

**Okamoto**

Precision Surface Grinding Machine  
PSG/ACC-SA1 Series

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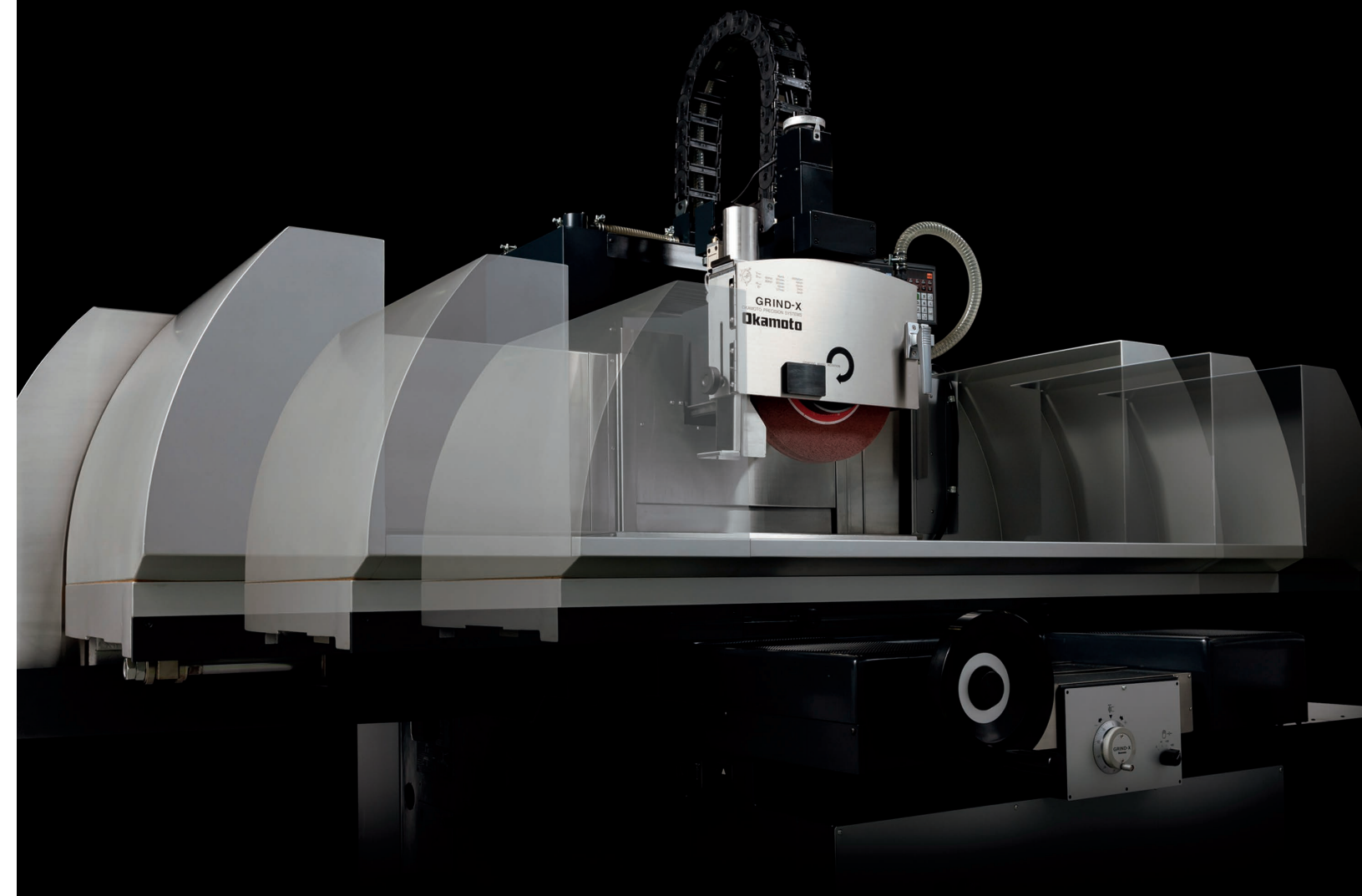


JQA-QMA10960



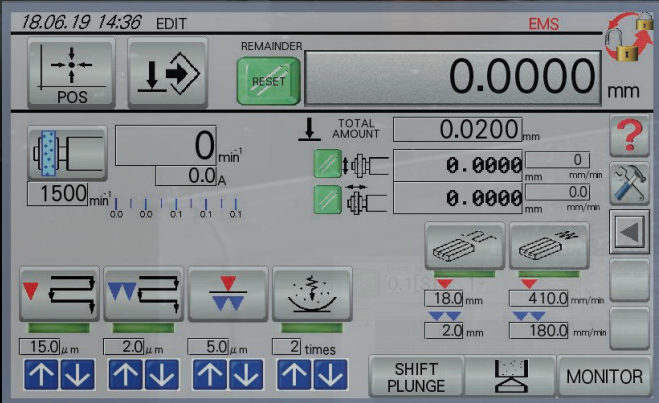
When and before using our products, you are requested to well go through the articles on danger, warning and attention for the sake of safety described in operation manual attached to the machine and also in the warning plates mounted on the machine.  
\*Specifications subject to change without notice.\*When 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.

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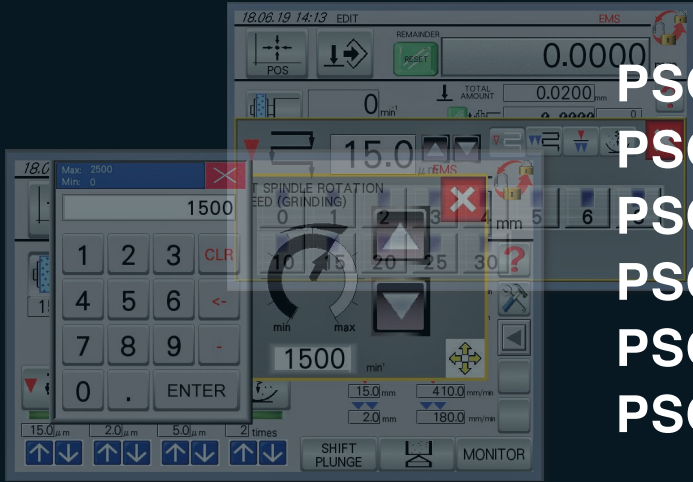


# Next Generation Standard Surface Grinder Series Equipped with A Newly Developed User Friendly Controller



Lineup of The Precision Surface Grinding Machine  
PSG/ACC - SA1 Series

	Chuck size (mm)
PSG/ACC52SA1	500 × 200
PSG/ACC63SA1	600 × 300
PSG/ACC64SA1	600 × 400
PSG/ACC65SA1	600 × 500
PSG/ACC84SA1	800 × 400
PSG/ACC105SA1	1000 × 500



## Precision Surface Grinding Machine PSG/ACC-SA1 Series

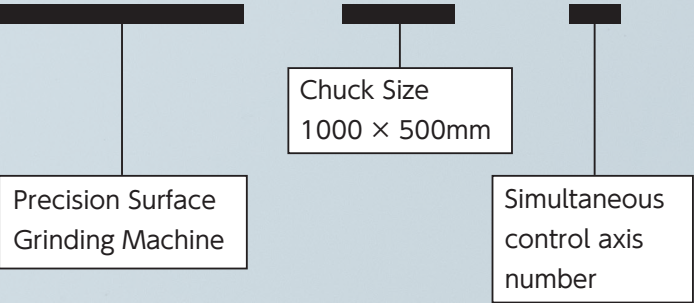
### FEATURE

- Best Machine For Replacement of PSG/ACC-DX Series
- Position Teaching system for Crossfeed stroke
- Compact Footprint Design
- New Control Allows For Easy Monitoring Of Different Information and LCD Touch Screen
- Auto Dress with Compensation is Standard
- Spindle Inverter Unit is Standard
- Auto-Retract Function is Standard

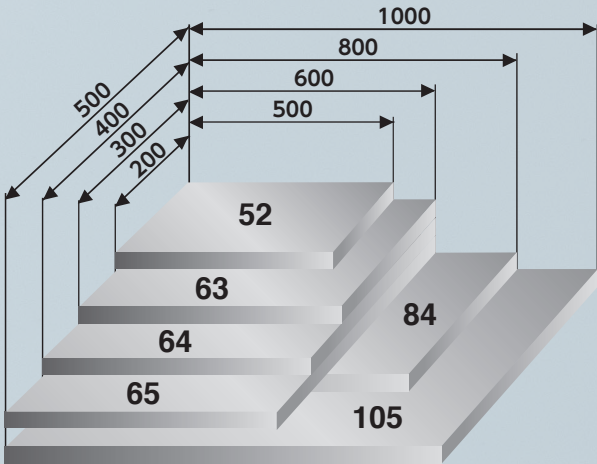


PSG64SA1(Stainless steel cover is Option)

## PSG/ACC 105 SA1



### Magnetic Chuck Work Area





# With More capability and reliable new controller, makes it easy to operate the machine

## Quality1 Saddle Typ Construction for PSG/ACC-SA1 Series

Compact footprint design and replacement of DX Series Ready to use machine, with easy operation

### Stabilizing Accuracy

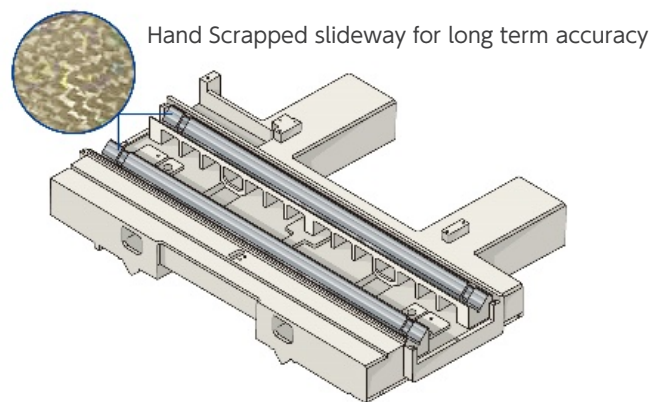
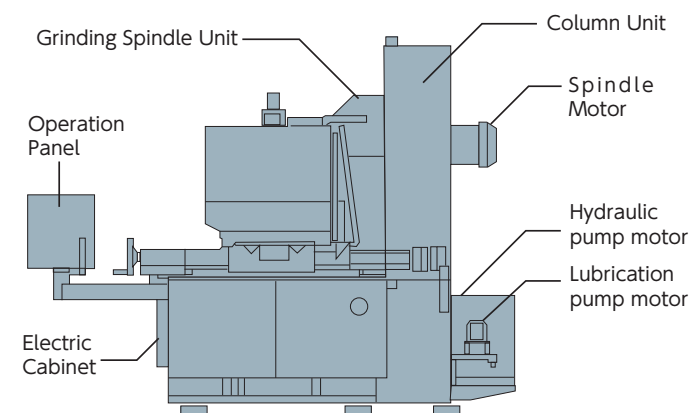
- Utilizes AC servo motor for Vertical & Crossfeed movement
- M.P.G. handle on each axis for simplified and convenience use for the operator  
Manual feed for Crossfeed X 1, X10, X50, for Vertical feed is X0.1, X1, X10



## Quality2 Ease of Operation in the Grinding Machine

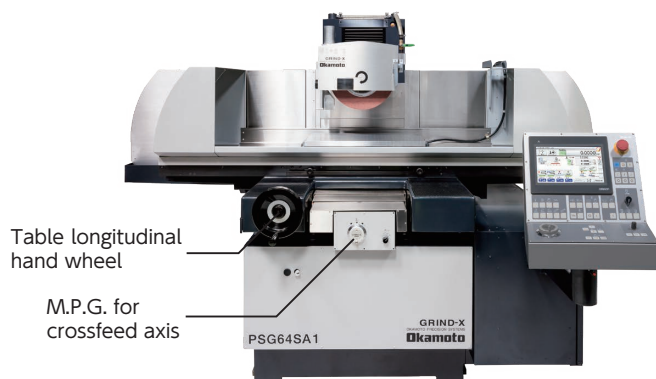
### Mechanical structure

- Ergonomic design with easy to Operation from many different positions



### Feature of Construction

- Eliminate Lever handle from Frame front, concentrate onto operation panel for easy operate



## Quality3 More simply operation with New controller

Utilizing the Large LCD Touch Screen Display Auto grinding cycle, Auto dress with compensation function, Shift plunge grinding mode, Self-diagnostic function had been installing

### Easy to use Operational panel

- Utilizing 10 inch color LCD monitor
- More less select switch, bottom which transfer to Touch panel

### Automatic Grinding Mode and Manual Grinding Mode

- Okamoto's control system simplifies the grinder's fully automatic cycle
- Manual grinding mode can be used to simulate a manual machine

M.P.G. hand wheel for Vertical axis

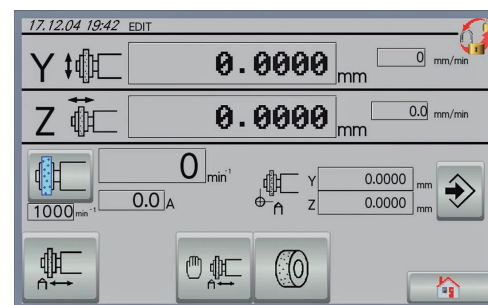


## Quality4 Simplified operation to take advantage of many functions of the New control

Includes Automatic dress with compensation and Shift Plunge Cycle

### Automatic dress with compensation function New Function

- Automatic dress with compensation function is standard using the Table mounted dresser  
Separate Setting Coarse or Fine dress amount and speed  
Multiple Dress cycle can be set with interval in Coarse grinding mode
- Dress counter is also available as an option (OP)



Dress Parameters set up screen

### Grinding parameters are stored for up to 10 programs (OP) New Function

- Grinding conditions recorded as Max. 10 recipe and call back (OP)

### Shift Plunge Cycle New Function

- Shift plunge Cycle for Coarse grinding mode  
Step shift movement for plunge grinding
- Shift plunge is 30% faster than traverse grinding

### Display Alarm New Function

- Report function displays alarm, helping improve maintenance
- Alarm display, allows for easy and quick solution

### Tracking of total working hours, Cycle counter New Function

- Tracking Power ON hours, Spindle ON hours can be monitoring(OP)  
Also available is a cycle counter for calculate completed workpiece (OP)



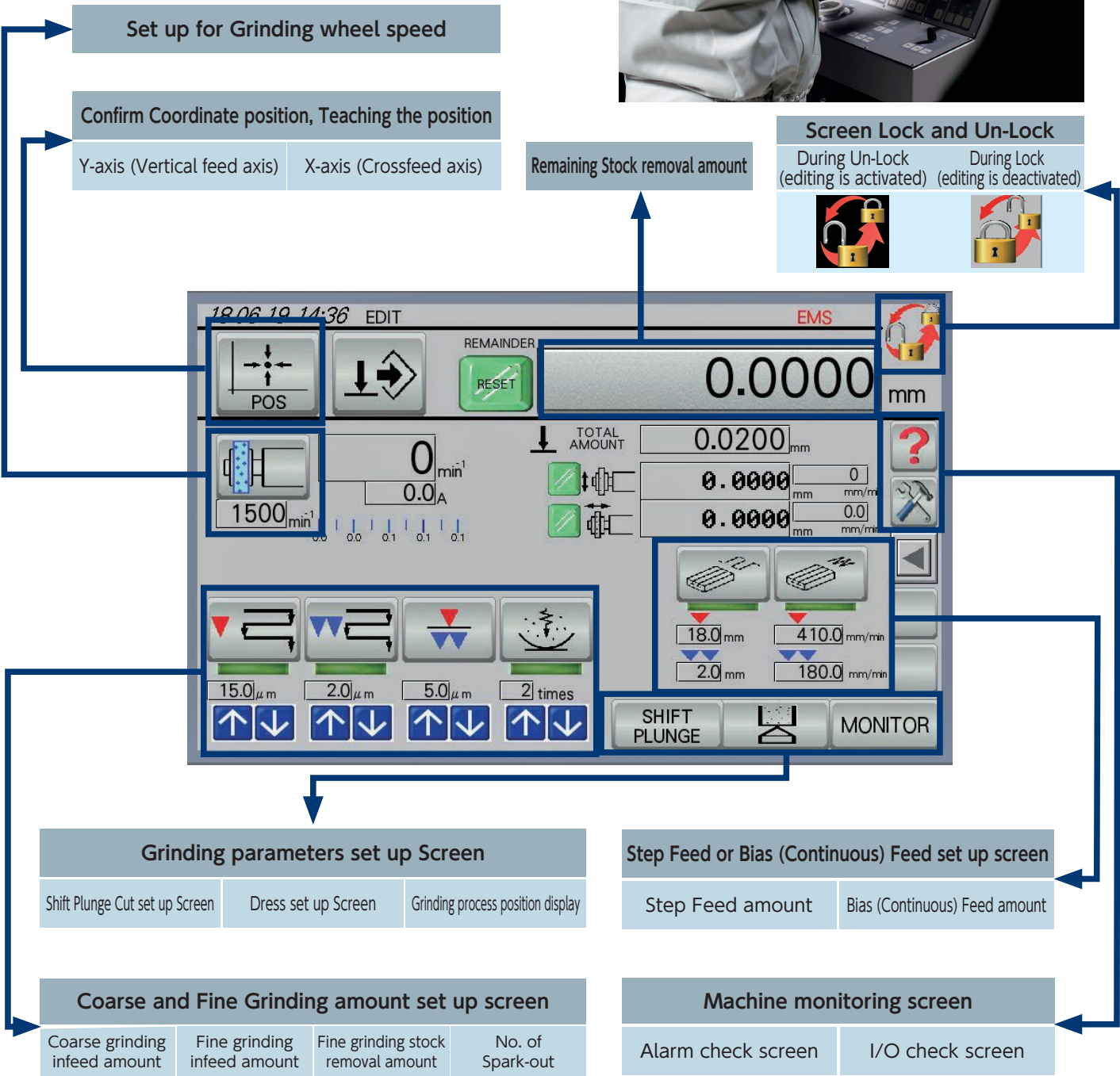
# LCD Touch Screen Display

## Simplified & Efficient new control system

SOFTWARE

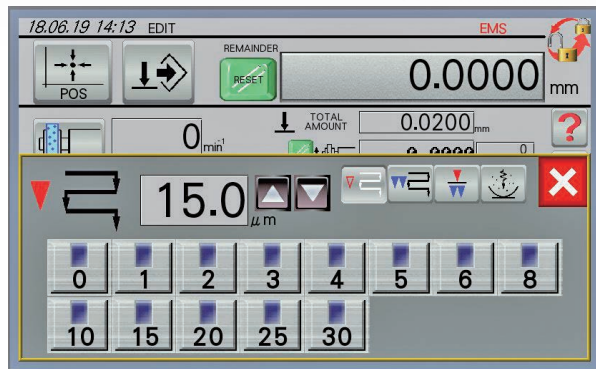
### Explanation for Operation screens

- Utilizes a Color LCD display for Easy Operation
- All grinding parameters can be set up on Screen
- Process position can be monitoring during grinding cycle



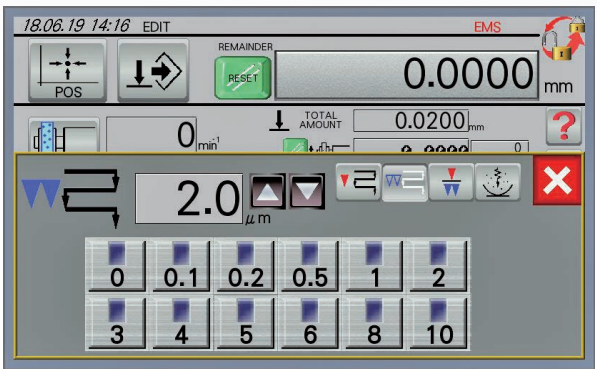
## Various Grinding Condition Set up Screen

### Coarse/Fine grinding infeed set up screen



#### Coarse grinding infeed set up screen

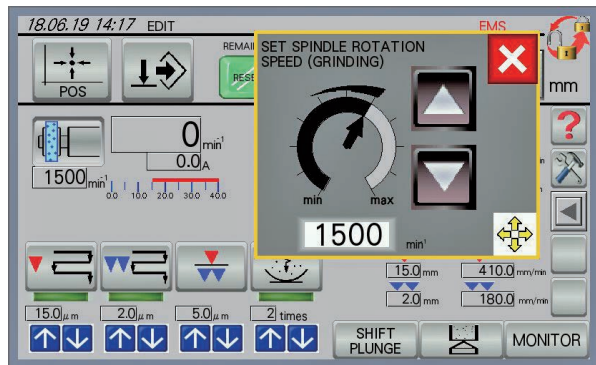
- Select your needed infeed amount or push



#### Fine grinding infeed set up screen

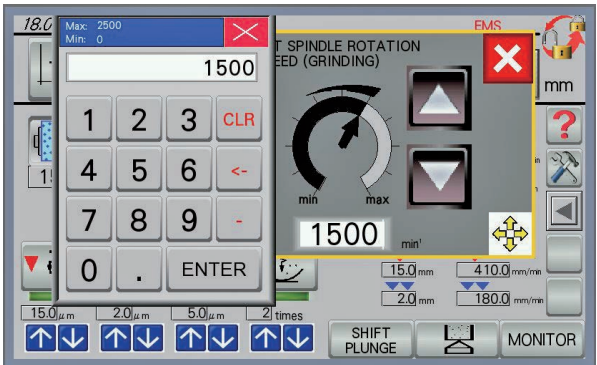
- Select your needed infeed amount or push

### Grinding wheel rotation speed set up screen



#### Setting the speed with dial

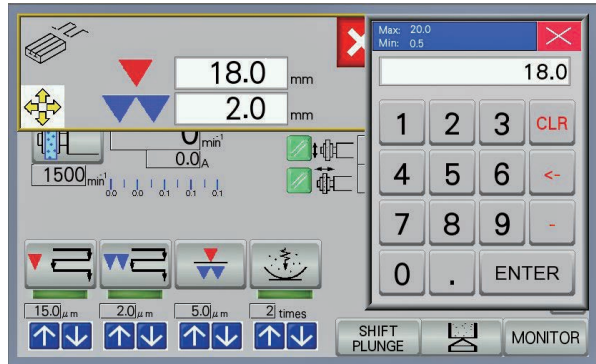
- Press grinding spindle icon, to open set up widows



#### Setting the speed with numeric keypad

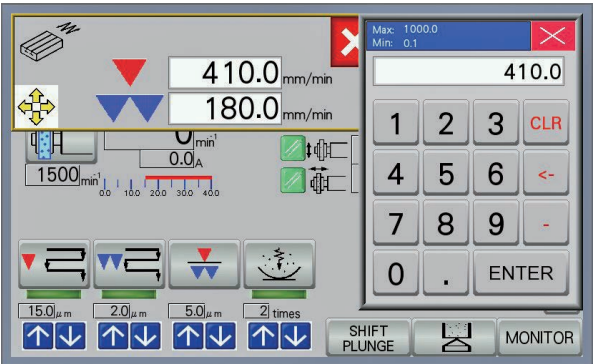
- push rpm value widows for numeric keypad to pop up and enter desired value

### Step feed or Bias (continuous) feed set up screen



#### Set up screen for Step feed amount

- Set up step amount for Coarse & Fine grinding separately



#### Set up screen for Bias (continuous) feed amount

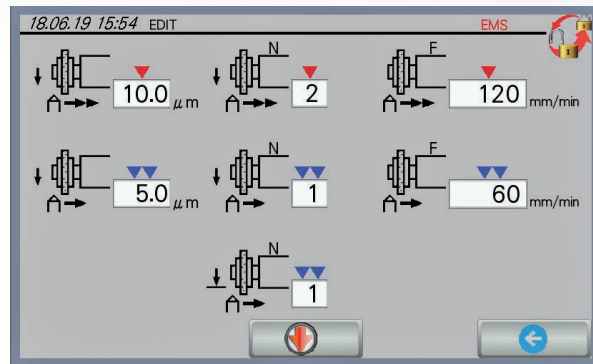
- Set up Bias (continuous) feed amount for Coarse & Fine separately



## SOFT WARE

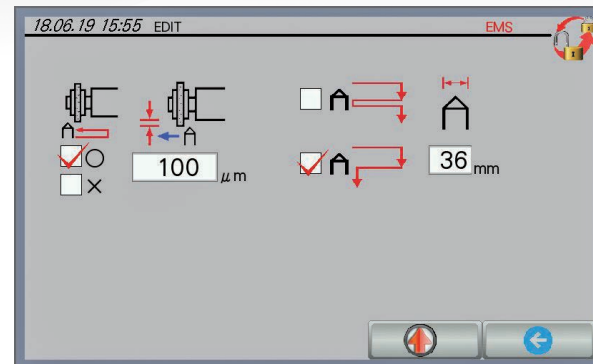
### Versatile software helping the machine run more Automation

#### Dress set up screen



#### Automatic dress with compensation function - ①

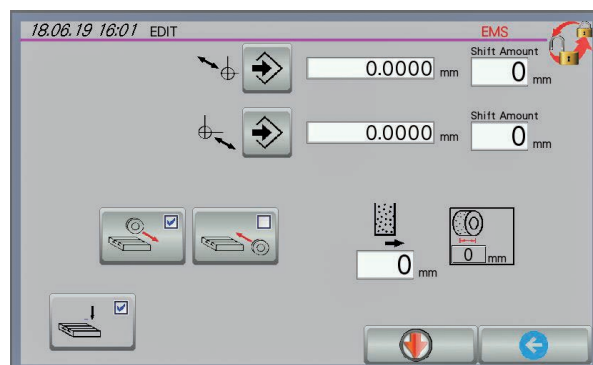
- Coarse & Fine dress set up separately



#### Automatic dress with compensation function - ②

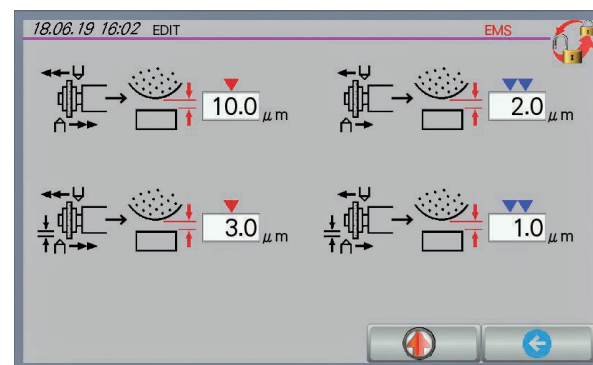
- Set up Initial dress, dress interval & dress infeed method

#### Shift plunge function



#### Shift plunge parameter - ①

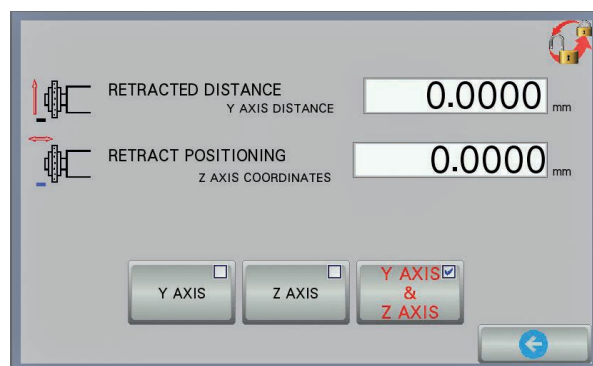
- Set up shift amount



#### Shift plunge parameter - ②

- Set up Air cut amount & Interval

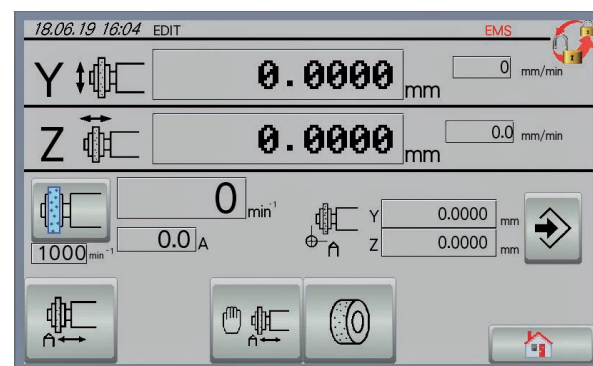
#### Retract function



#### Set up retract amount for Vertical & Cross feed

- Retract function is standard on the machine
- By touching value windows, numeric keypads will pop up

#### Automatic dress function



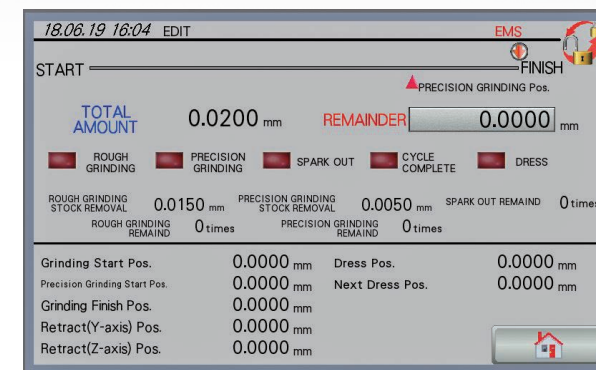
- To move for dresser screen, Table dress, Overhead dresser (OP), Manual table dress or Overhead dresser (OP)
- Grinding wheel set up including wheel width and wheel wear compensation amount

## Grinding process information is easily managed on the screen

## SOFT WARE

### Moving for more Visible process

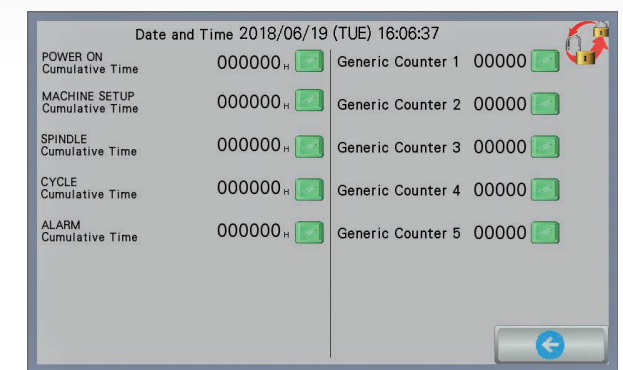
#### Monitoring screen whole grinding process



#### Check grinding process over all

- Capable of checking current grinding process until reach the size, cycle position and retract position on one screen

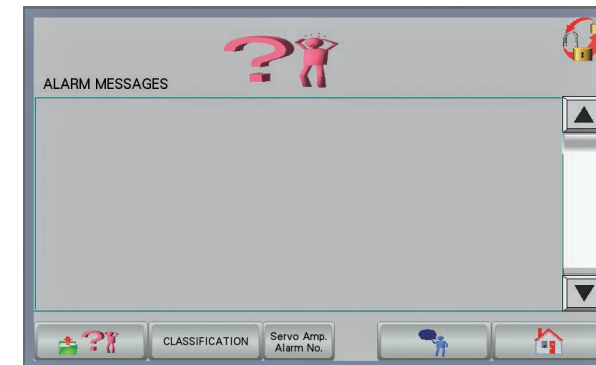
#### Measurement for accumulation



#### Make up for every information

- Count for completed parts by cycle counter (OP)

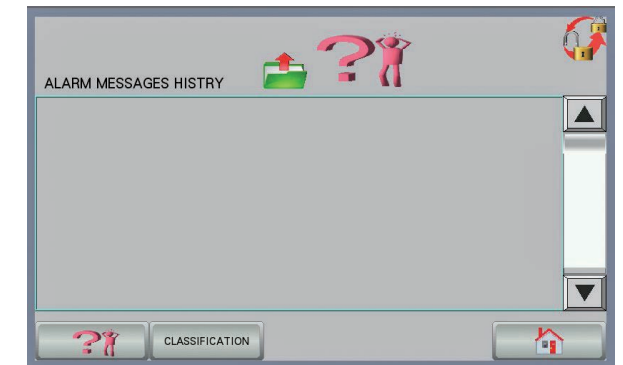
#### Alarm monitoring screen



#### Alarm monitoring screen

- Details of alarm displayed on screen immediately and manage to necessary action
- All alarms recorded on the list

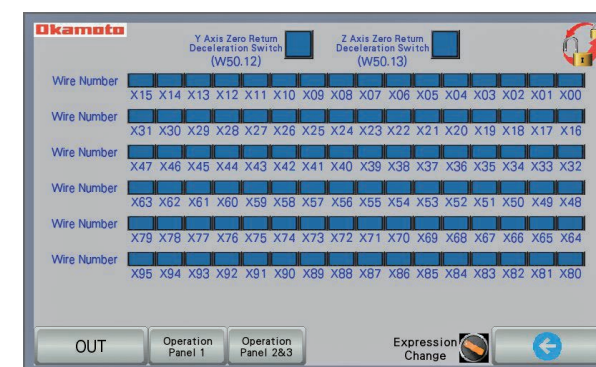
#### Alarm history management



#### Alarm history management screen

- Possible to monitor alarm history
- Identify mechanical error or data error

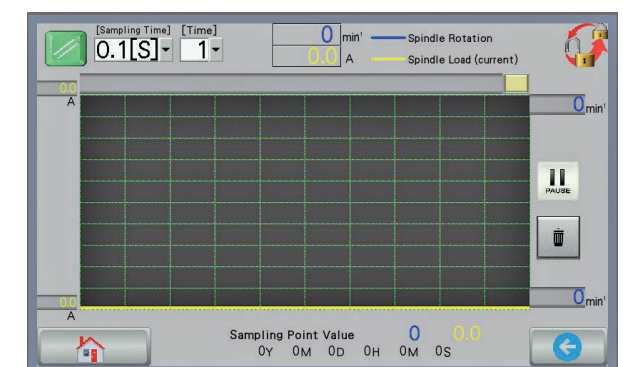
#### Self diagnostics screen (I/O check)



#### Self diagnostics screen

- When the machine has an alarm, the corresponding part in wire number

#### Spindle Load monitoring screen



#### Spindle Load Monitoring

- Spindle rotation speed and Load monitoring
- Check spindle load and decide for suitable infeed amount



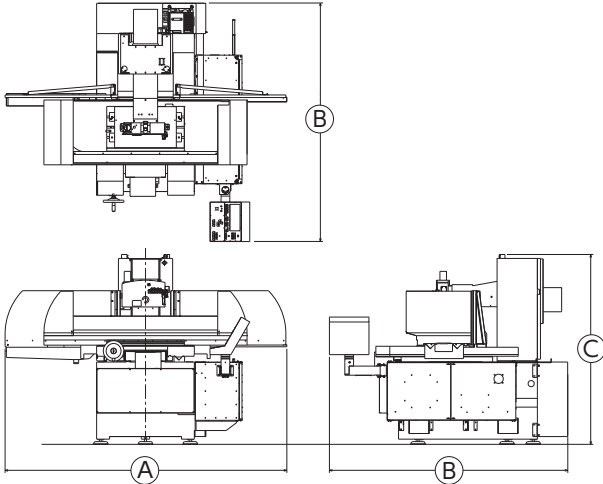
SPECIFICATIONS

Items				52SA1	63SA1	64SA1	65SA1	84SA1	105SA1
Capacity	Table Working Capacity		mm	505×200	605×300	605×400	610×500	805×400	1016×500
	Max. Table Travel		mm	650×230	750×340	750×440	750×540	950×440	1150×540
	Distance from Table Top to Wheel under sideStandard Chuck size		mm	47.5~397.5	22.5~322.5	22.5~322.5	22.5~522.5	22.5~522.5	22.5~522.5
	Table Load capacity (include chuck)		mm	500×200×75	600×300×75	600×400×85	600×500×100	800×400×85	1000×500×100
	Table Load capacity (include chuck)		Kg	200	420	420	700	700	700
Longitudinal Feed (X axis)	T-Slot (Width x No.)		—	—					
	Longitudinal Feed Rate (Average)		m/min	0.3~25					
VERTICAL FEED (Y-AXIS)	Manual Feed	Hand Feed per Revolution	mm	0.01/0.1/1.0					
		Graduation of Hand Feed	mm	0.0001/0.001/0.01					
	Automatic Feed Rate (Plunge & Traverse)	Coarse Grinding	mm	0.0001~0.03					
		Fine Grinding	mm	0.0001~0.03					
	No. of Spark-out		No.	0~10					
	Vertical Rapid Feed		mm/min	1~600					
Cross Feed (Z axis)	Manual Feed Rate	Hand Feed per Revolution	mm	0.1/1.0/5.0					
		Graduation of Hand Feed	mm	0.001/0.01/0.05					
	Automatic Feed Rate	Intermittent Feed	mm	0.5 ~ 15	0.5 ~ 20	0.5 ~ 20	0.5 ~ 20	0.5 ~ 20	0.5 ~ 20
		Continuous Feed Rate	mm/min	0.1 ~ 1000					
Grinding Wheel	Diameter x Width x Bore		mm	φ205×19×φ50.8	φ 355 × 38 × φ 127				
	Speed		min-1	1000~3600	200 ~ 2500	200 ~ 2500	200 ~ 2500	200 ~ 2500	200 ~ 2500
Motors	Grinding Wheel Spindle		kW/P	2.2/2	3.7/4				
	Hydraulic Oil Pump		kW/P	0.75/2	1.5		2.2		
	Vertical Feed		kW	0.4	0.4				
	Cross Feed		kW	0.75	0.75				
Power Supply			KVA	8	11	11	14	14	14
Floor Space	Width x Depth x 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

\* Above Floor Space does not including Coolant tank unit

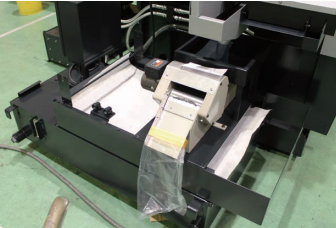
Machine External View

Floor Space (mm)			
	A	B	C
PSG/ACC-52SA1	2,430	1,920	1,845
PSG/ACC-63SA1	2,740	2,120	1,845
PSG/ACC-64SA1	2,740	2,330	1,845
PSG/ACC-65SA1	2,740	2,520	2,110
PSG/ACC-84SA1	3,325	2,330	2,165
PSG/ACC-105SA1	4,320	2,550	2,110

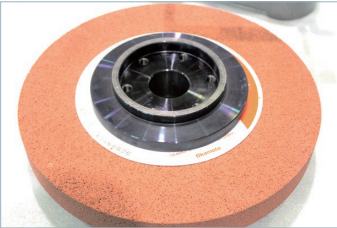


Standard Accessories

Standard Accessories (52SA1・63・64・65・84・105SA1)		
Sample Grinding Wheel	Automatic Demagnetizing Chuck Controller	Necessary tool with Tool Box
Automatic Dress Function	Automatic Grinding Cycle Monitoring Function	Circuit Breaker
Leveling Bolts with Plates	Table mount Dresser Unit	Spindle invertor
Grinding Wheel Adaptor	Shift Plunge function	Vertical & Cross feed retract function



Coolant systems



Wheel adaptor



Grinding wheel balancing unit



Micro balancing unit

Optional Accessories

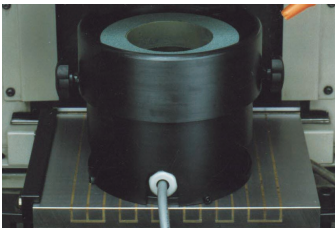
Items		Specification		52SA1	63SA1	64SA1	65SA1	84SA1	105SA1
1	Coolant and Dust suction system with mag. Separator	Tank capacity	40 ℓ	○			—		
		Coolant motor	40W/2P						
		Dust suction motor	400W/2P						
		Mag. Separator capacity	20 ℓ /min						
2	Coolant and Dust suction system with mag. Separator	Tank capacity	120 ℓ	—			○		
		Coolant motor	60W/2P						
		Dust suction motor	400W/2P						
		Mag. Separator capacity	40 ℓ /min						
3	Coolant system with mag. Separator &Paper filter unit	Tank capacity	120 ℓ	—			○		
		Mag. Separator capacity	20 ℓ /min						
		Paper filter size	500mm x 100m						
4	Manual type Overhead dresser unit	Max. stroke	35mm	○			—		
		Max. wheel width	25mm						
5	Hydraulic type Overhead dresser unit	Max. stroke	35mm	○			—		
		Max. wheel width	25mm						
6	Manual type Overhead dresser unit	Max. stroke	60mm	—	○		—		
		Max. wheel width	50mm						
7	Hydraulic type Overhead dresser unit	Max. stroke	70mm	—			○		
		Max. wheel width	50mm						
8	Hydraulic type Overhead dresser unit with dress compensation function	No. of Dress	0~9				○		
		Wheel wear compensation amount	0~99 μ m						
		Dress interval amount	0~990 μ m						
9	Mist collector	Including Mounting base					○		
10	Digital scale	Min. display unit	0.001mm				○		
11	Electro-magnetic chuck						○		
12	Oil cooling type Electro-Magnetic Chuck						○		
13	Electro-Permanent Chuck & Chuck controller						○		
14	Oil cooled wheel head	[Pump] [Oil Temperature Regulator] are required					○		
15	Spindle motor power up						○		
16	Cooling fan for Hydraulic oil						○		
17	Temperature regulator						○		
18	Hi Accuracy Slide way adjustment for Vertical slide								
19	High Column Specification	200mm extend Vertical Stroke		—	○			—	
20	Spare wheel adaptor	Max. wheel width	25mm	○			—		
		Flange diameter	φ 111						
21	Spare wheel adaptor	Max. wheel width	38mm	—			○		
		Flange diameter	φ 175						
22	Micro balancing unit	Auto guidance system					○		
23	Wheel adaptor for Micro balancing unit	Exclusive balance piece					○		
24	Grinding wheel balancer unit (BW-260 type) with an arbor	Max. wheel diameter	φ 260x75mm	○			—		
25	Balance arbor for BW-260 unit	Length	178mm	○			—		
		Both sides diameter x Length	φ 15 x 15mm						
26	Grinding wheel balancer unit (BW-360 type) with an arbor	Max. wheel diameter	φ 360 x 75mm	—			○		
27	Balance arbor for BW-360 unit	Length	178mm	—			○		
		Both sides diameter x Length	φ 15 x 15mm						
28	Work light (LED type)	LED light					○		
29	Hydraulic oil	Please use recommend oil only (1 can / 20 Liters)		4 缶	6 缶	8 缶		9 缶	
30	Custom painting color for machine	Please supply specific Munsel Number or Color sample					○		
31	Vertical type Rotary Dresser Unit						○		
32	Special Jigs for warpedwork pieces (SG Master)	There are 3-type depend on chuck pole division					○		
33	3-color type signal light	RED/YELLOW/GREEN					○		
34	Program storage and call up function	Max.10 programs					○		
35	Special Counter	Max.5-counter					○		
36	Machine total run time function						○		
37	Auto power off after cycle complete						○		
38	Table enclosure (open top type)						○		
39	Table enclosure						○		



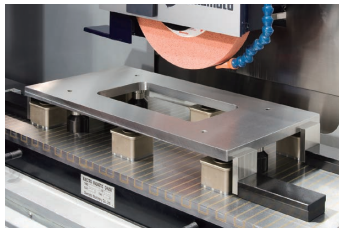
Digital scale unit (Vertical axis)



Overhead dresser unit



Vertical type Rotary Dresser unit



Special Jigs for warped workpiece (SG Master)