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Product Range

- Centerless Grinder
- NC Centerless Grinder
- CNC Centerless Grinder
- High Speed Centerless Grinder
- Precision Universal Cylindrical Grinder
- NC Universal Cylindrical Grinder
- CNC Universal Cylindrical Grinder
- CNC Vertical Composite Grinder
- NC Internal Grinder
- CNC Internal Grinder
- Surface Grinder



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FIRMUS[®] SERIES CNC BEARING TYPE CENTERLESS GRINDER

PCB-6040

PALMARY MACHINERY CO., LTD.

Persistent in Rigidity

Super rigid structure, stable without deformation

Double support grinding wheel spindle design features high speed operation to boost grinding performance. Computer numerical control from 3~ 6 axes satisfy requests for customized specification. Fitted with wider wheel, suitable for efficient mass production. Stepless regulating wheel provides easy job settings.



PCB-6040 (Roller dresser type)

Grinding Wheel Side



● The double support bearing type spindle offers even grinding force distribution on the contact surface. During grinding the stress is even on two ends to avoid taper shaped work pieces.



● Diamond roller dressing device can be attached to the double support wheel unit, features stable dressing, reducing dress worn out. (Special Type, Optional)



● Oil mist lubrication device aids wheel spindle lubrication, clean and constant temperature.

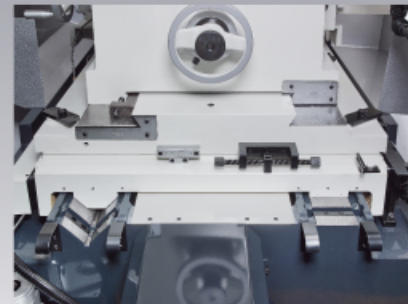
Regulating Wheel Side



● Instead of using hydraulic driving system, the regulating wheel is driven by linear motor. This improves dressing speed and stable control.



● Adjustable worm shaft eliminates the gap, increases transmission efficiency and lifetime.

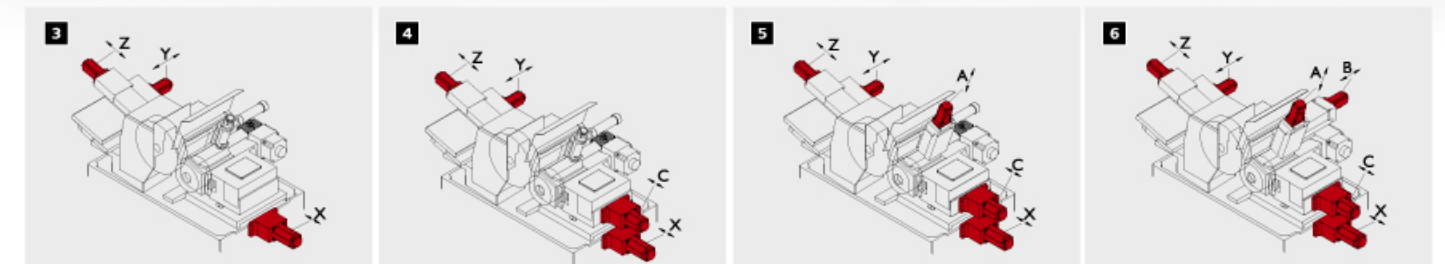


● The one "V" & one flat feeding slide design reinforces the feeding stability. The entire feeding slide is hand scrapped to reduce friction and to increase accuracy of jog movement.

Example of Grinding Workpiece



Axial Combination:



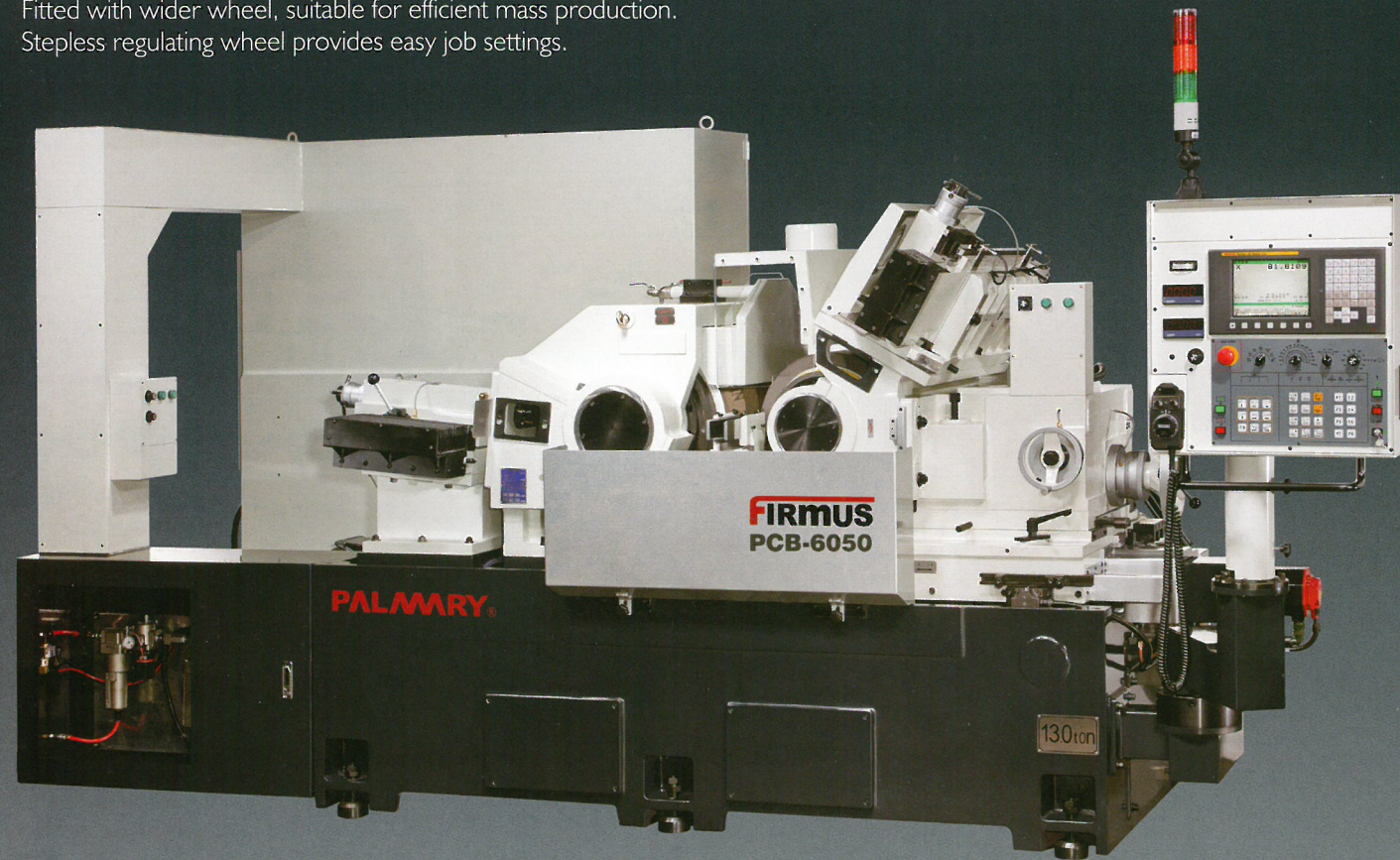
Specification	Model	PCB-6030	PCB-6040
Capacity	Max. workpiece O.D.	Ø150 mm	
Grinding Wheel	Wheel size (O.D. x W x I.D.)	Ø610 x 305 x 304.8 mm	Ø610 x 405 x 304.8 mm
	Wheel speed	3000 m/min	
	Drive motor	30HP x 4P (22.5 kw)	40HP x 4P (30 kw)
Regulating Wheel	Wheel size (O.D. x W x I.D.)	Ø355 x 305 x Ø203.2 mm	Ø355 x 405 x Ø203.2 mm
	Wheel speed	10~300 rpm (Stepless)	
	Drive motor	5.0kw Servo motor	
	Tilting angle	+5°~ -2°	
	Rotating angle	+2°~ -2°	
Dressing	Rotating angle of dressing device	+5°~ -5°	
	Dressing type	Single point type dressing device / Roller type dressing device (Special Type, Optional)	
Drive Motor	Hydraulic pump	1/4 HP x 4 P (0.18 kw)	
	Coolant pump	1 HP x 2 P (0.75 kw)	
	R. W. Dressing	MSS425-412W2E (25 w)	
Controller	Brand of control system	SIEMENS / FANUC / MITSUBISHI	
Stroke	Feeding	200 mm	
	Regulating wheel slide	120 mm	
Tank	Oil tank capacity	24L	
	Coolant tank capacity	140L	
Dimension	L x W x H	3015 x 2205 x 2045 mm	
	Net weight	6300 kgs	6500 kgs

3 ~ 6 axes CNC control available upon request.

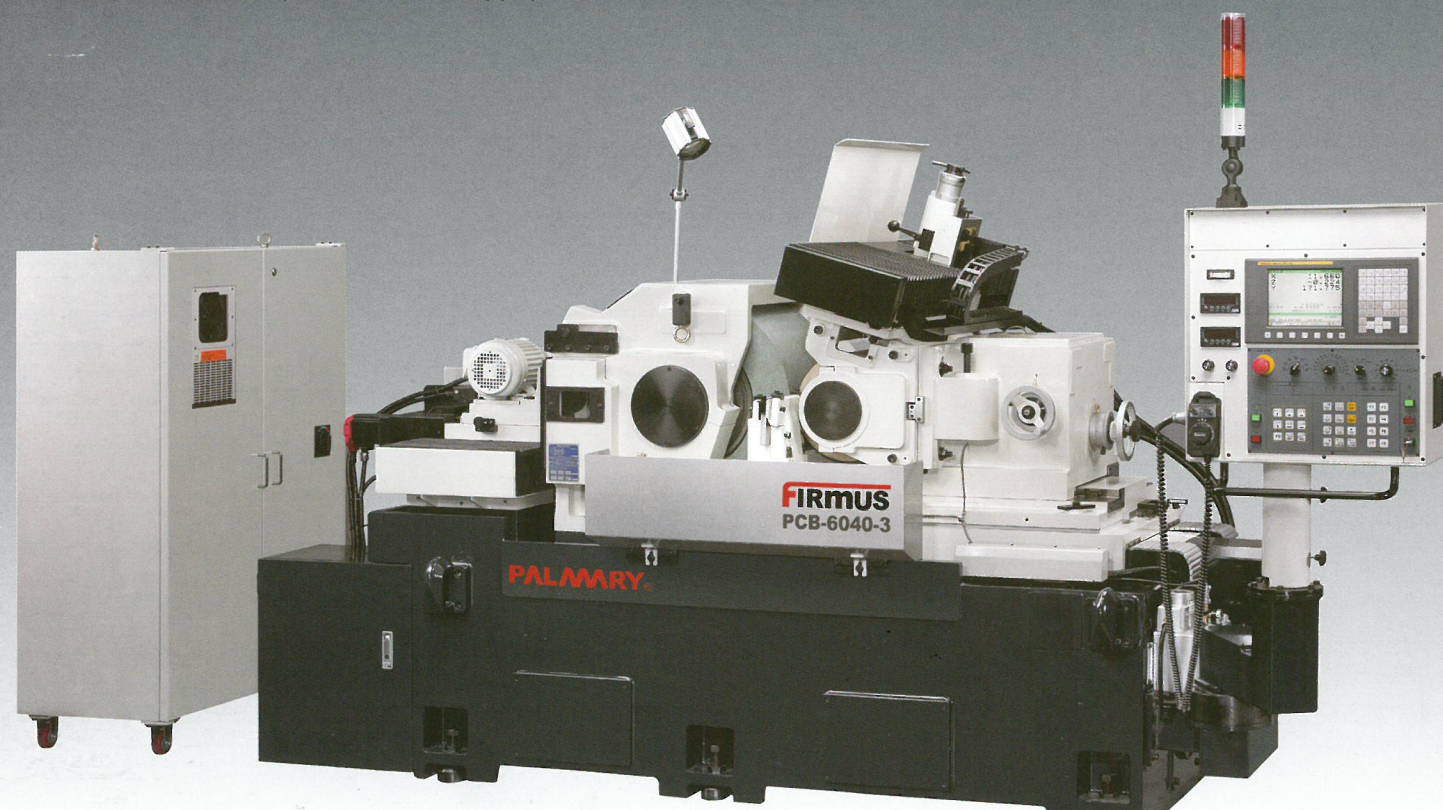
Persistent in Rigidity

Super rigid structure, stable without deformation

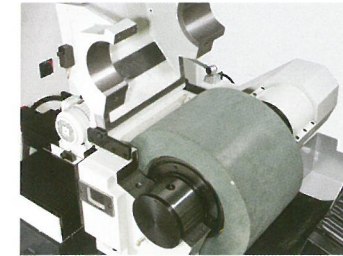
Double support grinding wheel spindle design features high speed operation to boost grinding performance. Computer numerical control from 1 ~ 6 axes satisfy requests for customized specification. Fitted with wider wheel, suitable for efficient mass production. Stepless regulating wheel provides easy job settings.



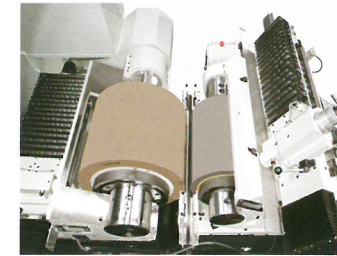
PCB-6050 (Roller dresser type)



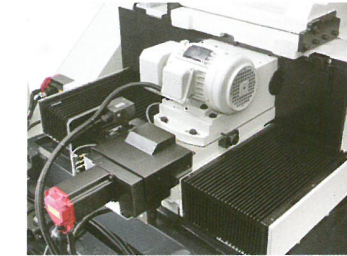
Grinding Wheel Side



● The double support bearing type spindle offers even grinding force distribution on the contact surface. During grinding the stress is even on two ends to avoid taper shaped work pieces.



● Double support bearing type grinding wheel spindle and regulating wheel spindle can support big and wide grinding wheel. The grinding wheel cover is lifted type. (PCB-6050/6060)

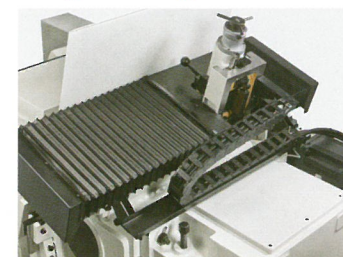


● Diamond roller dressing device can be attached to the double support wheel unit, features stable dressing, reducing dress worn out. (Special Type, Optional)

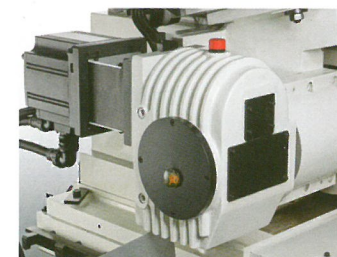


● Oil mist lubrication device aids wheel spindle lubrication, clean and constant temperature.

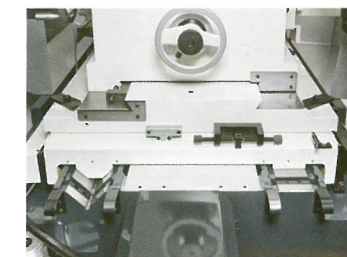
Regulating Wheel Side



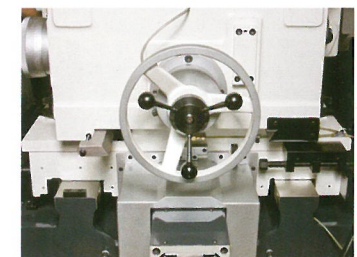
● Instead of using hydraulic driving system, the regulating wheel is driven by linear motor. This improves dressing speed and stable control.



● Adjustable worm shaft eliminates the gap, increases transmission efficiency and lifetime.

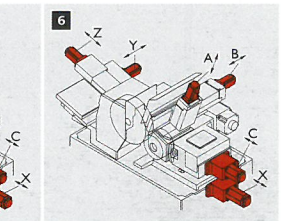
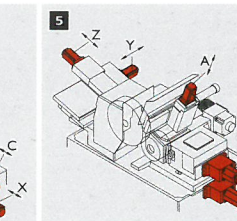
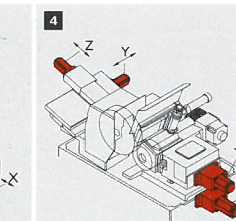
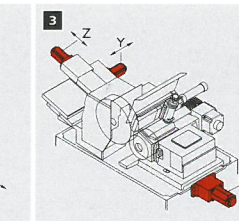
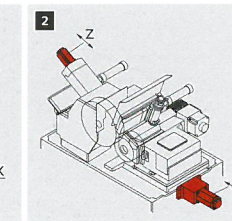
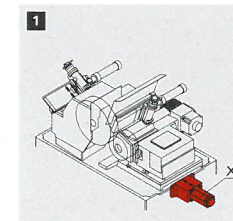


● The one "V" & one flat feeding slide design reinforces the feeding stability. The entire feeding slide is hand scrapped to reduce friction and to increase accuracy of jog movement.



● Double flat slide construction and the feedback from linear scale accomplish high accuracy in-feed. Standard load is with high precision reducer. (PCB-6050/6060)

Axial Combination:



Specification	Model	PCB-6030	PCB-6040	PCB-6050	PCB-6060
Capacity	Max. workpiece O.D.	Ø150 mm			
Grinding Wheel	Wheel size (O.D. x W x I.D.)	Ø610x305xØ304.8	Ø610x405xØ304.8	Ø610x510xØ355.6	Ø610x610xØ355.6
	Wheel speed	3000 m/min			
	Drive motor	30HPx4P (22.5kw)	40HPx4P (30kw)	50HPx4P (37.5kw)	50HPx4P (37.5kw)
	Dressing Device	Single point type dressing device / Roller type dressing device (Special Type, Optional)			
Regulating Wheel	Wheel size (O.D. x W x I.D.)	Ø355x305xØ203.2	Ø355x405xØ203.2	Ø405x510xØ254	Ø405x610xØ254
	Wheel speed	10~300 R.P.M			
	Drive motor	5 kw Servo Motor			
Feeding Device	Lower Slide of Adjusting Wheel	CNC 1 Axis Control (with optical scale's feedback)			
Drive Motor	Hydraulic pump	1/4 HP x 4P (0.18kw)		-	
	Coolant pump	1 HP x 2P (0.18kw)			
	R. W. Dressing	MSS425-412W2E (25w)		PK5913AE (1.4A)	
Controller	Brand of control system	FANUC Oi-TD			
Dimension	L x W x H	3015 x 2205 x 2045		3770 x 2720 x 2045	
	Net weight	6800 kgs	7000 kgs	12800 kgs	13000 kgs
Special Features		CNC 1 – 6 Axes control • Various Automation Devices • Various Automatic Loading / Unloading Devices			
		Various Cooling Devices • Work Rest for Large Dia. or Extra Long Workpieces			