ACRA MACHINERY, INC.

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ASG SERIES

Precision Surface Grinding Machine

HIGH PRECISION SURFACE GRINDING MACHINE
A DISTINCTION IN PRECISION TECHNOLOGY
UNIQUE PRECISION TECHNOLOGY

20171024

OVER 30 YEARS EXPERIENCE

CE

ISO 9001 : 2008

ASG-618AH

UNIQUE PRECISION TECHNOLOGY

FEATURES

RIGID CONSTRUCTION:
All main elements are made of "Meehanite GC275" castings which had been annealed stress released for long lasting accuracy and stability. Rib reinforced box type construction of main parts ensure high rigidity.

HIGH PRECISION:
Vee and flat ways for longitudinal movement and double vee ways for cross movement. Both longitudinal and cross mating channels are lined with "Turcite B" and precision hand scraped to provide high accuracy and eliminate stick slip.

AUTOMATIC LUBRICATION SYSTEM:
The valves pump works as soon as the power is switched on. Lubrication system continuously lubricates ways, vertical lead screw and its bearings and gears.

ADVANCED HYDRAULIC CIRCUIT DESIGN:
Improved hydraulic circuit set vibration-free reversing motion of table, easier to move table by handwheel when table hydraulic feed is switched off. External, independent hydraulic tank provided with no heat transfered to the base.

SLOT GRINDING CAPABILITY:
The saddle lock feature and precision cross feed ball screw (AH) allow for grinding of slots with highest performance without vibration.

ANTI-DUST AND WATER-PROOF DESIGN:
All ways and electric cabinet are well protected free from dust and water to ensure consistent accuracy life.

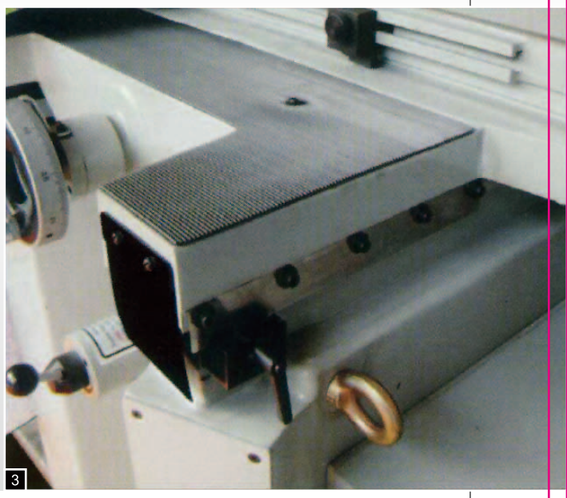
TABLE HYDRAULIC FEED:
Speed range from 1m / min to 25m / min (3 pm-831pm) provides easy operation of the machine. Stroke is adjustable by a pair of dogs in front of table Non-contact proximity switches are used.

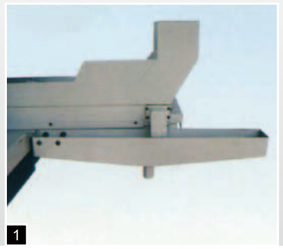
AUTOMATIC CROSS FEED: (AH)
A combination of precision ball screw and a electric motor driving system provides quick, smooth automatic cross feed.

SUPER PRECISION:
Consistent temperature control unit (room temperature ± 1.2 ° C) for hydraulic / system is provided as an option for preventing thermal distortion of the machine when super precision is required.

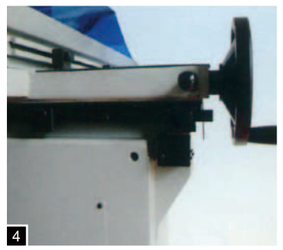


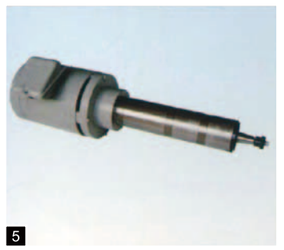
- **Higher productivity**
- **Easier to operate**
- **Heavy duty grinding**
- **Greater accuracy**
- **Longer accuracy life**
- **Advanced surface roughness**

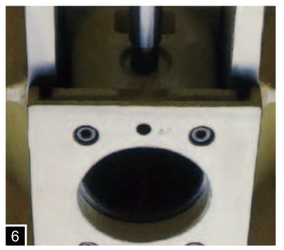

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1 Big volumn drain device installed externally for easy accessing and cleaning.

2 Rib reinforced box type base, with enlarged double Vee ways to ensure the best fundation of accuracy.

3 Delicate saddle clamping device is provided for shoulder and slot grinding.

4 Non-contact proximity switches and dogs for cross feed stroke adjustment.

5 Catridge type spindle unit with precision bearings class ABEC7(P4) and direct drive motor (V3 vibration class)

6 Precision hand scraped wheel head unit and its ways with continuous lubrication.

ASG-1020 / 1224AHD

A DISTINCTION IN PRESCISION TECHNOLOGY

HIGH PRECISION SURFACE GRINDING MACHINE

IS BUILT TO FULFILL THE IDEAL OF

- High accuracy
- Long accuracy life
- Superior surface roughness
- High productivity
- Easy operation
- Heavy duty grinding

WE'VE CAREFULLY CONSIDERD FOLLWING:

- Fully-support of each slide way.
- Rigidity and damping effect of each main parts such as base, column, saddle, spindle & grinding head…etc.
- Dust-free protection of all slide ways as well as spindle unit.
- Human-engineering of each handwheel and control lever.





FEATURES

RIGID CONSTRUCTION
Heavy, extra rigid castings are used for the main parts to assure accuracy at full capacity of grinder.

BUILT FOR PRECISION
Extra-wide table support provides superior rigidity and accuracy for long work pieces. X & Z slide ways are coated with "Turcite B" and precision head scraped. Wheel spindle is supported at each end by duplex ball bearings which are sealed for long life. Entire spindle unit is replaceable as a cartridge.

ADVANCED HYDRAULIC CIRCUIT DESIGN
Improved hydraulic circuit provides vibration-free reversing motion of table. Easy to handle the table by handwheel when table speed is switched off.

AUTOMATIC LUBRICATION
The lubrication oil pumped to every slide way all the time whenever the machine is power on. A flash light will be actuated when the lubricating function is not working.

PRECISION CROSS FEED
A precision ball screw is adopted to provide accurate positioning and easy operation of cross movement.

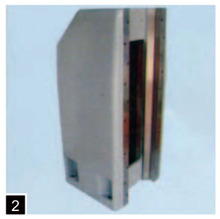
PRECISION DOWN FEED
A precision ground vertical lead screw and transmission gears unit provide accurate down feed.

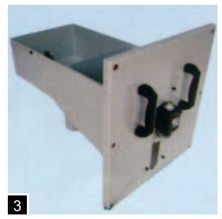
COMPLETED DUST PROTECTION
All slideways and electrical cabinet are well protected free from dust and water to assure longer accuracy and for easy maintenance.

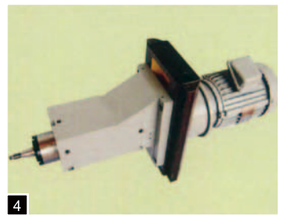
TABLE HYDRAULIC FEED
Speed range from 1 m/min to 25 m/min(3 fpm-83 fpm) provides easy operation of machine.

AUTOMATIC CROSS FEED
A combination of precision ball screw and a timing belt drive motor provides quick and smooth cross feed.


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1 Proximity switches are installed inside.
Stroke is adjustable by push button.

2 Box-type column provides excellent damping effect.

3 Lubrication oil tank be taken out easily for cleaning.

4 Rigid grinding head and cartridge spindle with 2 pairs of super precision angular contact ball bearing (Class ABEC 7)

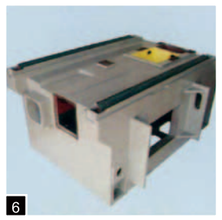
5 Automatic downfeed device for vertical movement.

6 Enlarged double vee and extra-long slide way on base.

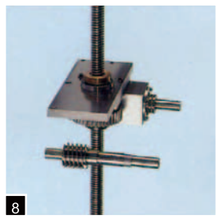
7 Extra-strong saddle and slide way for fully support.

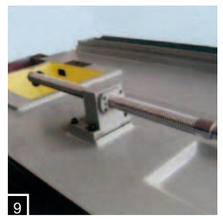
8 Hardened & ground vertical lead screw and transmission gear.

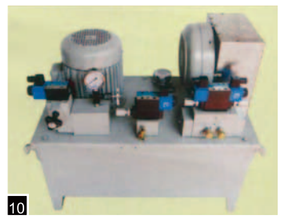

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9 Precision cross feed ball screw.

10 High efficient variable pump is used for saving energy and lower the temperature. Separated from machine body for vibration-free and easy maintenance.

ASG-1632TS

HIGH EFFICIENCY EASY TO OPERATE

ACRA SURFACE GRINDER IS YOUR ASSURANCE OF QUALITY

For over years, SEEDTEC surface grinders have been internationally recognized for quality and accuracy. Today SEEDTEC launches a new generation of YSG-TS series grinder. Built with SEEDTEC tradition of advanced design and outstanding performance, this new series will help you upgrade machining efficiency and create profits.

THE BIGGER MODEL IN **TS SERIES.**

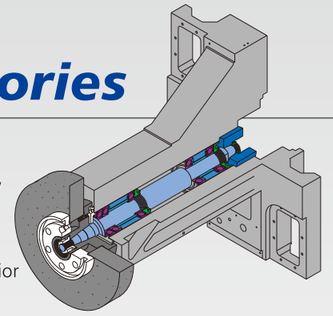
- **Grinding area 600x300~1000x400 mm.**
- **Table to spindle center 700 mm.**
- **Vertical feed is driven by servo motor.**
- **High precision linear guide ways on vertical slide ways.**
- **Longitudinal feed is hydraulic drive.**
- **Cross feed is driven by AC motor.**
- **Conversational NC computer control.**



Standard Accessories

Precision Spindle

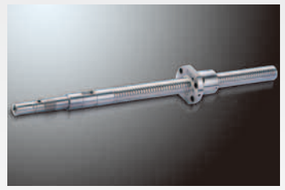
The spindle is directly driven by motor (class V-3), and is supported by 5 super-high precision bearings. The high precision spindle assures superior rigidity and quality of grinding.





Easy To Adjust Cross Travel

Automatic cross travel is controlled by non-contact proximity sensors, allowing for easy adjustment and featuring long service life.
(For model : YSG-618/52 TS)



Ball Screws on Cross Feed

The cross feed employs precision ball screw for transmission. The ball screw is protected by bellow cover to ensure its service life. Sealed grease lubrication does not require further lubrication.

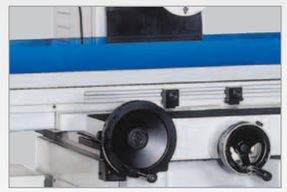


Table Longitudinal Feed

Variable table feed speed range from 1 to 25 M/min (3~83 ft./min). Table reversed movement is controlled by the advanced proximity sensor with built-in design for safety. Dogs controlling the table longitudinal travel are easy and fast to adjust.



Advanced Hydraulic Circuit Design

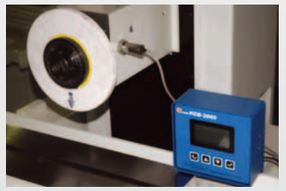
The machine is designed with the advanced hydraulic circuit that reduces shock to a minimum when table reversals at the end of travel. The hydraulic power unit is separated from the machine to avoid the machine vibration and heat transferring to the machine. The specially designed hydraulic circuit always provides powerful feeding even at low speed movement.

Optional Accessories



PG Optical Dresser

England PG optical wheel dresser with microscope
(Model:Optidress 2E)



Dynamic Balancer

- Minimum vibration accuracy : 0.1μ (@6000rpm)
- R.P.M Range :1800~6000rpm.



Hydraulic Oil Temperature Controller

The hydraulic power unit is available to equip with an oil temperature controller for maintaining oil temperature at the room temperature with tolerance $\pm 1.2^{o}C$.
It effectively eliminates thermal displacement of the machine body while assuring outstanding grinding accuracy.



Linear Scale Feedback on Vertical Axis

The vertical axis feed position can be fed back through linear scale and displayed on control panel.



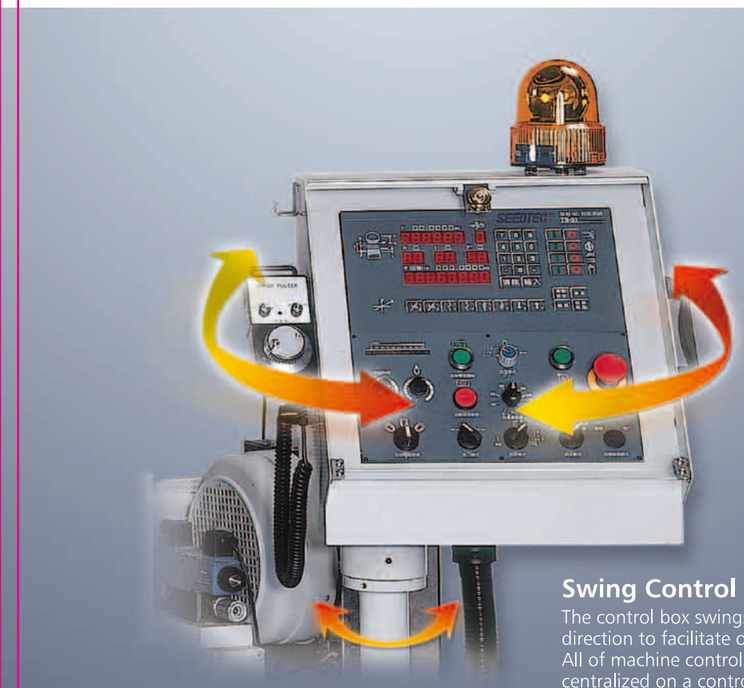
Overtop auto-dresser on wheel-head

Dressing amount can be compensated to vertical axis automatically.
Infeed axis is driven by stepping motor and DC-motor drive for cross movement.

Advanced NC Control

Fully Automatic !

User-friendly !



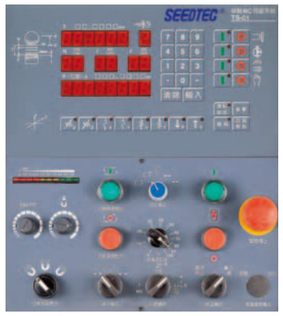


MPG Hand wheel

The control box is provided with a MPG hand wheel. It increase convenience for grinding test and work piece setup.

Swing Control Box

The control box swings to any direction to facilitate operation. All of machine controls are centralized on a control panel for operational convenience.



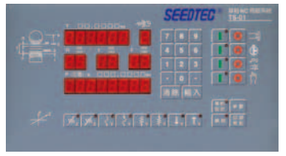
Extra Powerful NC Control Function

- Vertical feed employs fully digitized servo system, that allows the machine to automatically perform surface and plunge machining.
- Outstanding accuracy and easy to operate.
- Extra powerful NC functions greatly upgrades machining efficiency. When spindle down feed at rapid traverse or low speed, it is requested to press the confirmation key. This may avoid danger due to careless pressing of key.



Selection of Various Operation Modes

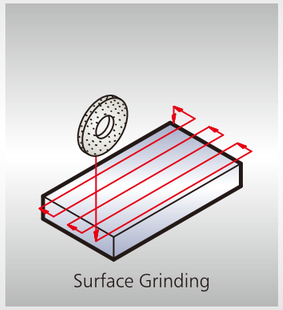
- Selection of single or double sides feeding for plunge grinding.
- Cross feed is equipped with "variable speed regulator" combined with graduation for easy reading.
- Cross feed mode provides a selection of intermittent or criss-cross feed (optional)



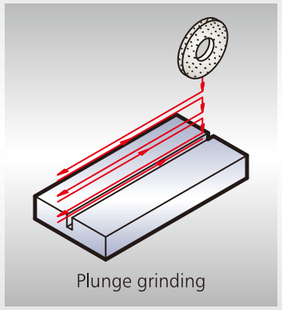
Convenient To Change Machining Condition

During grinding operation, machining conditions (grinding data) can be changed at any time.

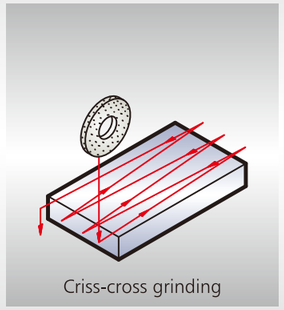
Versatile Grinding Capabilities



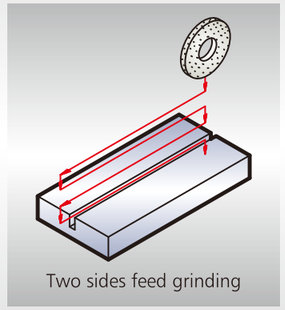
Surface Grinding



Plunge grinding

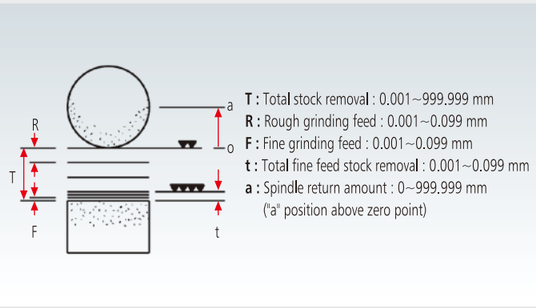


Criss-cross grinding



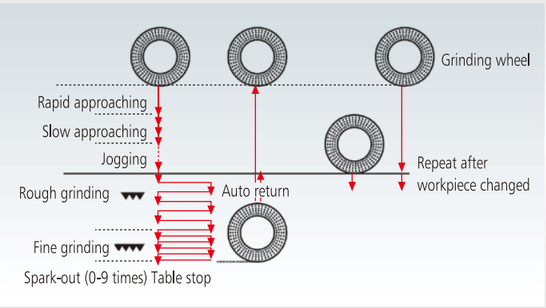
Two sides feed grinding

Diagrammatic Feed Instruction



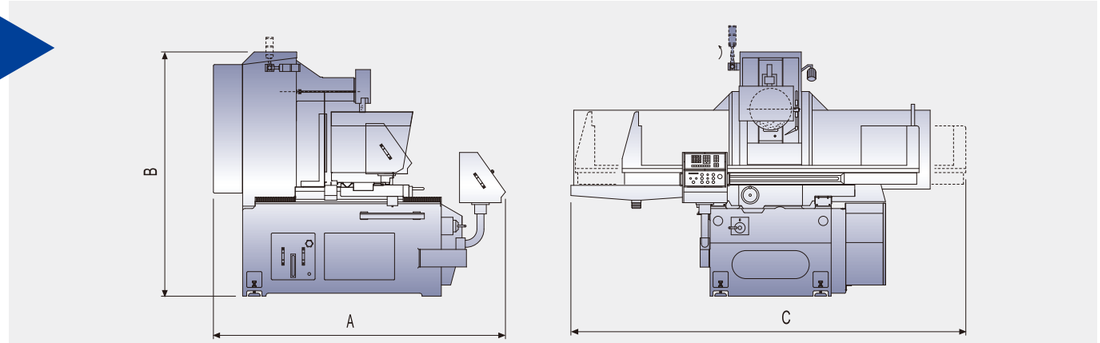
T : Total stock removal : 0.001~999.999 mm
R : Rough grinding feed : 0.001~0.099 mm
F : Fine grinding feed : 0.001~0.099 mm
t : Total fine feed stock removal : 0.001~0.099 mm
a : Spindle return amount : 0~999.999 mm
("a" position above zero point)

Automatic grinding cycle



Dimensional Drawings

(Unit: inch)

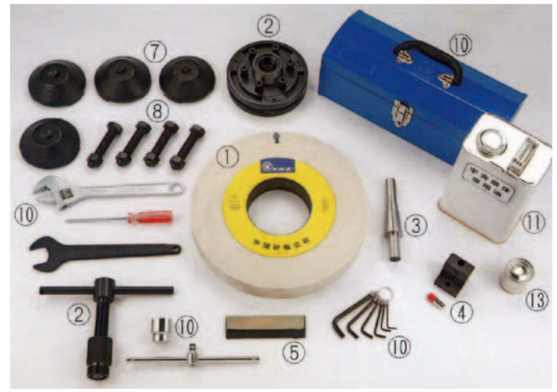


MODEL	ASG-618AH	ASG-1020AHD	ASG-1224AHD	ASG-1632TS
A	51.2"	79.5"	81.7"	109.5"
B	70.9"	72.9"	80.7"	82.4"
C	83"	90.6"	106.3"	130"

Specifications

	ITEM	Unit	ASG-618AH	ASG-1020AHD	ASG-1224AHD	ASG-1632TS
CAPACITY	Maximum grinding (length x width)	Inch (mm)	20"x6" (500x150mm)	21.6"x10" (550x250mm)	27.5"x12" (700x300mm)	33.8"x16" (860x400mm)
	Maximum distance from table top to spindle center line	Inch (mm)	15.75" (400mm)	18.9" (480mm)	27.5" (700mm)	27.5" (700mm)
TABLE	Table surface (length x width)	Inch (mm)	18.3"x6" (465x150mm)	20"x10" (500x250mm)	24"x12" (600x300mm)	32"x16" (800x400mm)
	Maximum longitudinal travel	Inch (mm)	21.6" (550mm)	25.6" (650mm)	29.9" (760mm)	36.2" (920mm)
	Maximum cross travel	Inch (mm)	6.9" (177mm)	11.2" (285mm)	14.1" (360mm)	18.1" (460mm)
	T-slot width (No. x Width)	Inch (mm)	1x0.67" (17mm)	1x0.67" (17mm)	3x0.67" (17mm)	3x0.67" (17mm)
SPINDLE	**Longitudinal movement of table**					
	Hydraulic feed	ft (m)	3.28'~82' (1~25 m)	3.28'~82' (1~25 m)	3.28'~82' (1~25 m)	3.28'~82' (1~25 m)
	Hand feed per revolution'	Inch (mm)	2.71" (69mm)	2.48" (63mm)	2.36" (60mm)	2.71" (69mm)
	Cross movement of saddle					
	Intermittent feed	Inch (mm)	0.006"~0.39" (0.15~10mm)/min	0.04"~0.59" (1~15mm)/min	0.04"~0.59" (1~15mm)/min	0.04"~0.59" (1~15mm)/min
	Continuous transverse feed	Inch (mm)	47.2" (1200mm) /min	47.2" (1200mm) /min	47.2" (1200mm) /min	47.2" (1200mm) /min
	Hand feed per revolution	Inch (mm)	0.2" (5mm)	0.2" (5mm)	0.2" (5mm)	0.2" (5mm)
	Graduation of hand wheel	Inch (mm)	0.001" (0.02mm)	0.001" (0.02mm)	0.001" (0.02mm)	0.001" (0.02mm)
	Vertical movement of wheel head					
	Hand feed per revolution	Inch (mm)	0.04" (1mm)	0.04" (1mm)	0.02" (0.5mm)	-
	Graduation of handwheel	Inch (mm)	0.00025" (0.005mm)	0.00025" (0.005mm)	0.0001" (0.002mm)	-
	Micro feed (OPT)	Inch (mm)	0.00005" (0.001mm)	-	0.0001" (0.002mm)	
	Hand feed per revolution (X1, X10, X100), MPG	Inch (mm)	-	-	-	0.004" (0.1mm), 0.04" (1mm), 0.11" (3mm)
	Graduation of MPG (X1, X10, X100)	Inch (mm)	-	-	-	0.00005" (0.001mm), 0.0005" (0.01mm), 0.0015" (0.03mm)
	Rapid feed. (OPT)	Inch (mm)/ min	8.6" (220mm)/min	9.4" (240mm)/min	12.9" (330mm)/ min	-
	Rapid/Slow feed.	Inch (mm)/ min	-	-	-	22"/ 9" (560/230mm) / min
	Vertical automatic down feed					
	Feed per time	Inch (mm)	-	0.0001"~0.0015" (0.002~0.03mm)	0.0001"~0.0015" (0.002~0.03mm)	0.00005"~0.005" (0.001~0.099mm)
	Total feed	Inch (mm)	-	7.8" (198mm)	1.95" (49.5mm)	0.00005"~39.3" (0.001~999.999mm)
	Total fine feed	Inch (mm)	-	-	-	0.00005"~0.005" (0.001~0.099mm)
	Spark-out	times	-	0~9 times	0~9 times	0~9 times
	Spindle motor	HP/P	2HP/2P	3HP/2P	5HP/4P	7.5HP/4P
	Spindle speed (60Hz)	rpm	3450rpm	3450rpm	1750rpm	1750rpm
	Grinding wheel (diameter x width x bore)(60Hz)	Inch (mm)	8'x 0.5'x1.25" (205x13x31.75mm)	8'x 0.75'x1.25" (205x19x31.75mm)	14'x 2'x 5" (355x50x127mm)	14'x 2'x 5" (355x50x127mm)
MOTOR	Hydraulic	HP/P	2HP/4P	2HP/6P	2HP/6P	5HP/4P
	Vertical feed	W	-	190W	190W	300W (AC servo)
	Cross feed	W	25W	150W	150W	150W
	Weight (Approx.)	LBS (KG)	2048 LBS (930KG)	3964 LBS (1800KG)	5286 LBS (2400KG)	8810 LBS (4000 KG)
	Packing dimensions (L x W x H)					

NOTE : As SEEDTEC is constantly improving the design of its machines. Appearance, specifications and dimensions are subject to be changed without prior notice.



Standard Accessories

ITEM	DESCRIPTION	ASG-618AH	ASG-1020AHD	ASG-1224AHD	ASG-1632TS
1A	Grinding wheel (Dia x Thickness x Bore) 8" x 0.5" x 1.25" (60Hz)	1 pc	1 pc	-	-
1B	Grinding wheel (Dia x Thickness x Bore) 14"x2"x5" (60Hz)	-	-	1 pc	1 pc
2	Grinding wheel flange & puller	1 set	1 set	1 set	1 set
3	Arbor for wheel balancing.	1 pc	1 pc	1 pc	1 pc
4	Diamond tool (1/4 carat) with a base	1 set	1 set	1 set	1 set
5	Dust sweeping plate	1 pc	1 pc	1 pc	1 pc
6	Working lamp	1 set	1 set	1 set	1 set
7	Leveling plates, bolts and nuts	5 sets	5 sets	4 sets	4 sets
8	Eyebolts	4 pcs	4 pcs	-	-
9	T-Nut & screws	2 sets	2 sets	2 sets	2 sets
10	Necessary tool with a tool box	1 set	1 set	1 set	1 set
11	Lubrication oil (4 liters, mobile #1405)	1 can	1 can	2 cans	4 cans
12	Plug (5/8")	4 pcs	4 pcs	4 pcs	4 pcs
12	Operation manual and inspection certificate	1 each	1 each	1 each	1 each
13	Touch up paint	1 can	1 can	1 can	1 can

Optional Accessories

	ASG-618AH	ASG-1020AHD	ASG-1224AHD	ASG-1632TS
Spare wheel flange	·	·	·	·
Spindle inverter *	2HP	3HP	5HP	7.5HP
Permanent-magnetic chuck (Fine pole), KANETSU	·	NA	NA	NA
Splash guard*	·	-	-	-
Dust suction system	0.5HP	0.5HP	NA	NA
Coolant system	10.5 gal	-	-	-
Coolant and dust suction system	11.9 gal	NA	NA	NA
Coolant system with magnetic dust separator	21.1 gal	26.4 gal	26.4 gal	26.4 gal
Coolant system and dust suction system with magnetic dust separator	19.5 gal	NA	NA	NA
Coolant system and paper filter	26.4 gal	31.7gal	31.7gal	31.7gal
Coolant system with paper filter and magnetic dust separator	26.4 gal	31.7gal	31.7gal	31.7gal
"Magnescale" Two Axes DRO system (Including installation & Display arm & Tray, Mounting Bracket) *	200mm x 350mm	350mm x 450mm	400mm x 750mm	500mm x 750mm
Grinding wheel balancing apparatus	Bubble type	Bubble type	Bubble type	Bubble type
Micro-feeder for cross movement*	0.00005" feed	0.0001" feed	0.0001" feed	NA
Micro-feeder for vertical movement*	0.00005" feed	NA	0.0001" feed	NA
Hand dresser mounted on wheel head*	·	-	-	-
Electromagnetic chuck (Standard pole)	·	-	-	-
Electromagnetic chuck (Fine pole)	·	·	·	·
Automatic demagnetizing controller	·	-	-	-
Hydraulic overhead dresser*	NA	NA	·	·
Manual dynamic balancer for grinding wheel on machine.	NA	NA	NA	·
Table-mounted fixed dresser with one diamond tool for profiling with compensation	NA	NA	NA	·