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AVEMAX 2021.04



Precision Surface Grinding Machine guide 2021

SG-1020AD SG-3060AD

Semi-Auto Surface Grinding Machine

SG-1020AD



- Easy operation no needs calculation.
- Rough and fine feed two phase processing ensures high precision.
- Zero set and zero return are available for easy handing, just press the return key to original start point.
- Even if the vertical head is moved or modified from the current position, original feed setting won't be affected.
- Automatic transverse and deep plunge cycles available.
- Two plunge mode feed selections: Left side or dual side.
- Minimum increment 0.001 mm.
- SG-618AD/820AD vertical control used stepping motor; SG-1020AD/3060AD used servo motor.

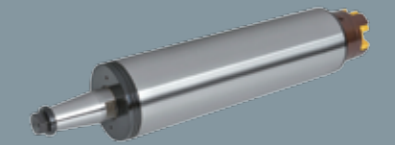
SG-3060AD



Operational Panel

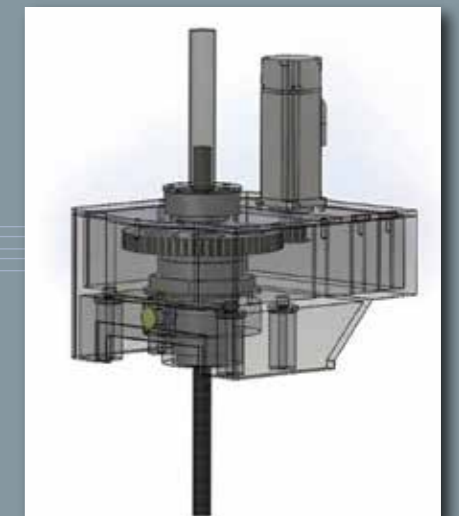


SG-618AD

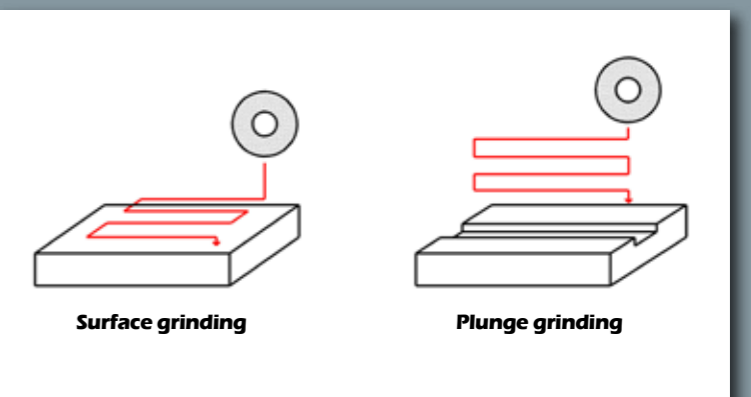
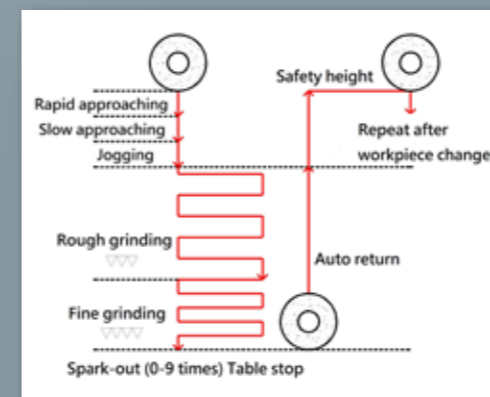


Precision Spindle

The low maintenance precision cartridge spindle is well lubricated and uses NSK P4 high precision bearings ensuring a spindle run out accuracy of 0.002mm. The sealed and waterproof design also provide excellent durability and machining accuracy.



Lifting mechanism with a servo motor, drive more precise.



SG-618M SG-618/820

Manual Surface Grinding Machine / Semi-Auto Surface Grinding Machine



SG-618M

- All casting pieces are made in Taiwan with the annealing treatment to enhance high rigidity and stability in grinding.
- Double V slideways are precision hand scraped and coated with Turcite-B for smooth movement and stability.
- Standard auto-lube system provides lubrication on all slideways.
- The spindle is coupled directly with motor which ensures high spindle run out providing a precision grinding.



SG-820A2

Table feeding adjustment lever

Level	Function
M	Manual surface grinding
A1	Hydraulic table
A2	1A+ Motorized cross feed
A3	2A+ Power rapid vertical feed



ACCESSORIES



Permanent Chuck



Tool Box & Tool Kit



Tool Box & Tool Kit



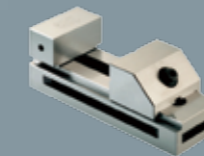
Permanent Magnetic Chuck



Auto Balancing Device



DRO & Linear Scale



Tool Vise



Wheel Flange



Parallel Dresser



Dust Suction & Coolant System



Dust Suction System



Coolant System



Coolant System With Auto Paper Filter & Magnetic Separator



Wheel Inverter

Standard

- Work Light
- Wheel Balancing Arbor
- Grinding Wheel With Flange
- Flange Extractor
- Wheel Dresser With Diamond
- Leveling Screw & Plate
- Tool Box & Tools
- Operation Manual

Optional

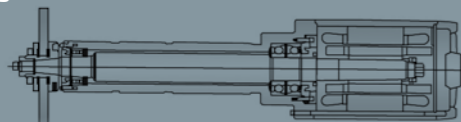
- Permanent/ Electro Magnetic Chuck
- Punch Former
- Inclined Permanent Magnetic Chuck
- Precision Vise
- Parallel Dressing Attachments
- LED Work Light
- Dust Suction System
- Magnetic Separator Filter
- Radius Dressing Device
- Paper Filter W/ Coolant System
- Demagnetizer
- Coolant System With Auto Paper Filter
- Coolant System W/ Splash Guard And Magnetic Separator
- Coolant System & Dust Unit W/ Splash Guard
- DRO & Linear Scale
- Wheel Inverter
- Wheel Balance Stand
- CBN/ Diamond Dresser
- Grinding Wheel Flange
- Auto Balancing Device
- Vertical MPG Microfeed Device

SG-618 /SG-820 Surface Grinding Machine

Specification	Unit	SG-618M	SG-618A1 SG-618A3	SG-618A2 SG-618AD	SG-820A1 SG-820A3	SG-820A2 SG-820AD
General Capacity						
Max. Grinding surface	mm	150 x 450	150 x 450		200 x 500	
Max. Distance center of spindle to table	mm	420 / 460(Opt.)	410 / 460(Opt.)			
Table						
Max. Table travel	mm	176 x 480	180 x 485		230 x 530	
Table size	mm	150 x 460	150 x 457		200 x 500	
Table guideway	Type	V & Flat way	V & Flat way			
Table speed	m/min	Nil	3~25			
Number x T-slot size	N x mm	1 x 18	1 x 18			
Cross Feed Movement						
Handfeed (per rev.)	mm	5	5			
Handfeed (per gra.)	mm	0.02	0.02			
Rapid power (Approx.) (A2,A3)	mm/min	Nil	1100(60Hz) / 900(50Hz)			
Increment (Approx.)	mm	Nil	0.15 ~ 7.5			
Microfeed (per gra.)/ Opt.	mm	Nil	0.002			
Vertical Downfeed						
Handfeed (per rev.)	mm	1	1			
Handfeed (per gra.)	mm/min	0.005	0.005			
Rapid power (Approx.) (A3)	mm/min	Nil	220(60Hz)			
MPG Micro feed/ Opt.	mm	Nil	{x1}0.001 / {x5}0.005 / {x10}0.01			
Auto. Downfeed (AD series)						
Feed rate (Coarse/ Fine)	mm	Nil	0.001~0.099			
Total stock removal	mm	Nil	0.001~999.999			
Fine feed stock removal	mm	Nil	0.001			
Spark out	passes	Nil	0~9			
Grinding Wheel						
Wheel dimensions (Dia. x Width x Bore)	mm	Ø180 x 13 x Ø31.75				
Wheel speed / spindle speed	RPM	2850 / 3450				
Motor						
Spindle motor	HP-P	1.5	1.5	2		
Cross feed	W	Nil	25		40	
Vertical feed (A3/AD series)	W	Nil	25(A3) / 400(AD)			
Hydraulic	HP-P	Nil	1-6			
Net/ Gross weight	Kgs	780 / 870	850 / 950(AD)		920 / 1020(AD)	
Packing size (LxWxH)	mm	1450 x 1100 x 2100	1700 x 1150 x 2100 1900 x 1500 x 2100(AD)		1720 x 1250 x 2100 1900 x 1500 x 2100(AD)	

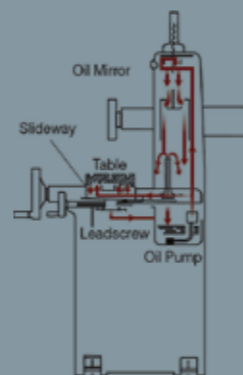
Precision Grinding Spindle

is coupled directly with V-3 motor which ensures spindle run out accuracy of 0.002mm. The precision cartridge spindle, greased & maintenance free incorporates preloaded class (P4) super precision angular contact ball bearings for heavy grinding.



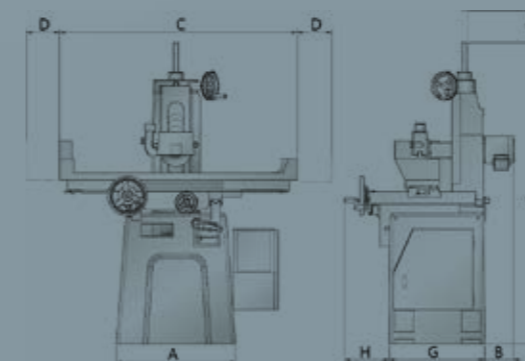
Standard auto-lube system

Standard auto-lube system provides ample lubrication on all slideways, lead screws and nuts. Lubricating oil is filtered and recycled, smooth movement and minimize wear and tear.



SG-1020AD/SG-3060AD Surface Grinding Machine

Specification	Unit	SG-1020AD	SG-3060AD
General Capacity			
Max. Grinding surface	mm	250 x 500	300 x 600
Max. Distance center of spindle to table	mm	510	
Table			
Max. Table travel	mm	300 x 580	340 x 700
Table size	mm	250 x 500	300 x 600
Table guideway	Type	V & Flat way	
Table speed	m/min	5~25	
Number x T-slot size	N x mm	1 x 13	
Cross Feed Movement			
Handfeed (per rev.)	mm	4	
Handfeed (per gra.)	mm	0.02	
Rapid power (Approx.) (A2,A3)	mm/min	1100(60Hz) / 900(50Hz)	
Increment (Approx.)	mm	0.15 ~ 7.5	
Microfeed (per gra.)/ Opt.	mm	-	
Vertical Downfeed			
Handfeed (per rev.)	mm	2	
Handfeed (per gra.)	mm/min	0.005	
Rapid power (Approx.) (A3)	mm/min	200(60Hz)	
MPG Micro feed/ Opt.	mm	{x1}0.001 / {x5}0.005 / {x10}0.01	
Auto. Downfeed (AD series)			
Feed rate (Coarse/ Fine)	mm	0.001~0.099	
Total stock removal	mm	0.001~999.999	
Fine feed stock removal	mm	0.001	
Spark out	passes	0~9	
Grinding Wheel			
Wheel dimensions (Dia. x Width x Bore)	mm	Ø180 x 13 x Ø31.75	Ø355 x 37.5 x Ø127
Wheel speed / spindle speed	RPM	2850 / 3450	1450 / 1750
Motor			
Spindle motor	HP-P	3	5
Cross feed	W	40	80
Vertical feed (A3/AD series)	W	80(A3) / 400(AD)	
Hydraulic	HP-P	1-6	
Net/ Gross weight	Kgs	1350	1650
Packing size (LxWxH)	mm	1800 x 1600 x 2100	2200 x 1900 x 2100



Model	Unit	618M	618/820	1020	3060
A		760	760	760	760
B		180	500	80	240
C		1210	1510	1700	1890
D		238	265	300	320
E		1800	1900	1820	1820
F		200	200	-	-
G		600	600	1020	1060
H		400	475	460	512

MRG-200/300/400NC

Auto Precision Rotary Surface Grinding Machine

MRG-200NC

- We provide kinds of information for different parts and material
- MRG-400NC standard with auto velocity when the table moving.
- Double V way with hand scrape, provide the accuracy and stable
- Precision spindle with V3 low vibration motor.
- MRG-400NC working with auto lubrication system



MRG-300NC



Easy and friendly operation interface



MRG-400NC



Auto Precision Rotary Surface Grinding Machine

Specification	Unit	MRG-200NC	MRG-300NC	MRG-400NC
General Capacity				
Max. Grinding radius	mm	125	175	200
Max. Height of spindle center to chuck surface	mm	220	420	400
Rotary Table				
Table size	mm	200	300	400
Max. Speed of rotary magnetic chuck	RPM	200	200	200
Power	KW	0.4	0.75	1
Vertical Downfeed				
Rapid feed	mm/min	230	230	230
Vertical MPG per revolution	mm	0.01 (MPG)	0.01 (MPG)	0.01 (MPG)
Vertical MPG per graduation	mm	{x1}0.001 / {x5}0.005 / {x10}0.01		
Vertical servo motor	W	400	400	400
Cross Feed				
Cross feed servo motor	W	400	750	750
Grinding Wheel				
Wheel size (Dia x Width x Bore)	mm	Ø205 x 13 x Ø31.75	Ø205 x 13 x Ø31.75	Ø355 x 38 x Ø127
Spindle motor	HP	2	3	5
Grinding wheel speed (50/60Hz)	RPM	2850 / 3450	2850 / 3450	1450 / 1750
Packing Size				
Net/ Gross weight	Kgs	1000 / 1200	1400 / 1600	1650 / 1800
Packing size (L x W x H)	cm	140 x 120 x 210	160 x 160 x 210	180 x 160 x 210

★ We reserve the right to modify and improve the specifications without any prior notice. The specifications shown above are for reference only

MRG-200/300M

Semi-Auto Precision Rotary Surface Grinding Machine



Grindable height was designed

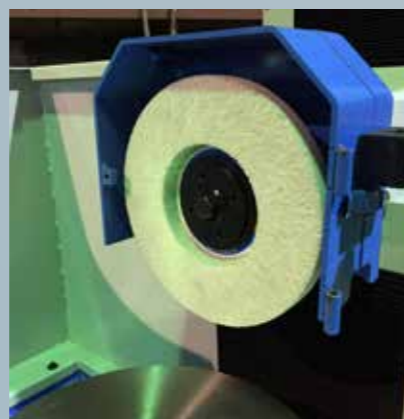


Spacious working space and good drainage system



Machining kinds of spacer rings and spindle parts can greatly improve operational efficiency

Handfeed and auto continuous in cross axis, and vertical feed by servo motor with MPG handwheel.



The inner end of the retractable spindle nose is designed with a special grinding wheel for easy parallel grinding

Semi-Auto Precision Rotary Surface Grinding Machine

Specification	Unit	MRG-200M	MRG-300M
General Capacity			
Max. Grinding radius	mm	125	175
Max. Height of spindle center to chuck surface	mm	300	420
Rotary Table			
Table size	mm	200	300
Max. Speed of rotary magnetic chuck	RPM	120	120
Power	W	75	120
Vertical Downfeed			
Rapid feed	mm/min	230	230
Vertical MPG per revolution	mm	0.01 (MPG)	0.01 (MPG)
Vertical MPG per graduation	mm	(x1)0.001 / (x5)0.005 / (x10)0.01	(x1)0.001 / (x5)0.005 / (x10)0.01
Power	W	400	400
Cross Feed			
Rapid feed	mm/min	Nil	1200
Cross MPG per revolution	mm	5	5
Cross MPG per graduation	mm	0.02	0.02
Power	W	Nil	80
Grinding Wheel			
Wheel size (Dia x Width x Bore)	mm	Ø205 x 13 x Ø31.75	Ø355 x 38 x Ø127
Spindle motor	HP	2	5
Grinding wheel speed (50/60Hz)	RPM	2850 / 3450	1450 / 1750
Packing Size			
Net/ Gross weight	Kgs	1000 / 1200	1400 / 1600
Packing size (L x W x H)	cm	140 x 120 x 210	160 x 160 x 210

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Standard

- Grinding Wheel With Flange
- Wheel Balancing Arbor
- Working Lamp
- Flange Extractor
- Wheel Dresser With Diamond
- Leveling Screw & Plate
- Tool box & Tools
- Operation Manual

Optional

- Permanent/ Electro Magnetic Chuck
- Magnetic Separator Filter
- Parallel Dressing Attachments
- Magnetic Separator Filter
- Demagnetizer
- Paper Filter
- Coolant System W/ Splash Guard
- Coolant System with Auto Paper Filter & Magnetic Separator
- Coolant System & Dust Unit W/ Splash Guard
- Dust Suction System
- Wheel Balancing Base
- DRO & Linear Scale
- Grinding Wheel Flange
- Wheel Inverter
- Vertical MPG Microfeed Device
- LED Working Lamp

SG-3060NC SG-3060CNC

Surface Grinding Machine



Precision Spindle

The precision spindle is standard with super-high precision bearing which assures superior quality of grinding.

Total feed amount and machining condition settings are directly entered through value. No calculation is required for easy operation.

- Selection of single or double sides feeding for plunge grinding.
- After machining finished the operator may select below conditions:
 1. The machine does not stop but the warning lamp flashing.
 2. The table stops at right side and the machine stops.



- Rough and fine feed two phase processing and spark out grinding to ensures high precision.
- The spindle position was permitted zero setting at any position.
- Featuring zero position return function. Once the spindle moves, simply press the zero return key for returning to zero position.
- The spindle feed provides 4 modes :
 1. Rapid traverse
 2. Low speed feed
 3. Micrometric feed
 4. MPG feed : feed rate includes 1u · 5u · 10u

Surface Grinding Machine

Specification	Unit	SG-3060NC	SG-3060CNC
General Capacity			
Overall table working area	mm	300x600	300x600
Max. Distance from spindle center to table surface	mm	600	600
Table			
Max. Table travel	mm	360x780	360x780
Table size	mm	300x600	300x600
Table guideway	Type	— V — flat	— V — flat
Table speed (hydraulic tank)	m/min	0~25	0~25
Table speed (servo motor)	m/min	-	-
Number x T-slot size	N x mm	1 x 14	1 x 14
Cross Feed Movement			
MPG handfeed (per rev.)	mm	{x1}0.1 / {x10}1 / {x100}10	{x1}0.1 / {x10}1 / {x100}10
MPG handfeed (per gra)	mm	{x1}0.01 / {x10}0.1 / {x100}1	{x1}0.01 / {x10}0.1 / {x100}1
Rapid power (Approx.)	mm/min	0.1~10	0.1~10
Minimum input unit	mm	0.01	0.01
Vertical Feed Movement			
MPG handfeed (per rev.)	mm	{x1}0.01 / {x10}0.1 / {x100}1	{x1}0.01 / {x10}0.1 / {x100}1
MPG handfeed (per gra)	mm/min	{x1}0.001 / {x10}0.01 / {x100}0.1	{x1}0.001 / {x10}0.01 / {x100}0.1
Rapid power (Approx.)	m/min	0~3	0~3
Minimum input unit	mm	0.001	0.001
Auto. Downfeed			
Feed rate	mm	0.001~0.099	0.001~0.099
Total stock removal	mm	0.001~999.999	0.001~999.999
Fine feed stock removal	mm	0.001	0.001
Spark out	passes	0~9	0~9
Grinding Wheel			
Wheel dimension (Dia x Width x Bore)	mm	Ø355 x 38 x Ø127	Ø355 x 38 x Ø127
Spindle speed (50/60HZ)	rpm	1450 / 1750	1450 / 1750
Motor			
Spindle motor	HP-P	5-4	5-4
Cross servo motor	KW	0.75	1
Vertical servo motor	KW	0.75	0.75
Longitudinal servo motor	KW	Nil	Nil
Hydraulic motor	HP-P	2-4	2-4
Net weight	Kgs	2500	2500
Packing size (LxWxH)	mm	1800 x 2500 x 2200	1800 x 2500 x 2200

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SG-4080

Surface Grinding Machine

Conversational Operation Interface

- Bigger size of double-V groove designed on longitudinal and cross slide way provides great stability and rigidity.
- The vertical feed slide ways are equipped with high precision linear guide ways. This assures outstanding positioning accuracy and repeatability.
- The cross and vertical feed are driven by servo motor combined with precision ball screw for transmission. The longitudinal feed is driven by hydraulic tank.
- Widely spaced base slide ways provide solid support on the entire travel.
- Extra heavy duty column structure provides extremely rigid support for the grinding head.



Surface Grinding Machine

Specification	Unit	SG-4080NC	SG-4080CNC
General Capacity			
Overall table working area	mm	400x800	
Max. Distance from spindle center to table surface	mm	600	
Table			
Max. Table travel	mm	460x980	
Table size	mm	400x800	
Table guideway	Type	Double V	
Table speed (hydraulic tank)	m/min	0~25	0~25
Table speed (servo motor)	m/min	-	(Opt.0-20)
Number x T-slot size	N x mm	3 x 18	
Cross Feed Movement			
MPG handfeed (per rev.)	mm	{x1}0.1 / {x10}1 / {x100}10	
MPG handfeed (per gra)	mm	{x1}0.01 / {x10}0.1 / {x100}1	
Rapid power (Approx.)	mm/min	0.1~10	
Minimum input unit	mm	0.01	
Vertical Feed Movement			
MPG handfeed (per rev.)	mm	{x1}0.01 / {x10}0.1 / {x100}1	
MPG handfeed (per gra)	mm/min	{x1}0.001 / {x10}0.01 / {x100}0.1	
Rapid power (Approx.)	m/min	0~3	
Minimum input unit	mm	0.001	
Auto. Downfeed			
Feed rate	mm	0.001~0.099	
Total stock removal	mm	0.001~999.999	
Fine feed stock removal	mm	0.001	
Spark out	passes	0~9	
Grinding Wheel			
Wheel dimension (Dia x Width x Bore)	mm	Ø405 x 50 x Ø127	
Spindle speed (50/60HZ)	rpm	1450 / 1750	
Motor			
Spindle motor	HP-P	7.5-4 / 15-4(Opt.)	
Cross servo motor	KW	2	
Vertical servo motor	KW	0.75	
Longitudinal servo motor	KW	Nil	Nil (Opt.2)
Hydraulic motor	HP-P	3-6	3-6
Net weight	Kgs	4600	4600
Packing size (LxWxH)	mm	2400 x 3600 x 2200	2400 x 3600 x 2200

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