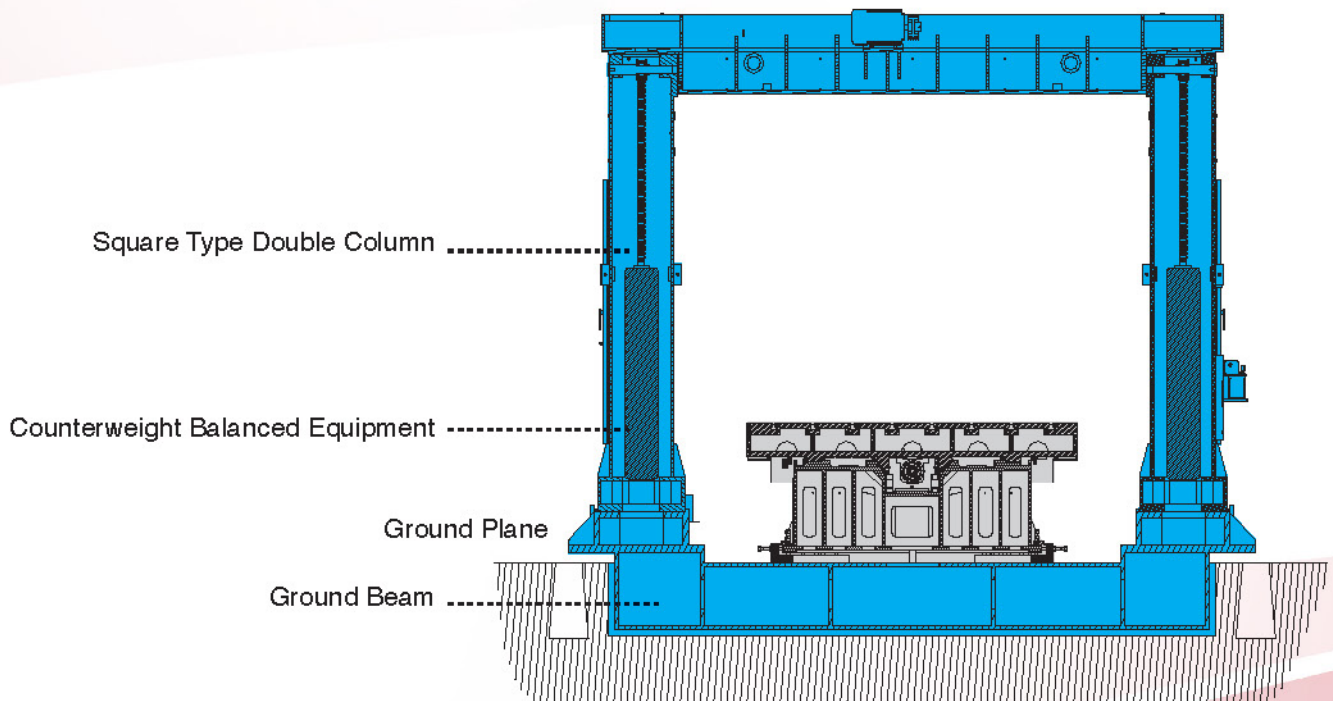


# FPG-60 • 100 • 120 DC

## Machine Construction

### Patented Ground Beam Design

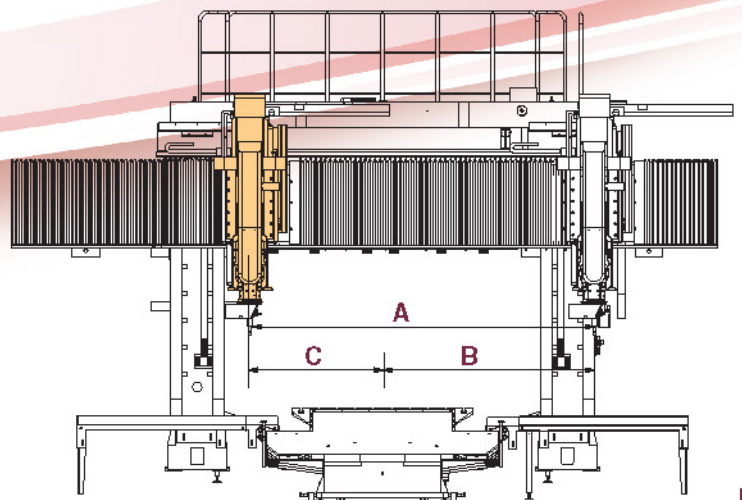
- The column is anchored to a solid steel ground beam to ensure table load not to affect column alignment. By isolating the column from the base, column accuracy is not affected regardless of the table load.
- Box type double column design provides superior rigidity.
- Maximum distance between the two columns is 4,500mm (177")



### The Maximum Stroke of Vertical Grinding Head

Unit:mm (")

Model	FPG-60	FPG-100	FPG-120
<b>A</b>	2,849(112.2")	3,820(150.4")	4,847(190.8")
<b>B</b>	1,882(74")	2,351(92.5")	2,879(113.3")
<b>C</b>	967(38")	1,469(57.8")	1,968(77.4")

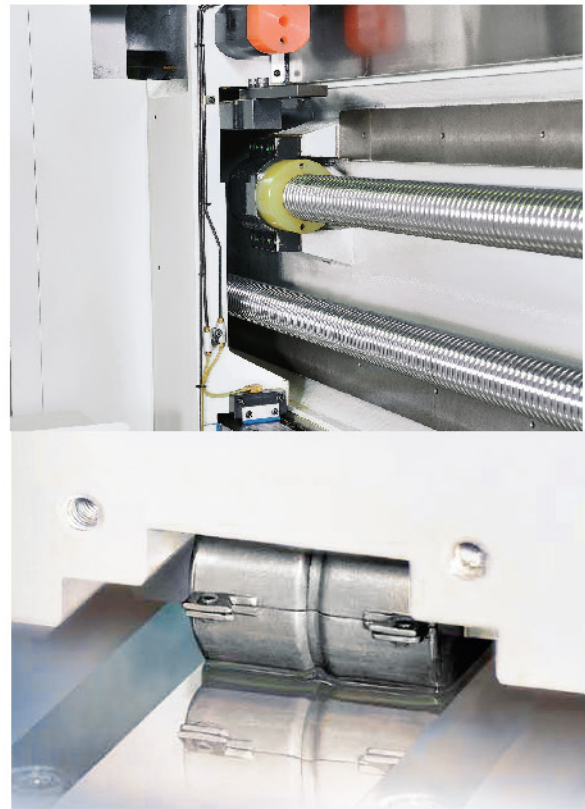


# FPG-60 • 100 • 120 DC

## Machine Construction

### Patented Steel Type Railway Design on Cross Slideways

- The cross rail design features liner roller bearings sliding on steel guide ways to ensure smooth, stick-slip free movement while the robust lower box way guides coated with anti-friction material provides maximum rigidity.
- The elevating mechanism of the cross rail is driven by two servo motors and two ballscrews supported by a mechanical counterweight balance system for better positioning accuracy.
- Both horizontal spindle and vertical spindle feature the interlock function capable of locking the cross beam whenever it is moved to ensure perfect alignment at all times.



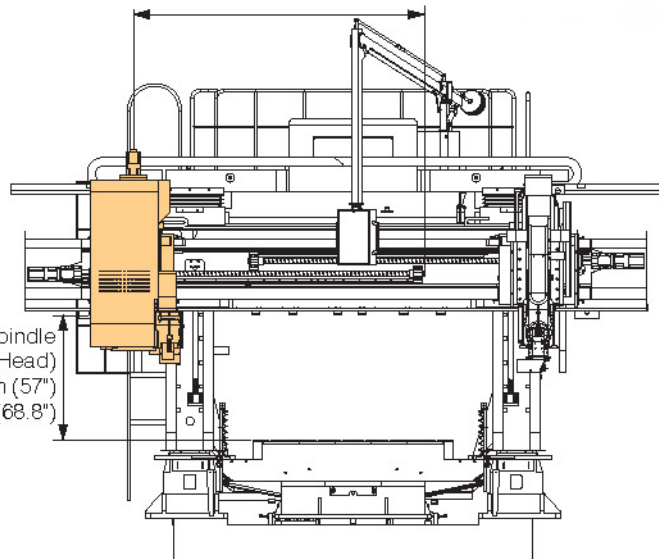
### Hydraulic Oil Tank

- The hydraulic breaking system is very close to the horizontal beam, giving it instantaneous response when needed.
- A separate tank stores the hydraulic oil for this purpose.

### Horizontal Grinding Head Travel

Max. Dis. from the Centerline of Spindle to the Table Surface (Horizontal Head)  
FPG-60 Series: 1,450mm (57")  
FPG-100/120 Series: 1,750mm (68.8")

FPG-60 Series 2,000mm (78.7")  
FPG-100 Series 2,800mm (110")  
FPG-120 Series 3,800mm (150")

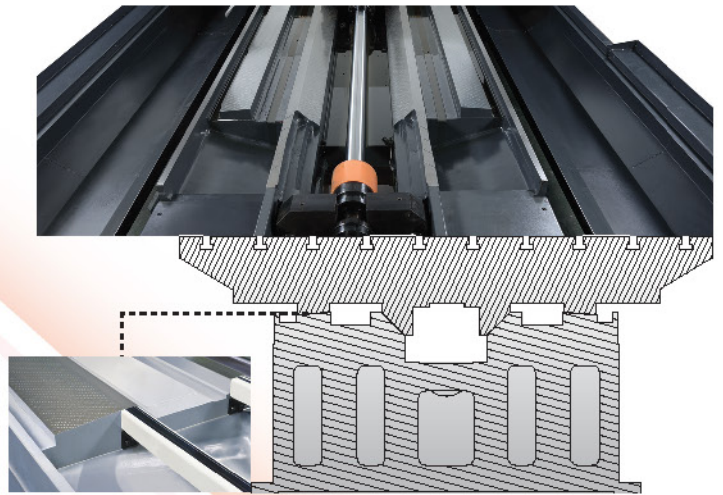


# FPG-60 • 100 • 120 DC

## Machine Construction

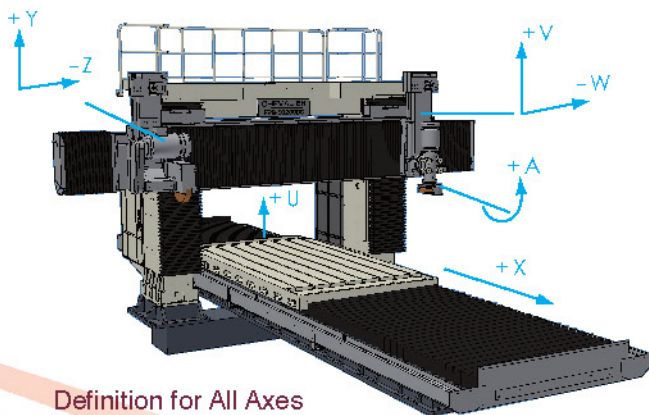
### Patented Enlarged Double “V” Longitudinal Guideway Design

The enlarged double “V” and design for the longitudinal slideways system ensure low friction and low thermal deformation.



### New Table and Coolant Channel Design

- The coolant outlet is built in the table, allowing constant coolant circulation around the table and reducing table area deformation.
- The slanted coolant channel prevents chip and debris accumulated on the table.

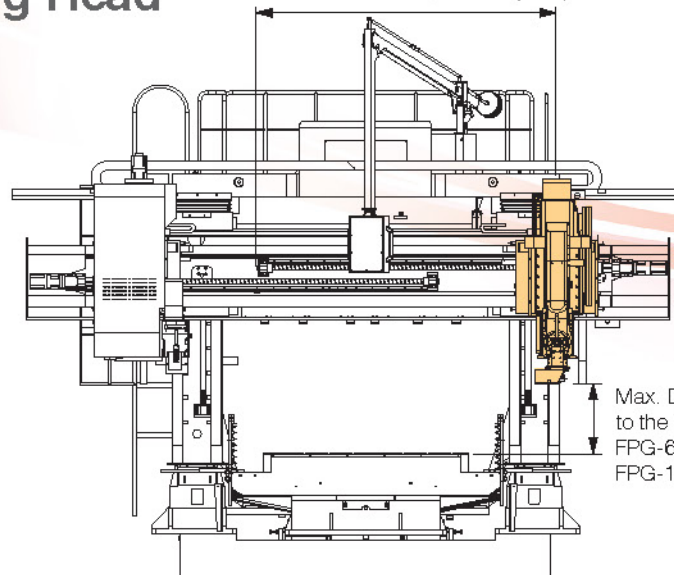


Definition for All Axes



## Vertical Grinding Head Travel

FPG-60 Series 1,500mm (59")  
 FPG-100 Series 2,500mm (98")  
 FPG-120 Series 3,500mm (118")



Max. Dis. from the Surface of wheel to the Table Surface (Vertical Head)  
 FPG-60 Series: 1,050 mm (41.3")  
 FPG-100/120 Series: 1,350 mm (53.1")

# FPG-60 • 100 • 120 DC

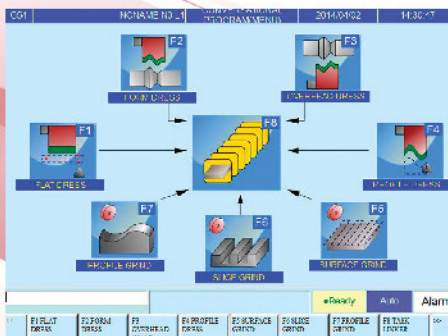
## SMART CNC User Friendly Control

### Applicable For FPG-60 • 100 • 120 DC Series

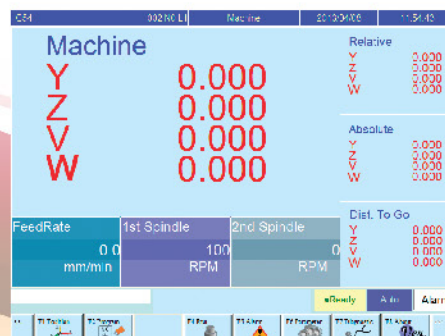
- CHEVALIER SMART CNC controller (PC Based).
- 10.4" TFT color screen.
- Table stroke can be adjusted from screen (patented design).
- Internet/Intranet connectivity.
- Conversational graphics program for grinding and dressing.
- Surface/ Plunge/ Profile / TaskLink.
- Optional profile grinding programs.
- Integrated conversational grinding and wheel dressing with automatic compensation.
- Grinding simulation mode executable through the MPG handwheel.
- Non-equal pitch and depth grinding capability.
- Program transfers through Ethernet port.
- FANUC CNC program compatible.
- Automatic energy-saving function (Optional).
- Support USB and screen can be capture and saved for record and service.



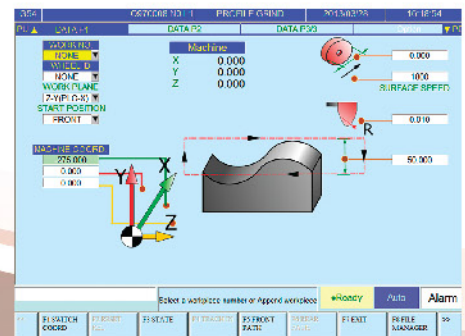
## Friendly Interface Design



Grinding Menu



Machining Axis Display



Profile Grind Conversational Setting Screen

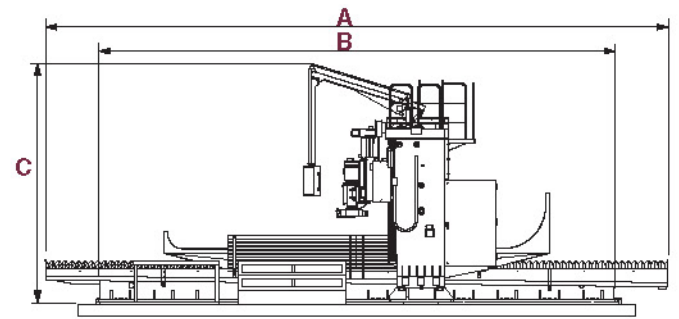


# FPG-60 • 100 • 120 DC

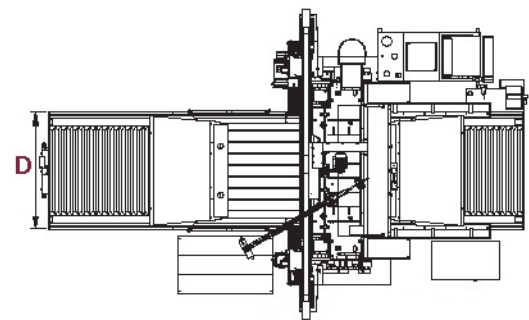
## Dimensions

Unit:mm (")

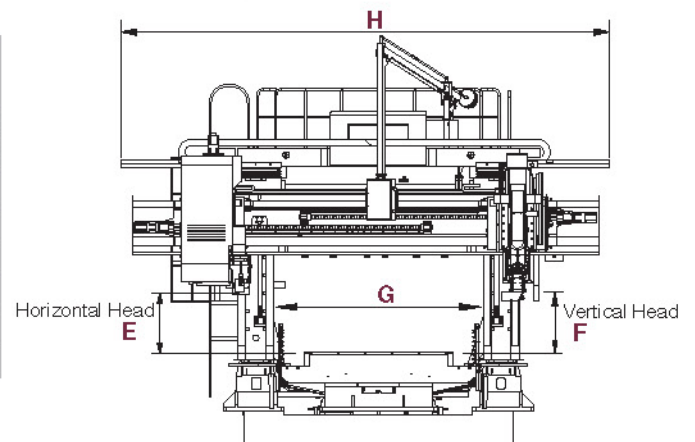
Model	FPG-60120DC	FPG-60160DC	FPG-60200DC
A	10,500 (413.4")	12,500 (492")	14,500 (570.8")
B	8,000 (315")	10,000 (393.7")	12,000 (472.4")
C	5,500 (217")	5,500 (217")	5,810 (229")
D	2,030 (80")	2,030 (80")	2,230 (88")
E	1,200 (47.2")	1,200 (47.2")	1,200 (47.2")
F	1,050 (41.3")	1,050 (41.3")	1,050 (41.3")
G	2,500 (98.4")	2,500 (98.4")	2,500 (98.4")
H	6,800 (268")	6,800 (268")	6,800 (268")



Model	FPG-100160DC	FPG-100200DC	FPG-100240DC
A	12,500 (492")	14,500 (570.8")	16,500 (649.6")
B	10,000 (393.7")	12,000 (472.4")	14,000 (551")
C	5,500 (217")	5,500 (217")	6,110 (240.5")
D	2,970 (117")	2,970 (117")	3,270 (128.7")
E	1,500 (59")	1,500 (59")	1,500 (59")
F	1,350 (53.1")	1,350 (53.1")	1,350 (53.1")
G	3,500 (137.8")	3,500 (137.8")	3,500 (137.8")
H	7,800 (307")	7,800 (307")	7,800 (307")



Model	FPG-100400DC	FPG-100480DC	FPG-120200DC	FPG-120515DC
A	26,000 (1023.6")	30,000 (1181")	14,500 (570.8")	32,500 (1279.5")
B	22,000 (866")	26,000 (1023.6")	12,000 (472.4")	30,500 (1,200.8")
C	5,500 (217")	5,500 (217")	5,500 (217")	5,500 (217")
D	2,970 (117")	2,970 (117")	3,570 (141")	3,570 (141")
E	1,500 (59")	1,500 (59")	1,500 (59")	1,500 (59")
F	1,350 (53.1")	1,350 (53.1")	1,350 (53.1")	1,350 (53.1")
G	3,500 (137.8")	3,500 (137.8")	4,500 (177")	4,500 (177")
H	9,000 (354")	9,000 (354")	9,000 (354")	9,000 (354")

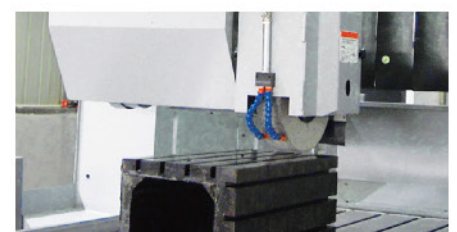


## Applications

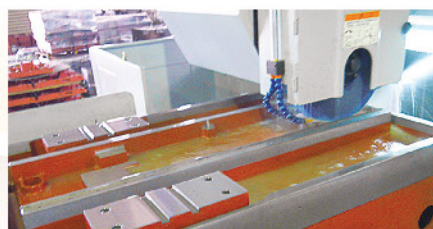
Applicable on vehicle industry, aerospace industry, machinery and metal industry, pneumatic & hydraulic parts industry, electronics industry, textile industry, automation industry and others.



Electronics Industry (LCD TV)



Machinery & Metal Industry (Casting)



Machinery & Metal Industry (Casting)



Building Industry (Tile Molds)

# FPG-60 • 100 • 120 DC

## Machine Specifications

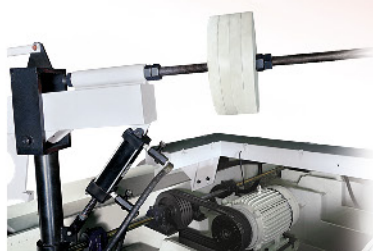
Description		FPG-60120DC	FPG-60160DC	FPG-60200DC	FPG-100160DC
Table Size		1,500 x 3,000mm (59" x 118")	1,500 x 4,000mm (59" x 157")	1,500 x 5,000mm (59" x 197")	2,500 x 4,000mm (98" x 157")
Max. Grinding Length Max. Grinding Width	Longitudinal	3,000mm (118")	4,000mm (157")	5,000mm (197")	5,000mm (197")
	Crosswise	Horizontal Head 2,000mm (78.7"), Vertical Head 1,500mm (59")			
Max. Dis from the Centerline of Spindle to the Table Surface (Horizontal Head)		1,450mm (57")			
Max. Dis. from the Surface of wheel to the Table Surface (Vertical Head)		1,050mm (41")			
Max. Table Load Capacity		8,000kg (17,600lbs)	10,000kg (22,000lbs)	12,000kg (26,400lbs)	20,000kg (44,000lbs)
T-slot No.		8			
Distance between Columns		2,500mm (98")			
X Axis	Table Speed	5~25m/min (16~82fpm)			
	Max. Table Stroke	3,500mm (137")	4,500mm (177")	5,500mm (216")	4,500mm (177")
Z / W Axis	Max. Stroke (Z / W Axes)	2,700mm (106")			
	Feed Speed	0~5m/min (0~16fpm)			
	Min. Input Value	0.001mm (0.0001")			
	Table Longitudinal Stroke Setting	NC data input			
U Axis	Max. Feed Stroke	1,100mm (43")			
Y Axis	Max. Feed Stroke	400mm (16")			
	Feed Speed	0~2m/min (0~6.5fpm)			
	Min. Input Value	0.001mm (0.0001")			
	Table Longitudinal Stroke Setting	NC data input			
V Axis	Max. Feed Stroke	400mm (16")			
	Feed Speed	0~2m/min (0~6.5fpm)			
	Min. Input Value	0.001mm (0.0001")			
	Auto. Feed	NC data input			
Spindle Grinding Drive	Speed	500~2,000rpm			
	Power Rating	Horizontal Head 29.4kW (40HP), Vertical Head 14.7kW (20HP) Horizontal Head 36.7kW (50HP) (Opt.), Vertical Head 22kW (30HP) (Opt.)			
Wheel Size (OD x Hole Diameter x W)		Horizontal Head Ø610 x 203 x 100mm (Ø24" x 8" x 4") Vertical Head Ø405 x 127 x 50mm (Ø16" x 5" x 2")			
Total Rated Power		62.5kW (85HP)	69.8kW (95HP)	84.5kW (115HP)	69.8kW (95HP)
Control System (Opt.)	Coolant Volume	2,000 L			
	Paper Filter	200 L/min			
	Coolant Motor	2.2kW (3HP)			
Control System		CHEVALIER SMART CNC Control			
Net Weight		40,000kg (88,000lbs)	45,000kg (99,000lbs)	50,000kg (110,000lbs)	75,000kg (165,000lbs)

### Standard Accessories

- Oil cooler for hydraulic system
- Air conditioner for electric cabinet
- Grinding wheel
- Wheel flanges (1 for horizontal spindle, 1 for vertical spindle)
- Operator platforms (both ends)
- Tool kit (one tool set and lifting fixture)
- Diamond dresser with diamond
- Leveling bolts, nuts and pads
- Balancing arbor
- Operation manual

### The Counterbalance System of Control Pendant

(Also applicable on vertical head mechanism)  
The control pendant has its own counterbalance system for fast and precise positioning.



### Hydraulic tank and oil cooler

The hydraulically driven table can reach speeds of up to 25m/min. A built-in oil cooler stabilizes the hydraulic oil temperature to maintain a constant viscosity.



FPG-100200DC	FPG-100240DC	FPG-100400DC	FPG-100480DC	FPG-120200DC	FPG-120515DC
2,500 x 5,000mm (98" x 197")	2,500 x 6,000mm (98" x 236")	2,500 x 10,000mm (98" x 394")	2,500 x 12,000mm (98" x 472")	3,000 x 5,000mm (118" x 197")	3,000 x 13,000mm (118" x 511.8")
4,000mm (157")	5,000mm (197")	6,000mm (236")	10,000mm (394")	5,000mm (197")	13,000mm (511.8")
Horizontal Head 2,800mm (110"), Vertical Head 2,500mm (98")				Horizontal Head 3,800mm (150"), Vertical Head 3,500mm (138")	
1,750mm (69")				1,750mm (69")	
1,350mm (53")				1,350mm (53")	
25,000kg (55,000lbs)	30,000kg (66,000lbs)	40,000kg (88,000lbs)	50,000kg (110,000lbs)	30,000kg (66,000lbs)	80,000kg (176,000lbs)
8				12	
3,500mm (138")				4,500mm (177")	
5~25m/min (16~82fpm)				5~25m/min (16~82fpm)	
5,500mm (216")	6,500mm (255")	10,500mm (413")	12,500mm (492")	5,500mm (216")	13,500mm (531.5")
3,700mm (145")				4,700mm (185")	
0~5m/min (0~16fpm)				0~5m/min (0~16fpm)	
0.001mm (0.0001")				0.001mm (0.0001")	
NC data input				NC data input	
1,400mm (55")				1,400mm (55")	
400mm (16")				400mm (16")	
0~2m/min (0~6.5fpm)				0~2m/min (0~6.5fpm)	
0.001mm (0.0001")				0.001mm (0.0001")	
NC data input				NC data input	
400mm (16")				400mm (16")	
0~2m/min (0~6.5fpm)				0~2m/min (0~6.5fpm)	
0.001mm (0.0001")				0.001mm (0.0001")	
NC data input				NC data input	
500~2,000rpm				500~2,000rpm	
Horizontal Head 29.4kW (40HP), Vertical Head 14.7kW (20HP) Horizontal Head 36.7kW (50HP) (Opt.), Vertical Head 22kW (30HP) (Opt.)					
Horizontal Head Ø610 x 203 x 100mm (24" x 8" x 4") Vertical Head Ø405 x 127 x 50mm (16" x 5" x 2")					
91.9kW (125HP)	91.9kW (125HP)	110kW (150HP)	117.6kW (160HP)	106.6kW (145HP)	132.4kW (180HP)
2,000 L				2,000 L	
200 L/min			400 L/min	200 L/min	400 L/min
2.2kW (3HP)			4.4kW (6HP)	2.2kW (3HP)	4.4kW (6HP)
CHEVALIER SMART CNC Control					
85,000kg (187,000lbs)	110,000kg (242,000lbs)	133,000kg (292,600lbs)	143,000kg (314,600lbs)	120,000kg (264,000lbs)	180,000kg (396,000lbs)

\*All content is for reference only and may be subject to change without notice or obligation.

### The heavy duty cooling system features:

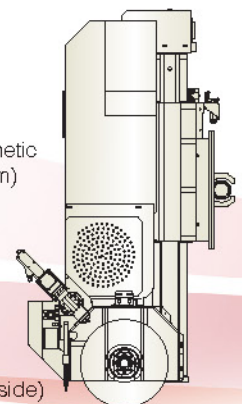
(with temperature control system) (Opt.)

- Coolant chiller
- Oil skimmer
- Drum type filtration system
- Capacity: 2000L



### Optional Accessories

- Electromagnetic chuck (with chuck control)
- Table mounted grinding wheel dresser (without diamond disc)
- Automatic paper filter type coolant system with magnetic separator and chiller (with temperature control system)
- Dynamic wheel balancing system
- Anti-crash protection device for spindle
- Y/Z/W -axis digital read out system
- Wheel balancing stand
- Extra wheel flange
- The horsepower of spindle motor can up to: 50HP (Horizontal Head); 30HP (Vertical Head)
- Grinding wheel dresser (as shown on the right hand side)





Grinding Machine



Grinding Machine



Turning Machine



Milling Machine

**Headquarters**

**FALCON MACHINE TOOLS CO., LTD.**

No. 34, Hsing Kong Road, Shang Kang, Chang Hua  
TAIWAN 50971

Tel: +886 4 799 1126 Fax: +886 4 798 0011

[www.chevalier.com.tw](http://www.chevalier.com.tw)

[overseas@chevalier.com.tw](mailto:overseas@chevalier.com.tw)

**U.S.A. Headquarters**

**CHEVALIER MACHINERY INC.**

9925 Tabor Place, Santa Fe Springs, CA 90670 U.S.A.

Tel: (562) 903 1929 Fax: (562) 903 3959

[www.chevalierusa.com](http://www.chevalierusa.com)

[info@chevalierusa.com](mailto:info@chevalierusa.com)



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