

SEEDTEC®

The Leading Name in Surface Grinders

<http://www.seedtec.com.tw>

**TS Series
Single Axis NC
Precision Surface Grinder**

Automation... Humanization

OVER 30 YEARS EXPERIENCE



SEEDTEC®

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CE

ISO 9001:2008

Why

SEEDTEC®

Is Internationally Recognized ?

- Over years of professional experience in surface grinder.
- Products sold over 30 countries.
- The most comprehensive models.
- Outstanding R & D team.
- Control and software development capability.
- Awarded numerous patents.
- The most rigorous quality control.
- High rigidity and heavy duty grinding capability.
- High accuracy. The table accuracy of the series reaches within 0.003mm.



Automation... Humanization... High Efficiency

Automation... Humanization... High Efficiency

*Just Describe The New Generation NC
Surface Grinder from **SEEDTEC***

Z-axis Servo Drive

The vertical feed (z axis) is driven by servo motor combined with precision ball screw for transmission.

0.001 mm Feed Accuracy

The vertical feed slide ways are equipped with high precision linear guide ways (For models over 1224 TS only).

This assures outstanding positioning accuracy and repeatability.

Linear Scale Feed Back (Optional)

The vertical feed positioning is fed back through linear scale and displayed on control panel.

Easy Grinding Test And Work Piece Setup

The vertical axis feed can be operated by button (4-speeds) or MPG hand wheel. This feature greatly upgrades convenience for grinding test and work piece setup.

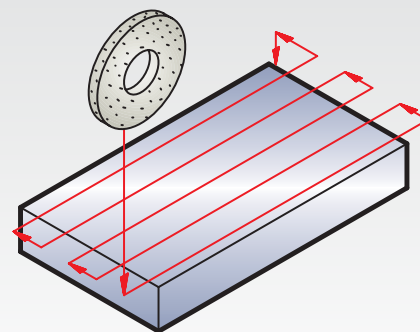
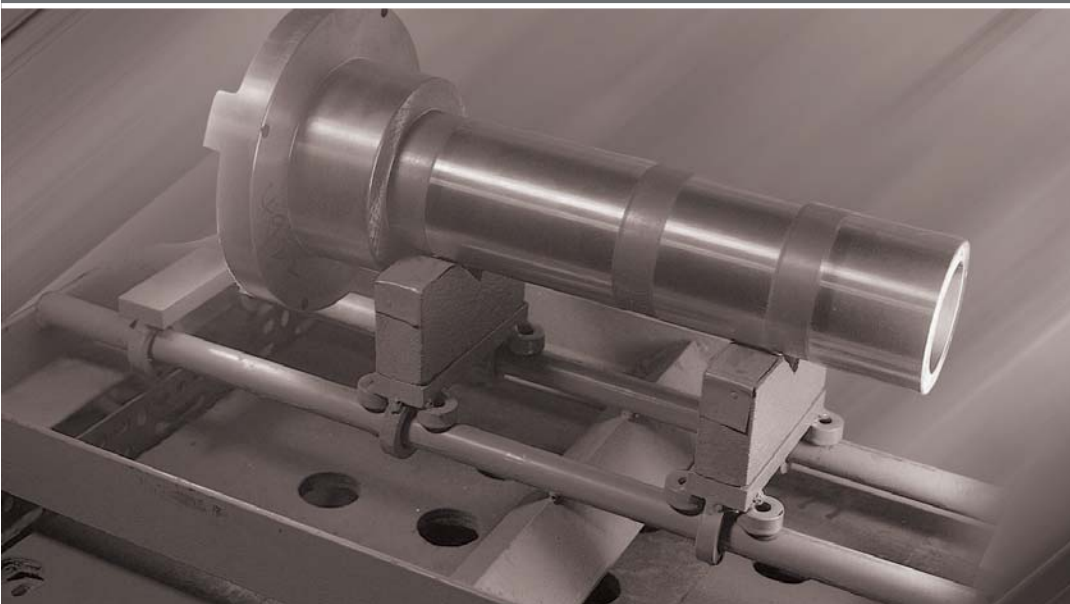
Easy To Change Machining Conditions

The controller allows for changing the grinding data during grinding operation.

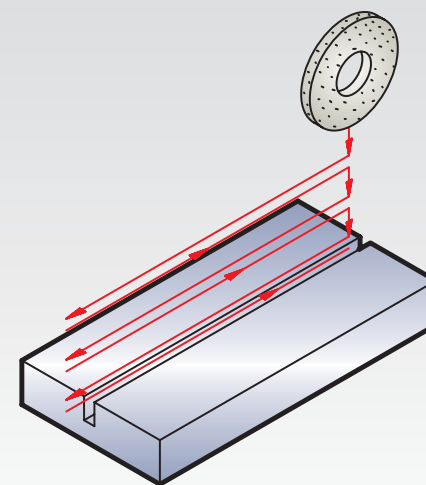
Error Compensation Function

The vertical axis features backlash and pitch error compensation functions to assure accuracy.

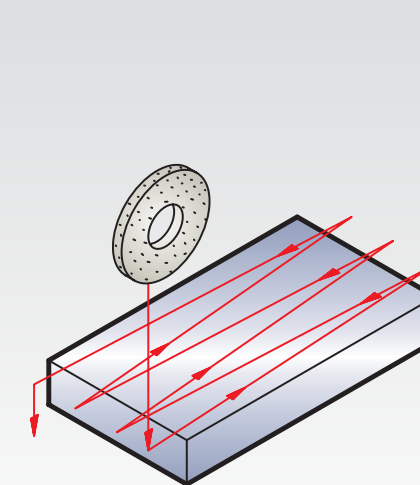
Versatile Grinding Capabilities



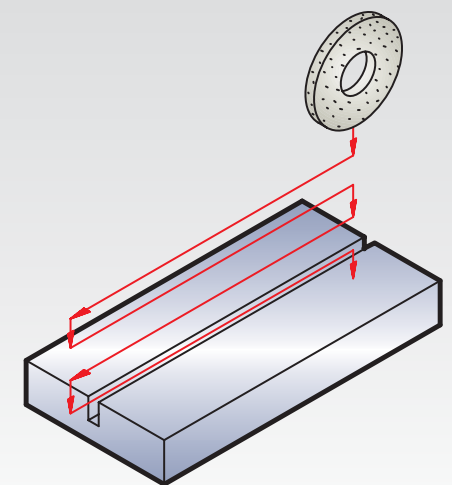
Surface Grinding



Plunge grinding



Criss-cross grinding



Two sides feed grinding

The Smallest Model in **TS Series.**

YSG-618TS

- Grinding area 450x150 mm
- Table top to spindle center 400 mm
- Vertical feed is driven by servo motor
- Longitudinal feed is hydraulic drive
- Cross feed is driven by AC motor
- Conversational NC computer control

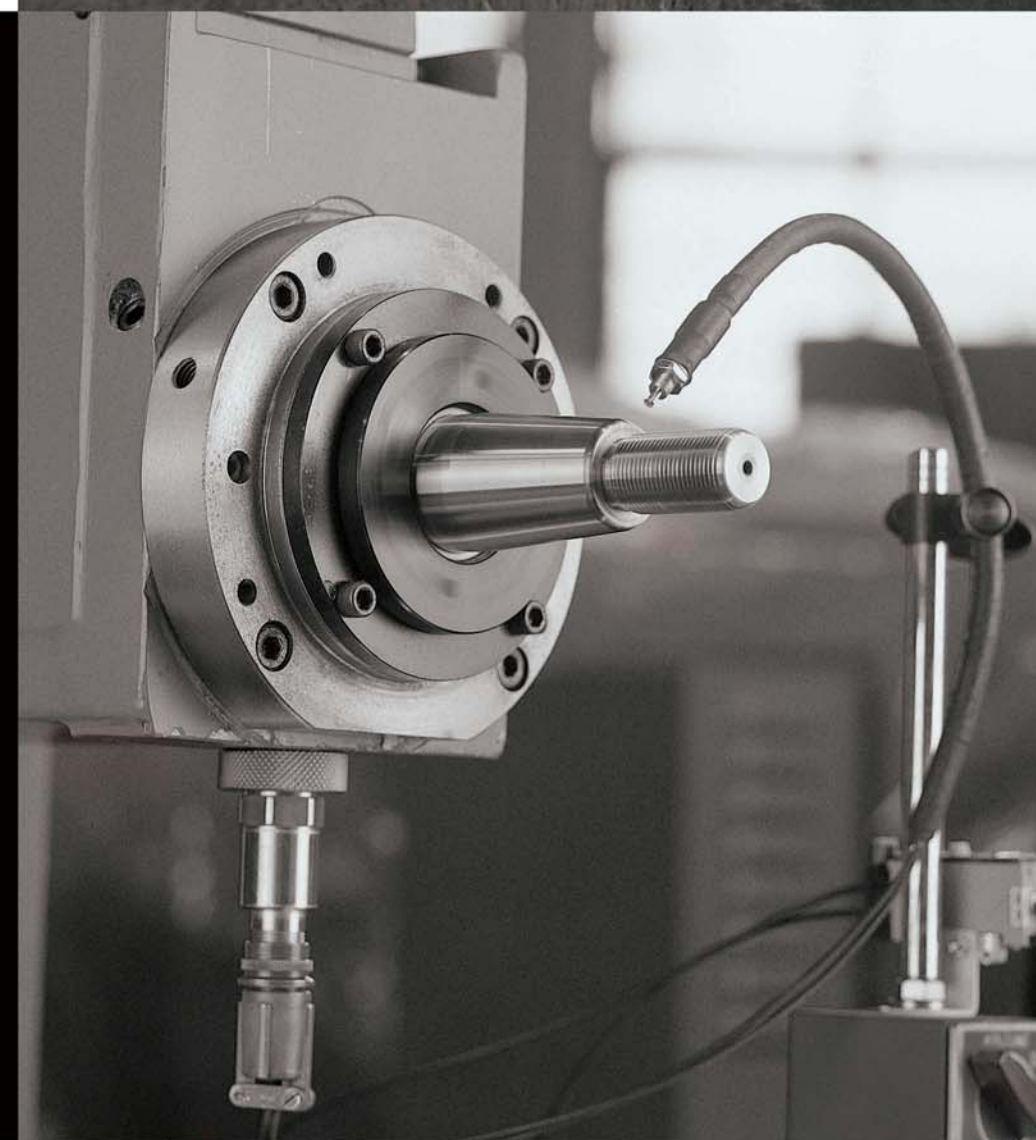
Picture shown splash guard and magnetic chuck are optional accessories.



Professional Design Top Performance

High efficiency and high quality are the winning edges for surface grinding.

That's why **SEEDTEC**® YSG-TS series is designed and engineered with lifetime stability in mind. In addition, the YSG-TS series employs an extra powerful NC controller, that sets a new standard in today's precision surface grinder.



A Medium Model in **TS Series.**

YSG-52TS

- Grinding area 500x200 mm
- Table top to spindle center 400 mm
- Vertical feed is driven by servo motor.
- Longitudinal feed is hydraulic drive.
- Cross feed is driven by AC motor.
- Conversational NC computer control.

Picture shown splash guard is optional accessory.



High Precision Maximum Stability

Superior Grinding Quality

The YSG-52TS Precision Surface Grinder from **SEEDTEC**® is equipped with a specially designed NC controller.

This well-planned controller employs conversational input, which creates outstanding grinding quality without need of skilled operator.





High Efficiency Easy To Operate

SEEDTEC® 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.**

YSG-1224TS
YSG-1228TS
YSG-1632TS
YSG-1636TS
YSG-1640TS

- 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.



Optimum Structure Design

Extra Wide, Massive, Deformation-free

All structural parts of the machine, such as base, saddle, table and column are thoroughly analyzed by SEEDTEC's R & D department using the latest technology.

The structural parts are scientifically rib reinforced, assuring outstanding rigidity and stability without deformation.

All major castings are manufactured from Meehanite cast iron, tempered and stress relieved for deformation-free of the structural parts.

Widely spaced base slide ways provide solid support on the entire travel, while eliminating over-hang problem for table longitudinal travel.

Extra heavy duty column structure provides extremely rigid support for the grinding head.

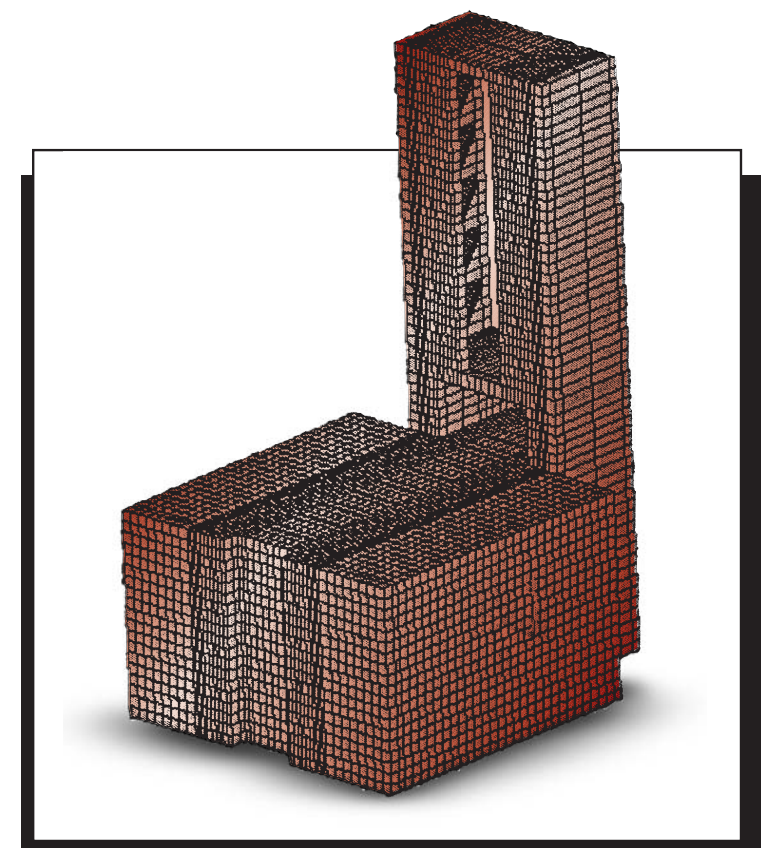
Box type structure exhibits exceptional rigidity.



Finite Element Analysis (FEM)

The major casting parts on the **SEEDTEC** machines are analyzed by the most advanced "Finite Element Analysis" to achieve optimum structure design.

Through computer analysis, we can fully understand structural deformation in heavy loading condition. **SEEDTEC** machines feature unmatched rigidity and stability comparing to conventional models.



Optional Accessories



PG Optical Dresser

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



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 $\pm 1.2^{\circ}\text{C}$. It effectively eliminates thermal displacement of the machine body while assuring outstanding grinding accuracy.



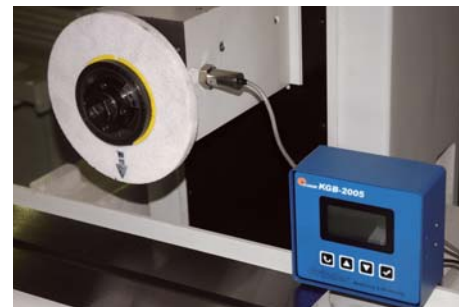
Linear Scale Feedback on Vertical Axis

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.



Dynamic Balancer

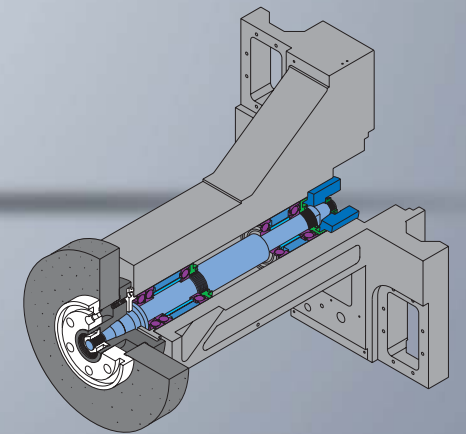
- Minimum vibration accuracy : 0.1μ (@6000rpm)
- R.P.M Range : 1800~6000rpm.

Standard Accessories



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.



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

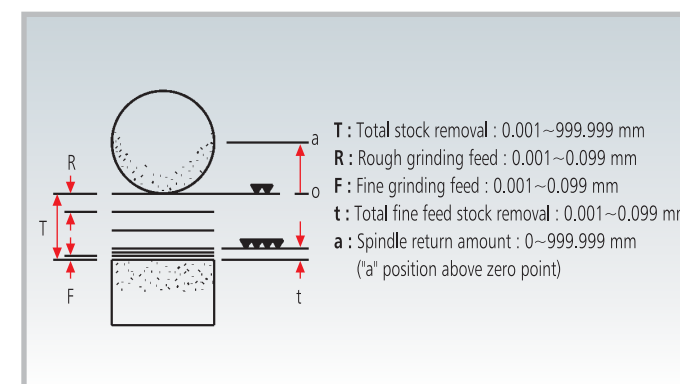
Variable table feed speed range from 1 to 25 M/min (3~83 ft./min). Table reversed movement is controlled by the advanced proximity sensor with built-in design for safety. Dogs controlling the table longitudinal travel are easy and fast to adjust.

Advanced NC Control Fully Automatic ! User-friendly !

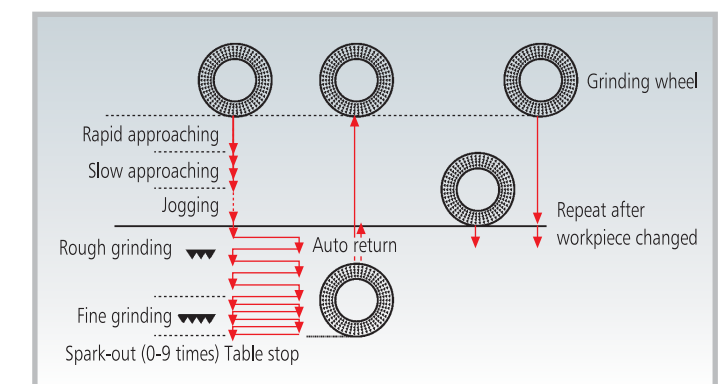
Features of NC Control System

- Allows for two-step machining including rough and fine grinding. This combines with 9 times(Max.) setting for sparkle elimination to achieve higher machining accuracy and higher efficiency.
- The spindle position displays on the screen at any time, and permits zero position setting at any position featuring similar function as a linear scale. The parameter keys provide various functions, such as backlash compensation and pitch error compensation etc.
- Featuring zero position return function. Once the spindle moves, simply press the zero return key for returning to zero position.
- The spindle feed provides 6 modes :
 1. Rapid traverse (230 mm/min)
 2. Low speed feed (29 mm/min)
 3. Jog feed (According to F setting value)
 4. Micrometric feed (0.001 mm/per time)
 5. MPG feed ; feed rate includes 1μ , 10μ and 20μ .
 6. Fully automatic
- When spindle is moved on way or after wheel dressing, it does not affect the originally set feed amount. Therefore no need to make setting again.
- Three types of spindle raise to select:
 1. Spindle does not raise.
 2. Raise to zero position.
 3. Raise to "a" position (can be set) above the zero position.
- When the zero return key is pressed, the spindle fast lower to zero position. Then the automatic cycle key is pressed, the machine performs automatic cycle of operation. This provides safe and convenient operation.
- Total feed amount and machining condition settings are directly entered through value. No calculation is required and no machining residual for increased operation convenience.
- Illustrative control panel and diagrammatic feed instruction combined with conversational input through flash light featuring humanized operation. The controller is easy to learn and operate.
- 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. This mode is suitable for the last setting of grinding before job finished everyday.

Diagrammatic Feed Instruction



Automatic grinding cycle



Advanced NC Control Fully Automatic ! User-friendly !



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.



Convenient To Change Machining Condition

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



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)



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.



MPG Hand wheel

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

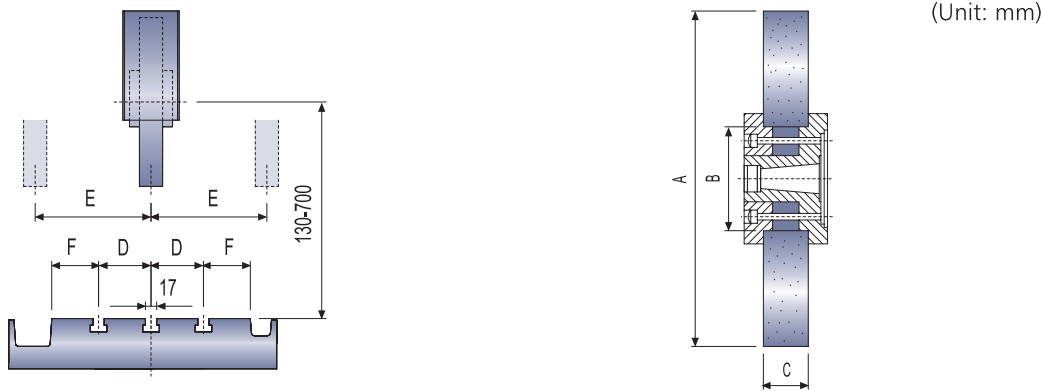
SPECIFICATIONS

	MODEL	YSG-618TS	YSG-52TS	YSG-1224TS	YSG-1228TS	YSG-1632TS	YSG-1636TS	YSG-1640TS
CAPACITY	ITEM							
	Maximum grinding (length x width)	500x150 mm	550x220 mm	660x300 mm	760x300 mm	860x400 mm	960x400 mm	1060x400 mm
	Maximum distance from table top to spindle center	400 mm	400 mm	700 mm	700 mm	700 mm	700 mm	700 mm
TABLE	Table surface (length x width)	465x150 mm	500x200 mm	600x300 mm	700x300 mm	800x400 mm	900x400 mm	1000x400 mm
	Maximum longitudinal travel	550 mm	600 mm	720 mm	820 mm	920 mm	1020 mm	1120 mm
	Maximum cross travel	177 mm	235 mm	360 mm	360 mm	460 mm	460 mm	460 mm
	T-slot (No. x Width)	1 x 17 mm	1 x 17mm	3x17mm	3x17mm	3x17mm	3x17mm	3x17mm
FEED	Longitudinal movement of table							
	Hydraulic feed	1~25 m/min	1~25 m/min	1~25 m/min	1~25 m/min	1~25 m/min	1~25 m/min	1~25 m/min
	Hand feed per revolution	69 mm	69 mm	69 mm	69 mm	69 mm	69 mm	69 mm
	Cross movement of saddle							
	Intermittent feed	0.15~10 mm/min	0.15~10 mm/min	1~15 mm/min	1~15 mm/min	1~15 mm/min	1~15 mm/min	1~15 mm/min
	Continuous feed	1200 mm/min	1200 mm/min	1200 mm/min	1200 mm/min	1200 mm/min	1200 mm/min	1200 mm/min
	Hand feed per revolution	5 mm	5 mm	5 mm	5 mm	5 mm	5 mm	5 mm
	Graduation of hand wheel	0.02 mm	0.02 mm	0.02 mm	0.02 mm	0.02 mm	0.02 mm	0.02 mm
	Vertical movement of wheel head							
	Hand feed per revolution (x1, x10, x100)	0.1, 1, 2 mm	0.1, 1, 2 mm	0.1, 1, 3 mm	0.1, 1, 3 mm	0.1, 1, 3 mm	0.1, 1, 3 mm	0.1, 1, 3 mm
	Graduation of MPG (x1, x10, x100)	0.001, 0.01, 0.03 mm	0.001, 0.01, 0.03 mm	0.001, 0.01, 0.03 mm	0.001, 0.01, 0.03 mm	0.001, 0.01, 0.03 mm	0.001, 0.01, 0.03 mm	0.001, 0.01, 0.03 mm
	Rapid/slow vertical feed	230/29 mm/min	300/29 mm/min	560/250 mm/min	560/250 mm/min	560/250 mm/min	560/250 mm/min	560/250 mm/min
	Automatic down feed							
	Feed per time	0.001~0.099 mm	0.001~0.099 mm	0.001~0.099 mm	0.001~0.099 mm	0.001~0.099 mm	0.001~0.099 mm	0.001~0.099 mm
	Total feed	0.001~999.999 mm	0.001~999.999 mm	0.001~999.999 mm	0.001~999.999 mm	0.001~999.999 mm	0.001~999.999 mm	0.001~999.999 mm
	Total fine feed	0.001~0.099 mm	0.001~0.099 mm	0.001~0.099 mm	0.001~0.099 mm	0.001~0.099 mm	0.001~0.099 mm	0.001~0.099 mm
	Spark out	0~9 times	0~9 times	0~9 times	0~9 times	0~9 times	0~9 times	0~9 times
SPINDLE & WHEEL	Spindle motor	1.2 KW/2P	1.5 KW/2P	3.7KW/4P(OPT.15KW/4P)	3.7KW/4P(OPT.15KW/4P)	5.5KW/4P(OPT.22KW/4P)	5.5KW/4P(OPT.22KW/4P)	5.5KW/4P(OPT.22KW/4P)
	Spindle speed (50/60 Hz)	2860/3460 rpm	2860/3460 rpm	1455/1755 rpm	1455/1755 rpm	1455/1755 rpm	1455/1755 rpm	1455/1755 rpm
	Grinding wheel outside diameter (50/60 Hz)	ø 205/180 mm	ø 205/180 mm	ø 335/305 mm	ø 335/305 mm	ø 335/305 mm	ø 355/305 mm	ø 355/305 mm
	Grinding wheel bore	ø 31.75 mm	ø 31.75 mm	ø 127 mm	ø 127 mm	ø 127 mm	ø 127 mm	ø 127 mm
MOTOR	Hydraulic	1.5kw/ 4P	1.5kw/ 4P	3.7KW/4P	3.7KW/4P	3.7KW/4P	3.7KW/4P	3.7KW/4P
	Cross feed	25W	40W	150W/6P	150W/6P	150W/6P	150W/6P	150W/6P
	Vertical feed (AC servo)	300W	300W	300W	300W	300W	300W	300W
	Floor space (L x W x H)	211x130x198 cm	211x150x198 cm	324x250x209 cm	324x250x209 cm	330x278x209 cm	335x278x209 cm	340x278x209 cm
	Machine weight (Approx.)	900 Kgs	1200 Kgs	3200 Kgs	3200 Kgs	4000 Kgs	4000 Kgs	4200 Kgs
	Packing dimensions (L x W x H)	200x112x213 cm	210x150x213 cm	256x215x217 cm	266x215x217 cm	315x230x217 cm	320x230x217 cm	325x230x217 cm

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

Working Range

Specification of Grinding Wheel



MODEL	YSG-618TS	YSG-52TS	YSG-1224TS	YSG-1228TS	YSG-1632TS	YSG-1636TS	YSG-1640TS
A	Ø205 / Ø180	Ø205 / Ø180	Ø355 / Ø305	Ø355 / Ø305	Ø355 / Ø305	Ø355 / Ø305	Ø355 / Ø305
B	Ø31.75	Ø31.75	Ø127	Ø127	Ø127	Ø127	Ø127
C	13	13	50	50	50	50	50
D	75	100	100	100	100	100	100
E	88.5	117.5	180	180	230	230	230
F	-	-	50	50	100	100	100

Standard Accessories

YSG-618. 52TS Series

ITEM	DESCRIPTION	Q'TY
1.	Grinding wheel (Dia. x Thickness x Bore) ø205 x 13 x 31.75 m/m (50Hz) or ø180 x 13 x 31.75 m/m (60Hz)	1
2.	Grinding wheel adaptor & puller	1
3.	Arbor for wheel balancing	1
4.	Diamond tool (1/4 carat) with a base	1
5.	Dust sweeping plate	1 EACH
6.	Working lamp	1
7.	Leveling plates	5
8.	Leveling bolts with nut	5
9.	Eyebolt	1
10.	Hanging ring	3
11.	T-nut & Screws	2
12.	Necessary tool with a tool box	
	A. Wrench (27, 46 mm)	1 EACH
	B. Hexagon-headed spanner (2.5, 3, 4, 5, 6, 8 m/m)	1 EACH
	C. Adjustable wrench (200 m/m)	1
	D. Cross screw driver (#4)	1
13.	Lubrication oil (4 liters, Mobil #1405)	1
14.	Plug (5/8")	4
15.	Operation manual and inspection certificate	1 EACH
16.	Spare paint	1

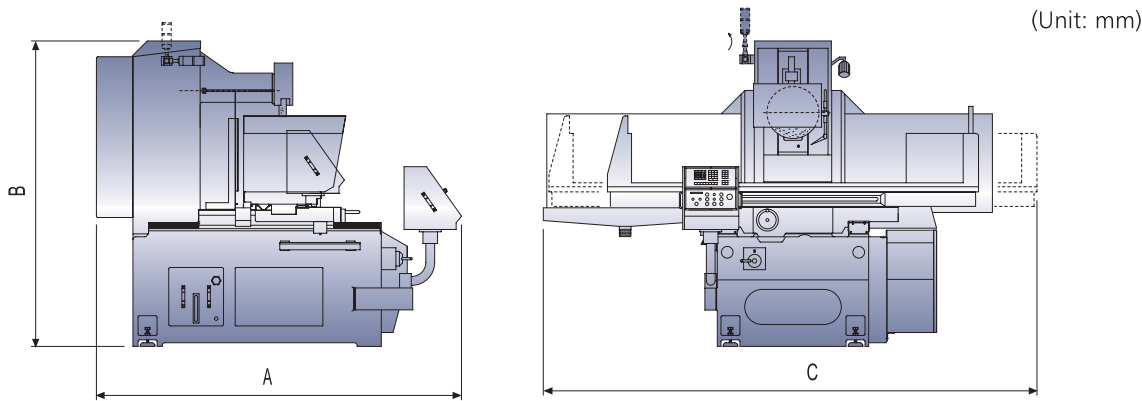
Optional Accessories

- (1001) Permanent magnetic chuck (Standard type/inclining type)
- (1002) Grinding wheel balancing apparatus
- (1003) Spare grinding wheel adaptor
- (1004) Dust suction System
- *(1005) Coolant System
- *(1006) Coolant & dust suction System (For 618. 52TS)
- *(1007) Inverter
- *(1008) Digital readout for cross/vertical movement
- *(1009) Micro-feeder for cross movement
- (1012) Radius dressing device
- (1013) Angle dressing device
- (1014) Punch former (For 618*52TS)
- (1015) Sine vise
- (1016) Tool maker vise
- (1017) Sine plates with permanent magnetic chuck
- *(1018) Hand dresser mounted on wheel head
- (1019) Demagnetizer (AC 110V/220V) (For permanent magnetic chuck)
- *(1020) Automatic demagnetizing controller (For electro-magnetic chuck)
- *(1021) Electro-magnetic chuck (Standard type/inclining type)
- *(1022) Consistent temperature control unit for hydraulic system
- *(1023) Optical-dresser with microscope (x10) (For 618. 52TS)
- *(1024) Coolant system C/W a magnetic dust separator
- *(1025) Coolant system with paper filter
- *(1027) Coolant system with paper filter C/W a magnetic dust separator
- (1031) Optical radius angle dresser
- (1032) Dynamic balancer for grinding wheel
- (1033) Powered conditioning tools for diamond & CBN wheel
- *(1034) Table-mounted diamond roll dresser (For 1224~1640 TS)
- *(1038) Coolant & dust suction system C/W a magnetic dust separator (For 618-52TS)
- *(1039) Continuous criss-cross feed device
- *(1041) Overtop auto-dresser on wheel-head.

YSG-1224. 1228. 1632. 1636. 1640 TS Series

ITEM	DESCRIPTION	Q'TY
1.	Grinding wheel (Dia. x Thickness x Bore) ø305 x 50 x ø127 m/m(60Hz) or ø355 x 50 x ø127 m/m(50Hz)	1
2.	Grinding wheel adaptor & puller	1
3.	Arbor & nut for wheel balancing	1 EACH
4.	Diamond tool (1/4 carat) with a base	1 EACH
5.	Dust sweeping plate	1
6.	Working lamp	1
7.	Leveling plates	4
8.	Leveling bolts with nut	4
9.	Eyebolt	1
10.	T-nut & Screws	2
11.	Necessary tools with a tool box	
	A. Wrench (36m/m)	1
	B. Hexagon-headed spanner (2.5,3,4,5,6,8m/m)	1 EACH
	C. Adjustable wrench (375mm)	1
	D. Cross screw driver (#4)	1
12.	Lubrication oil (16 liters, Mobil #1405)	1
13.	Operation manual and inspection certificate	1 EACH
14.	Spare paint	1

Dimensional Drawings



MODEL	YSG-618TS	YSG-52TS	YSG-1224TS	YSG-1228TS	YSG-1632TS	YSG-1636TS	YSG-1640TS
A	1800	2100	2500	2500	2780	2780	2780
B	1930	2065	2092	2092	2092	2092	2092
C	2600	2850	3240	3240	3300	3350	3400