

# Okamoto

## Precision Surface Grinding Machine PSG/ACC-GX Series



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JQA-QMA10960



When and before using our products, you are requested to well go through the articles on danger, warning and attention for the sake of safety described in operation manual attached to the machine and also in the warning plates mounted on the machine.  
\*Specifications subject to change without notice.  
\*When a product manufactured at our factory comes under the Foreign Exchange And Foreign Trade Control Law and is exported or carried overseas, it is necessary to receive permission or approval of the Japanese Government.

# Most Popular Standard Surface Grinding Machine in the World PSG/ACC-DX Series. The DX Series is succeeded by the GX Series.

Precision Surface Grinding Machine

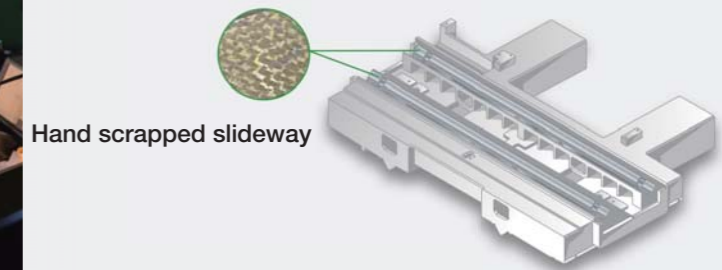
## PSG/ACC-GX Series

- Rock-Solid Construction
- Servo driven Vertical feed



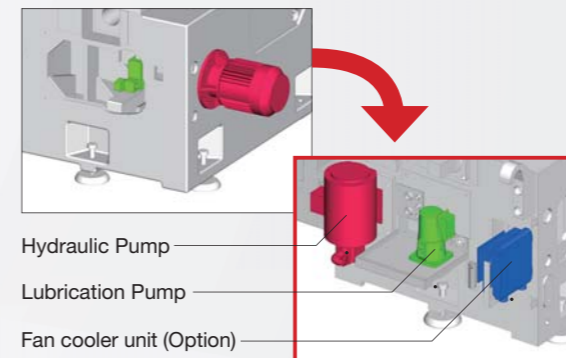
CONSTRUCTION  
*Superior machine structure*

Double V Table Ways on both the Longitudinal and Crossfeed axes assures optimum performance and long term grinding accuracy



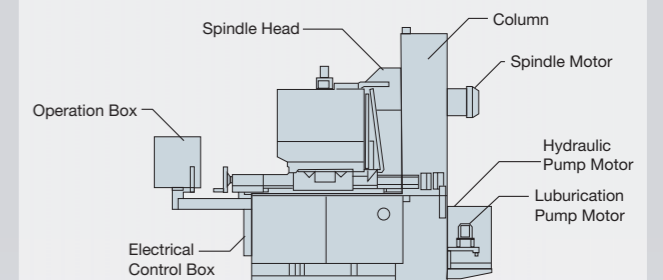
Hydraulic and Lubrication Components have been re-located to outside of the machine

- Separate Hydraulic Oil and Lubrication Oil tanks



Saddle Moving type Grinder allows more space saving

- Ergonomic design for smooth operation.



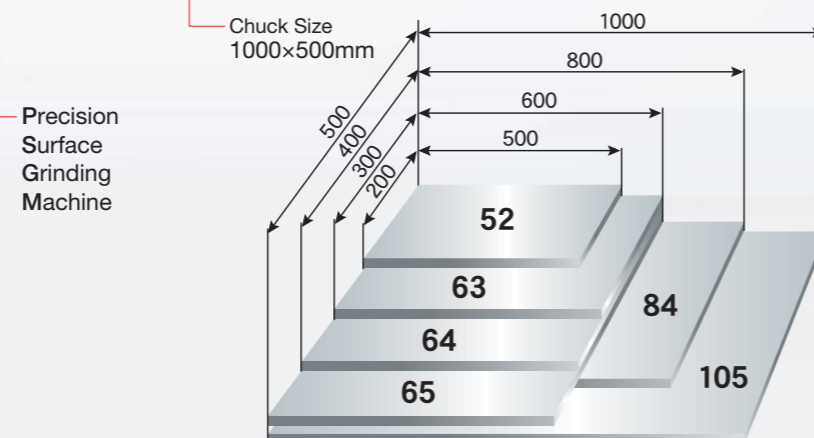
### Lineup PSG/ACC Series

Chuck Size (mm)

Model	Chuck Size (mm)
52GX	500 × 200
63GX	600 × 300
64GX	600 × 400
65GX	600 × 500
84GX	800 × 400
105GX	1000 × 500

### PSG/ACC 105 GX

■ Working Size by Electro-magnetic chuck



Grinding Wheel Guard using Stainless Steel material

- Splash cover also available in Stainless Steel (OPTION) to prevent rusting.



Allows for less operator involvement by using the Hydraulic type Overhead Dresser with auto dress and compensation plus retract function.

- Automatic Dress Cycle can set up Dress Interval Amount, No. of Dress and Dress wear Compensation Amount.

Overhead type Dresser Unit



# Achieved 0.1μm infeed using our own developed control system

## OPERATION Easy Operation

- The control has convenient features like manual interruption, Quick Set-Up, precision positioning. Convenient and dependable with long term Reliability.



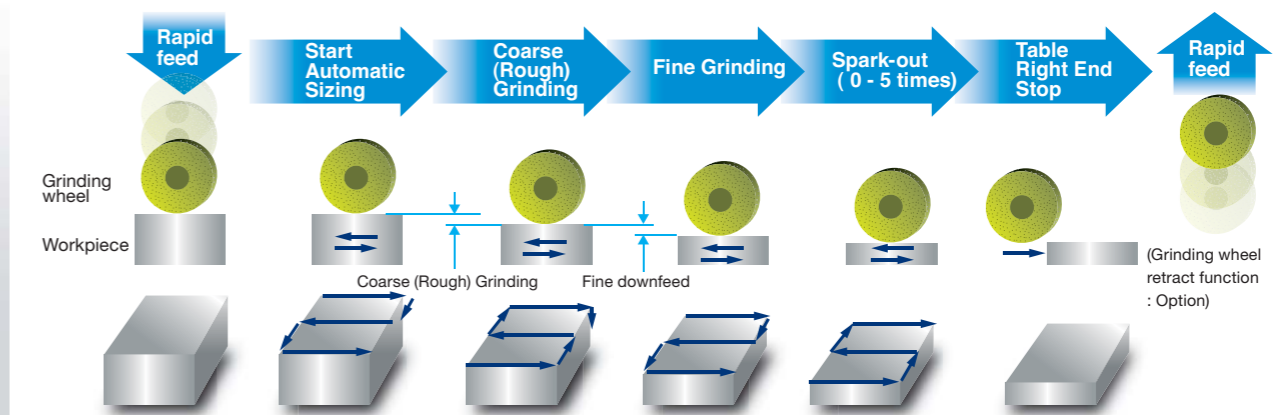
## Hydraulic Operation Panel

- Table Speed Control Lever**  
Variable up to max. 25m/min.



- Crossfeed Control Lever**  
Easily able to switch cross feed mode, Step or Bias for cross feed.
- Step feed Control Knob**  
Step feed adjustable in the range of 0.5 - 20mm.

## Automatic Grinding Cycle



## Operation Panel

### Mode selection switch

Selectable for Data input, Automatic sizing Mode, Manual Operation Mode, Rapid feed Mode.

### Setup Stock removal Amount

Total stock removal can be set to a min. 0.1μm. Coarse feed rate & Fine feed rate changeover select by switch 12 step amount 1 to 30 μm for Coarse infeed, 11 step amount 0.1 to 10μm for Fine infeed

### Vertical infeed

12 step amount between 1 and 30μm to be pre-set for Coarse grinding.  
11 step amount between 0.1 and 10μm to be pre-set for fine grinding.

### Vertical & Cross position display

Under stock removal mode, total grinding amount to be pre-set on the digital display at 0.1 μm increment. Crossfeed digital display is an Option.

### Vertical feed handle (M.P.G.)

Manual down feed handle. Under Manual mode, pulse generator dial conducts manual down feed at graduation either 0.1μm, 1μm or 10μm.

### Incremental

Manual down feed at pre-set increment works any time by pressing the feed button even during automatic grinding cycle.

### Table Stop

Simply press the button which makes the table stop at right end of set stroke, eliminating lever operation of table speed control.

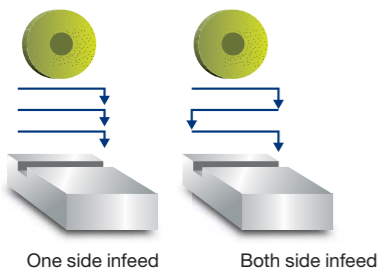
### Self diagnostic function

LED alarm number display.

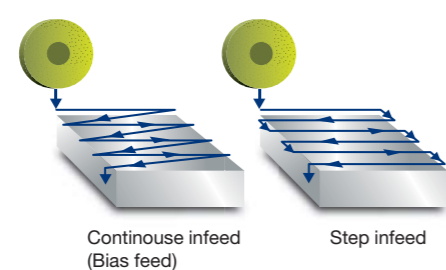
### Grinding Mode

3 mode can be selected. One side infeed for Plunge, Both side infeed for Plunge, and Traverse.

### Plunge Grinding



### Traverse grinding



## Optional Accessories



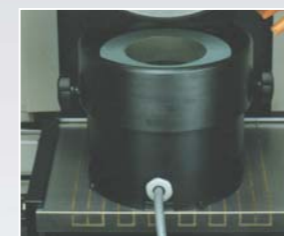
Coolant and Dust Suction System with Magnetic Dust Separator



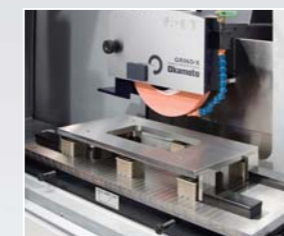
Digital scale for Cross axis



Micro-Balancer unit



Vertical type Rotary Dresser Unit



Special Jigs for warped workpieces

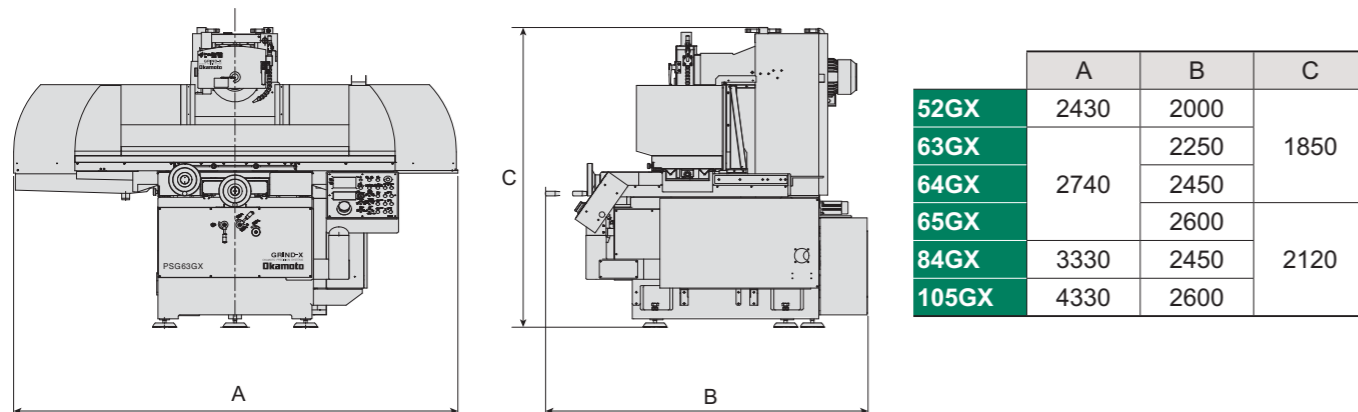


## Specifications

Item		Unit	52GX	63GX	64GX	65GX	84GX	105GX	
Capacity	Table working capacity (Length×Width)		550×200	605×300	605×400	650×500	850×400	1016×500	
	Max. Table Travel (Manual : Longitudinal×Cross)		650×230	750×340	750×440	750×540	950×440	1150×540	
	Distance from Top of the Table to Bottom of the Wheel	50/60Hz φ205mm	mm	47.5~397.5	-			-	
		φ355mm wheel (50Hz)		-	22.5~322.5	22.5~522.5			
		φ305mm wheel (60Hz)		-	47.5~347.5	47.5~547.5			
Standard chuck size (L×W×H)		500×200×75	600×300×85	600×400×85	600×500×100	800×400×85	1000×500×100		
Table Load Capacity including Chuck	kg	200	420		700				
Table	Longitudinal Feed Rate (Average)	m/min	0.3~25			3~25			
	Hand feed per Revolution	mm	47						
	Manual Feed		5.0						
	Graduation of Handwheel		0.02						
	Automatic Feed	Intermittent Feed	m/min	0.5~12	0.5~20				
		Continuous Feed Rate	m/min	0.1~1.0			0.2~1.0		
Vertical Feed	Auto. Downfeed (Traverse & Plunge Cycle)	mm	0.0001~0.03 (15 Positions)						
	Manual Down Feed		Hand Feed per Revolution (×0.1/×1/×10)	0.01/0.1/1.0					
			Hand Feed per Graduation (×0.1/×1/×10)	0.0001/0.001/0.01					
	No. of Spark-Out	Times	0~5						
Feed Rate	mm/min	600							
Grinding Wheel	Diameter (50/60 Hz)×Width×Bore	mm	φ205×19×φ50.8	φ355/φ305×38×φ127					
	Speed (50/60 Hz)	min <sup>-1</sup>	3000/3600	1500/1800					
Motors	Grinding Wheel Spindle	kW/P	1.5/2	1.5/4			2.2/4		
	Hydraulic Oil Pump	kW	0.75/4	1.5/4			2.2/4		
	Vertical Rapid Feed & Downfeed	kW	0.4 (AC Servo Motor)			0.75 (AC Servo Motor)			
Power supply	Power supply		200V, 3-phase (50/60Hz), 220V, 3-phase (60Hz)						
	Required Power Consumption including Coolant and Magnetic chuck	kVA	5	10		11			
Floor Space	Width×Depth×Height	mm	2430×2000×1850	2740×2250×1850	2740×2450×1850	2740×2600×2120	3330×2450×2120	4330×2600×2120	
Weight	Net Weight	kg	2100	2800	3000	3500	3900	4600	

\* Floor Space does not include Coolant tank

## External View



## Standard Accessories

Sample Grinding Wheel (WA46H8V8J)	Splash Cover	Automatic sizing Device
Wheel adapter	Automatic Demagnetizing Controller, Chuck Power adjustable type	Plunge cut Device (Single Side or Both side downfeed)
Table Dresser with a Diamond tool		
Necessary Tools with Tool Box	Electro-Magnetic Chuck	Automatic Rough & Fine Feed Change over Device
Leveling Bolts and Plates	Spark-Out Counter (0 - 5 times)	

## Optional Accessories

Item	Specification	52GX	63GX	64GX	65GX	84GX	105GX
1) Coolant and Dust Suction System with Magnetic Dust Separator	Tank Capacity	40 ℓ					
	Coolant pump motor	60W/2P					
	Dust Suction motor	400W/2P					
2) Coolant and Dust Suction System with Magnetic Dust Separator	Magnetic Separator	20 ℓ/min					
	Tank Capacity	120 ℓ					
	Coolant pump motor	60W/2P					
3) Coolant system with Magnetic Dust Separator with Automatic type Paperfilter	Dust Suction motor	400W/2P					
	Magnetic Separator	40 ℓ/min					
	Paperfilter Mesh	500mm×100mm					
4) Manual type Overhead Dresser	Max. stroke	35mm					
	Max. Wheel Width	25mm					
5) Hydraulic type Overhead Dresser	Max. stroke	35mm					
	Max. Wheel Width	25mm					
6) Manual type Overhead Dresser	Max. stroke	60mm					
	Max. Wheel Width	50mm					
7) Hydraulic type Overhead Dresser	Max. stroke	70mm					
	Max. Wheel Width	50mm					
8) Hydraulic type Overhead Dresser (with dress compensation function)	No. of Dress	0~9 times					
	Wheel wear compensation amount	0~50μm					
	Dress Interval amount	0~990μm					
9) Hydraulic type Overhead Dresser (with Retract Function)	Retract amount	0~9.999μm					
10) Oil Mist collector	With Mounting Base						
11) Digital scale for Cross axis	Display unit	0.001mm					
12) Digital scale for Cross axis display unit built into operation panel	Display unit	0.001mm					
13) Microfeeder for Cross axis	Worm Wheel type (Graduation)	0.001mm					
14) Hydraulic cooling type Electro-Magnetic Chuck							
15) Electro-Permanent Chuck with Chuck controller							
16) Hydraulic Oil Temperature control unit							
17) Oil Cooling type Spindle Head	Necessary for [Cooling Pump] [Oil Temperature Control unit]						
18) Spindle Inverter unit							
19) Spindle Motor Power Up	Please contact Sales						
20) Higher Column Specification	Extend Vertical Stroke 200mm						
21) Spare Wheel adapter	Max. wheel width	25mm					
	Wheel adapter Diameter	φ111					
22) Spare Wheel adapter	Max. wheel width	38mm					
	Wheel adapter Diameter	φ175					
23) Micro-Balancer unit	Auto measure and Conversation type manual correction						
24) Spare wheel adapter for Micro-Balancer unit	Exclusive Balance Piece for Micro-Balancer						
25) Static type Wheel balancer unit BW-260 with an Arbor	Max. Wheel Diameter xWidth	φ260×75mm					
	Length	178mm					
26) Balance Arbor for BW-260 unit	Diameter for Both End x Length	φ15×15mm					
	Max. Wheel Diameter xWidth	φ360×75mm					
27) Static type Wheel balancer unit BW-360 with an Arbor	Length	178mm					
	Diameter for Both End x Length	φ15×15mm					
28) Balance Arbor for BW-360 unit							
29) Work light	LED						
30) Hydraulic & Lubrication Oil	Please use only Recommend Oil	4	6	8		9	
31) Special Color Painting	Color sample required						
32) Vertical type Rotary Dresser Unit	Spindle inverter unit is required						
33) Special Jigs for warped workpieces							