



SINCE 1988



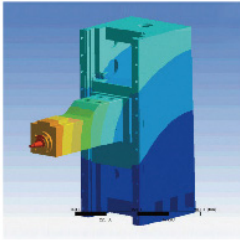
# ***SURFACE GRINDERS***

*Deliver Uncompromising  
Fine Results.*



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# SURFACE GRINDERS



## Optimized Structure

The major parts are manufactured from high quality cast iron combined with an outstanding structural design. Major parts are stress relieved to ensure maximum rigidity, stability and machining accuracy.



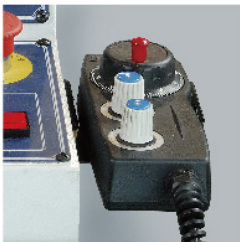
## Precision Spindle Design

The spindle runs in a class P4 high precision angular contact bearing, assuring run-out accuracy in 2  $\mu\text{m}$ . The cartridge-type spindle is completely sealed and lubricated for long working lifetime, providing high accuracy grinding and a long service life.



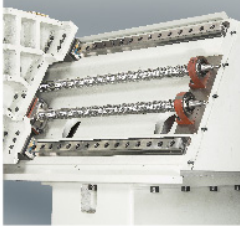
## Turcite-B on Slideways

The X, Z axes slideways are coated with Turcite-B for stable movement and long term accuracy.



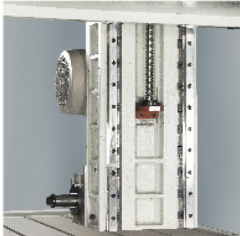
## M.P.G. Handwheel

Except for the saddle type, the vertical feed controlled by an M.P.G. handwheel instead of a conventional handwheel. Feed is driven by an AC servomotor for effortless operation and high accuracy.



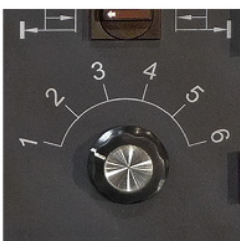
## Heavy Duty Linear Guide Ways

The beam surface of double column type is equipped with two heavy duty linear guide ways with great span for extra smooth movement and high rigidity.



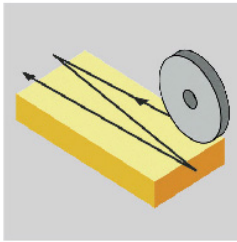
## Precision Feed on Vertical-axis

The vertical axis of cantilever type and double column type, are equipped with high precision linear guide ways combined with high precision ball screw transmission, assuring outstanding feed accuracy and maximum stability.



## Variable Table Speed

The variable feed speed of the cantilever & double column type table is controlled by a proportional hydraulic valve, allowing for feed speed adjustment according to the workpiece type for increased convenience of operation.



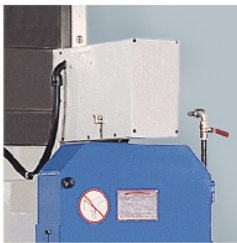
### Crisscross Grinding Function (Option)

Crisscross feed speed is infinitely variable, a very wide range of cross feed can be obtained. This grinding method is invaluable for grinding thin workpiece and can increase the efficiency significantly. (H series can't be installed) (This function is a standard function of the cantilever and double column series)



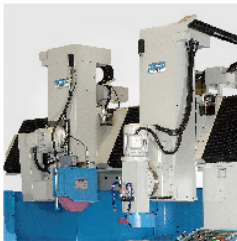
### NC Auto Down Feed System (AD5 type) (Option)

Except for H series, the AH, and AHR models are available to equip with an optional NC auto down feed system (AD5 type) to become 3 axes fully automated for greatly increasing operational convenience. (This function is a standard function of the cantilever and double column series)



### NC Auto Parallel Dressing & Compensating System (Option)

The optional NC auto parallel dressing & compensating system is available to equip with an optional NC auto down feed system (AD5 type), greatly increasing the grinding efficiency.

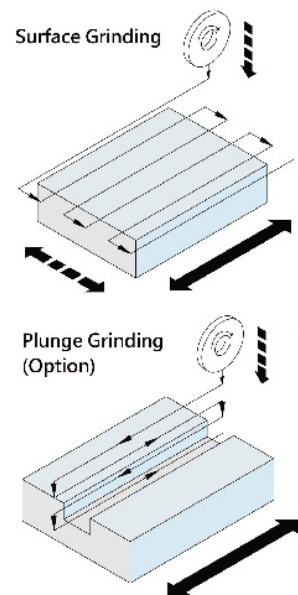
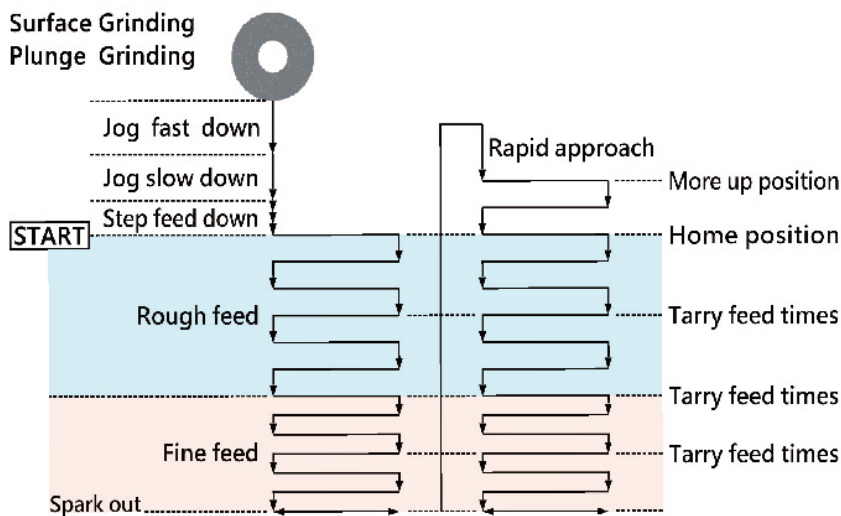


### Vertical Wheel Head (Option)

Upon request, the double column type is available to equip with a vertical wheel head. It is suitable for grinding box slideways and dovetailed slideways.

#### TYPE - AD5

Surface Grinding  
Plunge Grinding





# SURFACE GRINDERS

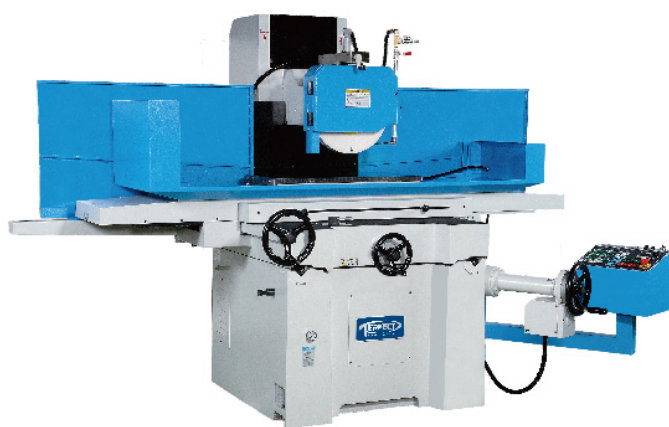
SPECIFICATIONS			SADDLE TYPE			
			PFG-1545H/AH PFG-2045H/AH	PFG-2550H PFG-2550AH	PFG-CL3060AH PFG-DL3060AH	PFG-D4080AH
Travel	Grinding surface of table	mm	150 X 450 200 X 450	250 X 500	300 X 600	400 X 800
	Max. grinding surface	mm	150 X 450 200 X 450	250 X 500	300 X 600	400 X 800
	Max. distance center of spindle to table	mm	450	500 [Option: 600]	500 [Option: 600]	550 [Option: 650]
Feeding	Table speed approx.	M/min	5~25		5~25	
	Table guideway		V & Flat way		V & Flat way	
	Auto. Cross feed increment approx.	mm	manual (for H), 0.1~12 (for AH)		0.5~20	
	Rapid power cross feed	mm/min	manual (for H), 1100 [60HZ] / 900 [50HZ] (for AH)		1100 [60HZ] / 900 [50HZ]	
	Cross feed on hand wheel	mm	5/rev. ; 0.02/gra.		5/rev. ; 0.02/gra.	
	Rapid power head elevation	mm/min	550 [60HZ] / 450 [50HZ] (Power rapid up/down system) [Option] 300 (NC Auto down feed system) [Option]		550 [60HZ] / 450 [50HZ] (Power rapid up/down system) [Option] 300 (NC Auto down feed system) [Option]	
	Vertical feed on hand wheel	mm	2/rev. ; 0.01/gra.		2/rev. ; 0.01/gra.	
	Auto down feed	mm/time	0.001~0.999 [2/rev. ; 0.005/gra.] [Option]		0.001~0.999 [2/rev. ; 0.005/gra.] [Option]	
	Motor	Spindle motor	HP	2		5
Hydraulic pump motor		HP	1		1	2
Auto Cross feed motor		HP	30W (for AH)	1/5	1/5	
Rapid head elevation motor		HP	1/5 [Option]		1/5 [Option]	
Coolant pump [Option]		HP	1/8		1/8	
Wheel	Wheel speed	rpm	3500 [60HZ] / 2900 [50HZ]		1750 [60HZ] / 1450 [50HZ]	
	Wheel dimension	mm	180 X 13 X 31.75		355 X 38 X 127	405 X 50 X 127
Weight	Machine net weight	Kg	900 950	1350	1700	3250
	Packing gross weight	Kg	1100 1150	1550	1950	3500
Dimension	Floor space (L X W X H)	mm	2080 x 1200 x 1700	2340 x 1500 x 1800	2630 x 1550 x 1800	3450 x 2050 x 1900
	Packing dimension (L X W X H)	cm	230 x 146 x 196	230 x 158 x 220	230 x 179 x 220	290 x 228 x 223

\* The manufacturer reserves the right to modify the mechanism specifications, etc. without prior notice.



**PFG-1545H** / 150x450mm Table surface

- + Micro feed for cross & vertical feed (Option)
- Hydraulic longitudinal feed
- Manual cross & vertical feed



**PFG-D4080AH** / 400x800mm Table surface

- + NC Auto down feed system and Parallel dresser (Option)
- Hydraulic longitudinal feed
- Auto cross feed
- Manual vertical feed
- Table longitudinal travel is controlled by sensor and solenoid valve
- Continuous lubrication
- Back water splash shield



**PFG-60100AH**

- + NC Auto down feed system and compensating system
- Hydraulic longitudinal feed
- Auto cross feed
- Vertical feed is driver
- Table longitudinal travel



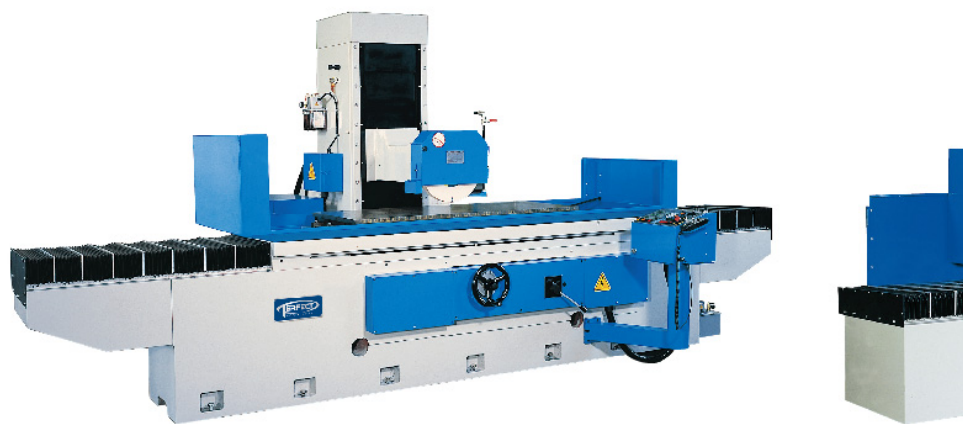
COLUMN TYPE			CANTILEVER TYPE			
PFG-50100AHR PFG-60100AHR PFG-70100AHR	PFG-50150AHR PFG-60150AHR PFG-70150AHR	PFG-50200AHR PFG-60200AHR PFG-70200AHR	PFG-80150AHD PFG-100150AHD	PFG-80200AHD PFG-100200AHD	PFG-80300AHD PFG-100300AHD	PFG-80400AHD PFG-100400AHD
500 X 1000 600 X 1000 700 X 1000	500 X 1500 600 X 1500 700 X 1500	500 X 2000 600 X 2000 700 X 2000	800 X 1500 1000 X 1500	800 X 2000 1000 X 2000	800 X 3000 1000 X 3000	800 X 4000 1000 X 4000
500 X 1000 600 X 1000 700 X 1000	500 X 1500 600 X 1500 700 X 1500	500 X 2000 600 X 2000 700 X 2000	800 X 1500 1000 X 1500	800 X 2000 1000 X 2000	800 X 3000 1000 X 3000	800 X 4000 1000 X 4000
600 [Option: 800 & 1000]			800 [Option: 1000]			
5~25			3~25			
V & Flat way			V & V way			
0.5~20			0.1~15			
1100 [60HZ] / 900 [50HZ]			1500			
5/rev. ; 0.02/gra.			5/rev. ; 0.02/gra.			
300			225			
(x1) 0.1 (x1) 0.001	(x5) 0.5 (x5) 0.005	(x10) 1 (x10) 0.01	(x1) 0.1 (x1) 0.001	(x5) 0.5 (x5) 0.005	(x10) 1 (x10) 0.01	(x10) 1 (x10) 0.01
0.001~0.999 [Option]			0.001~0.999			
10 [Option: 15]			10 [Option: 15]			
3	5		7.5	10	15	
1/5			1/5			
1KW AC servo motor			1KW AC servo motor			
1/4			1/2			
1750 [60HZ] / 1450 [50HZ]			1750 [60HZ] / 1450 [50HZ]			
405 X 50 X 127			405 X 50 X 127 [Max. 405 X 75 X 127]			
6000 6300 6600	7200 7500 7800	8400 8700 9000	12800 13800	14300 15300	17300 18800	20300 21300
6800 7100 7400	8100 8400 8700	9400 9700 10000	13800 14800	15500 16500	17800 19800	21800 22800
4600 X 2300 X 2040 4600 X 2450 X 2040 4600 X 2550 X 2040	4800 X 2300 X 2040 4800 X 2450 X 2040 4800 X 2550 X 2040	6000 X 2300 X 2040 6000 X 2450 X 2040 6000 X 2550 X 2040	5160 X 2400 X 2555 5160 X 2660 X 2555	6260 X 2400 X 2555 6260 X 2660 X 2555	8460 X 2400 X 2555 8460 X 2660 X 2555	10660 X 2400 X 2555 10660 X 2660 X 2555
388 X 230 X 228	388 X 230 X 228	485 X 230 X 228	439 X 230 X 297 439 X 276 X 297	546 X 230 X 297 546 X 276 X 297	750 X 230 X 297 750 X 276 X 297	850 X 230 X 297 850 X 276 X 297
* 20' General Container: Max. distance center of spindle to table: 600mm * 40' High Container: Max. distance center of spindle to table: 800mm * 20' Flat rack: Max. distance center of spindle to table: 1000mm			230 X 167 X 206 (NW: 950kgs / GW: 1100kgs) * Shipping by 40' Flat rack or 40' HQ when dismounting column			



**R** 600x1000mm Table surface

system & NC Auto parallel dressing system (Option)  
al feed

1 by AC servo motor  
vel is controlled by sensor and solenoid valve



**PFG-60150AHR** 600x1500mm Table surface

+NC Auto down feed system (Option)  

- Hydraulic longitudinal feed
- Auto cross feed
- Vertical feed is driven by AC servo motor
- Table longitudinal travel is controlled by sensor and solenoid valve

**PFG-**

+NC Au  

- Step
- Auto c
- Vertic
- NC Au

## DOUBLE COLUMN TYPE

PFG-120200AHD PFG-160200AHD	PFG-120300AHD PFG-160300AHD	PFG-120400AHD PFG-160400AHD	PFG-120500AHD PFG-160500AHD	PFG-120600AHD PFG-160600AHD
1200 X 2000 1600 X 2000	1200 X 3000 1600 X 3000	1200 X 4000 1600 X 4000	1200 X 5000 1600 X 5000	1200 X 6000 1600 X 6000
1200 X 2000 1600 X 2000	1200 X 3000 1600 X 3000	1200 X 4000 1600 X 4000	1200 X 5000 1600 X 5000	1200 X 6000 1600 X 6000
1000 [Option: 1200]		900 [Option: 1100]		
3~25				
V & V way				
0.1~35				
3000				
(x1) 0.1 (x1) 0.001		(x5) 0.5 (x5) 0.005	(x10) 1 (x10) 0.01	
300				
(x1) 0.1 (x1) 0.001		(x5) 0.5 (x5) 0.005	(x10) 1 (x10) 0.01	
0.001~0.999				
20 [Option: 30]				
15		20		25
1KW AC servo motor				
1KW AC servo motor				
1/2				
1100				
508 X 76 X 203				
20000 23000	24000 28000	28500 33000	33000 38000	37500 43000
22000 25500	26300 30800	31000 36000	36000 41500	41500 48000
6600x3700x4000 6600x4100x4000	8800x3700x4000 8800x4100x4000	11000x3700x4000 11000x4100x4000	13200x3700x4000 13200x4100x4000	15400x3700x4000 15400x4100x4000
40'HQ X 1 + 20' X 1	40'HQ X 1 + 20' X 1	40'HQ X 2	40'HQ X 2	40'HQ X 1 + 40'FR X 1

AXIS	X	Z	Y
H	Auto	Manual	Manual
AH	Auto	Auto	Manual
AHR	Auto	Auto	Rapid
AHD	Auto	Auto	Auto

X : Longitudinal  
Z : Cross feed  
Y : Vertical feed

MODEL	CL3000AH	DL3000AH	D4000AH
Auto crossing Stroke adjustment	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
X axis by Sensor & solenoid valve	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Continuous Lubrication	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Back water splash shield	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>

● Standard  
○ Option



**100200AHD** 1000x2000mm Table surface

Auto parallel dressing and compensating system (Option)  
Stepless variable proportional valve hydraulic system  
Cross feed  
Vertical feed is driven by AC servo motor  
Auto down feed system



**PFG-160300AHD** 1600x3000mm Table surface

+Vertical spindle head (Option)  
• Stepless variable proportional valve hydraulic system  
• Cross & Vertical feed is driven by AC servo motor  
• NC Auto down feed system

## OPTIONAL ACCESSORIES

1. Electro magnetic chuck with chuck controller
2. Permanent magnetic chuck (For 1545 / 2045 series)
3. Micro feed for Cross / vertical feed (0.001mm/gra.) (For saddle type only)
4. Power Rapid up & down system
5. NC Auto down feed system (AD5 type)
6. Parallel dresser (Manual)
7. Coolant system
8. (Dust) Suction system
9. (Dust) Suction with coolant system
10. Magnetic separator with coolant system
11. Auto paper strip filter with coolant system
12. Auto paper strip filter and magnetic separator with coolant system
13. NC auto parallel dressing & compensating system
14. Automatic crossing stroke adjustment by control panel switch
15. Back water splash shield (Excluded 1545 / 2045 series)
16. Enclosed splash shield (Excluded 1545 / 2045 series)
17. Spindle motor inverter
18. Wheel flange
19. Tool makers vise
20. Auto balancing device
21. Digital readout unit
22. Crisscross grinding function



## STANDARD ACCESSORIES

1. Grinding wheel
2. Wheel flange
3. Flange extractor
4. Wheel balancing arbor
5. Wheel balancing base
6. Wheel dresser with diamond
7. Leveling screw and plates
8. Tool box and tools
9. Working lamp (Saddle type only)
10. Parallel dresser (Manual)(Cantilever and Double column type only)
11. NC Automatic down feed system (Cantilever and Double column type only)

