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**SEEDTEC<sup>®</sup>**

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**SEEDTEC®**

**The Leading Name in Surface Grinders.**



**Sub-micron super high  
precision surface grinder.**

**NSG - 618TS**

Single axis servo NC sub-micron super high precision surface grinder.

**NSG - 618 / NSG - 618H / NSG - 618AH**

Sub-micron super high precision surface grinder.



**OVER 30 YEARS EXPERIENCE**

**CE**

**ISO 9001:2008**



## NSG-618TS

- Grinding area 470x150mm
- Table top to spindle center 370mm
- Vertical feed and cross feed are driven by servo motor
- Longitudinal feed is hydraulic drive
- Conversational NC control
- Surface accuracy under  $2\mu$ .



**SEEDTEC®**

Single axis **NC** super  
precision surface grinder.

**0.1 $\mu$**  sub-micron  
super precision grinding.



Perfection **structure** design,  
outstanding stability and  
superior rigidity.

The new generation of SEEDTEC NSG-618/H/AH/TS with whole new design of the main machine structure, and enlarged structure dimension, to reach rigidity and stability into extremely optimum.

Old mechanical structure.

VS

New mechanical structure.



310 mm

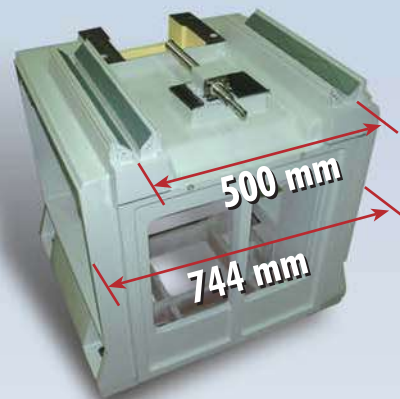


360 mm



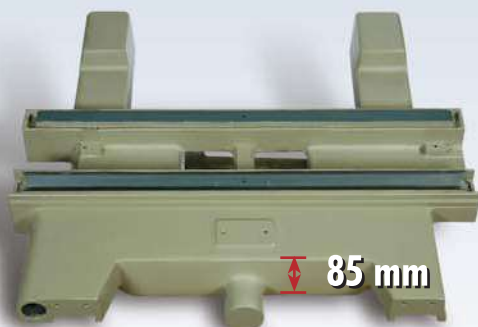
500 mm

632 mm



500 mm

744 mm



85 mm



166 mm



## **0.1 $\mu$** down feed

3C / Electronics industry, IC packaging industry, and Optical industry, the only and best choice of super precision grinding.

Advanced design by SEEDTEC NSG-618TS surface grinder to perform the precision level of sub-micron, that's the best surface grinding choice of high-tech product.

## 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.



## Swiss TESA "TESATRONIC-TT10" electrical measure unit

To ensure the high precision of down feed  $0.1\mu$ , SEEDTEC utilizes Swiss TESA "TESATRONIC" to perform accuracy inspection, and  $0.1\mu$  down feed is guaranteed.

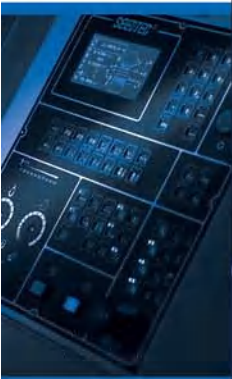
## Hydraulic Oil Temperature Controller

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





# Advanced **NC** controller, fully automatic and easy to operate.



## MPG

The control box is provided with a MPG hand wheel. It increases convenience for grinding test and workpiece setup.

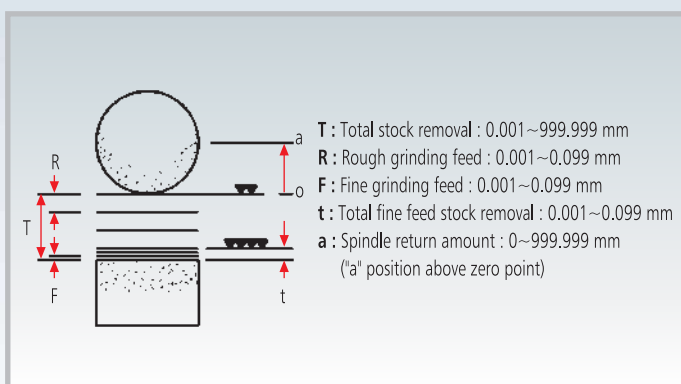


## NSG-618TS

### NC system feature:

1. Allows two-step machining including rough and fine grinding.  
This combines with 9 times (Max) setting for sparkle elimination to achieve higher accuracy and better efficiency.
2. The spindle position displays on the screen at any time, and permits zero position setting at any position featuring similar function as a liner scale. The parameter keys provide various function, such as backlash compensation and pitch error compensation etc.
3. Featuring zero position return function. Once the spindle moves, simply press zero return key for returning to zero position
4. The spindle down feed provide 6 modes:
  1. Rapid feed (230mm/min)
  2. Low speed feed (29mm/min)
  3. Jog feed (According to F setting value)
  4. Micrometric feed (0.001 mm/ per time)
  5. MPG feed, feed rate includes 0.1μ, 1μ, and 10μ
  6. Fully automatic.
5. After spindle moved or wheel dressed, it does not affect the original set feed amount. Therefore, no need to make a resetting.
6. Three types of spindle raise to select:
  - a. Spindle does not raise.
  - b. Raise to zero position
  - c. Raise to "a" position (can be set) above the zero position
7. 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 operation. This provides safe and convenient operation.
8. Total feed amount and machining data settings are directly entered through value. No calculation is required and no machining residual for operation convenience.
9. Illustrative control panel and diagrammatic feed instruction combined with conversational input through flash light featuring humanized operation. The operation panel is easy to learn and operate.
10. After machining finished, the operator may select below conditions:
  - a. The machine does not stop but the warning lamp flashing.
  - b. Machine stopped and power off, this mode is suitable for the last setting of grinding before job finished everyday.

### Automatic grinding cycle (Including optional automatic wheel dressing with compensation)



### Extra Powerful NC control Function

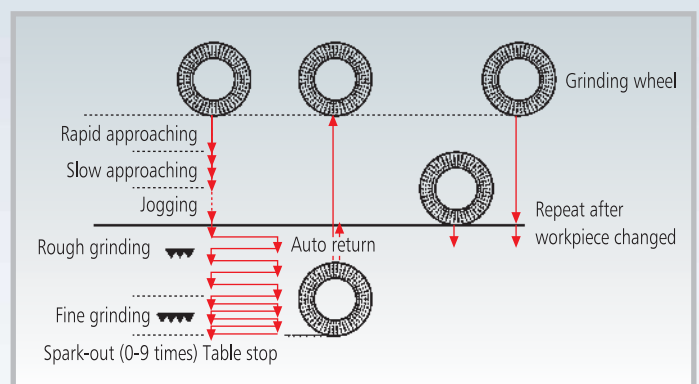
- Vertical feed employs fully digitized servo system, that allows machine to automatically perform surface and plunge grinding.
- Outstanding accuracy and easy to operate.
- Extra powerful NC functions greatly upgrades machining efficiency.
- When spindle down feed at rapid or low speed feed, it's requested to press the confirmation key. This may avoid danger due to mis-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 mode provides a selection of intermittent or criss-cross feed.







# **NSG-618** **NSG-618H** **NSG-618AH**

- Grinding area 470x170mm
- Table top to spindle center 370mm
- Vertical feed is driven by servo motor
- Longitudinal feed by hydraulic drive or belt drive.
- Cross feed is driven by ball screw (NSG-618AH by servo motor)
- Vertical position-indicating device, feedback and displayed on LED monitor.
- Table surface accuracy under 2 $\mu$ .





**0.1  $\mu$**  down feed

**0.01 Ra** surface roughness

**Best choice for polishing**

Super precision vertical down feed with extra rigid spindle design. To equip with manual dynamic balancer for wheel online (optional), 0.01 Ra surface roughness is easy to achieve.



# NSG-618 H / AH / TS

## Linear Scale with Feedback function. (Opt)

Vertical linear scale utilizes Heidenhain with feedback function. Need to be installed by SEEDTEC to ensure the  $0.1\mu$  down feed accuracy.



## User friendly control panel

## Manual dynamic balancer for wheel online. (Opt)

- 0.01 Ra surface roughness is easy to achieve.
- Grinding accuracy increased, and consistency of reliability and grinding quality.
- Life time of spindle and bearing are extended.



## MPG (Standard)

Down feed by MPG to operate easily, by  $0.1\mu$ ,  $1\mu$ , and  $10\mu$  down feed.



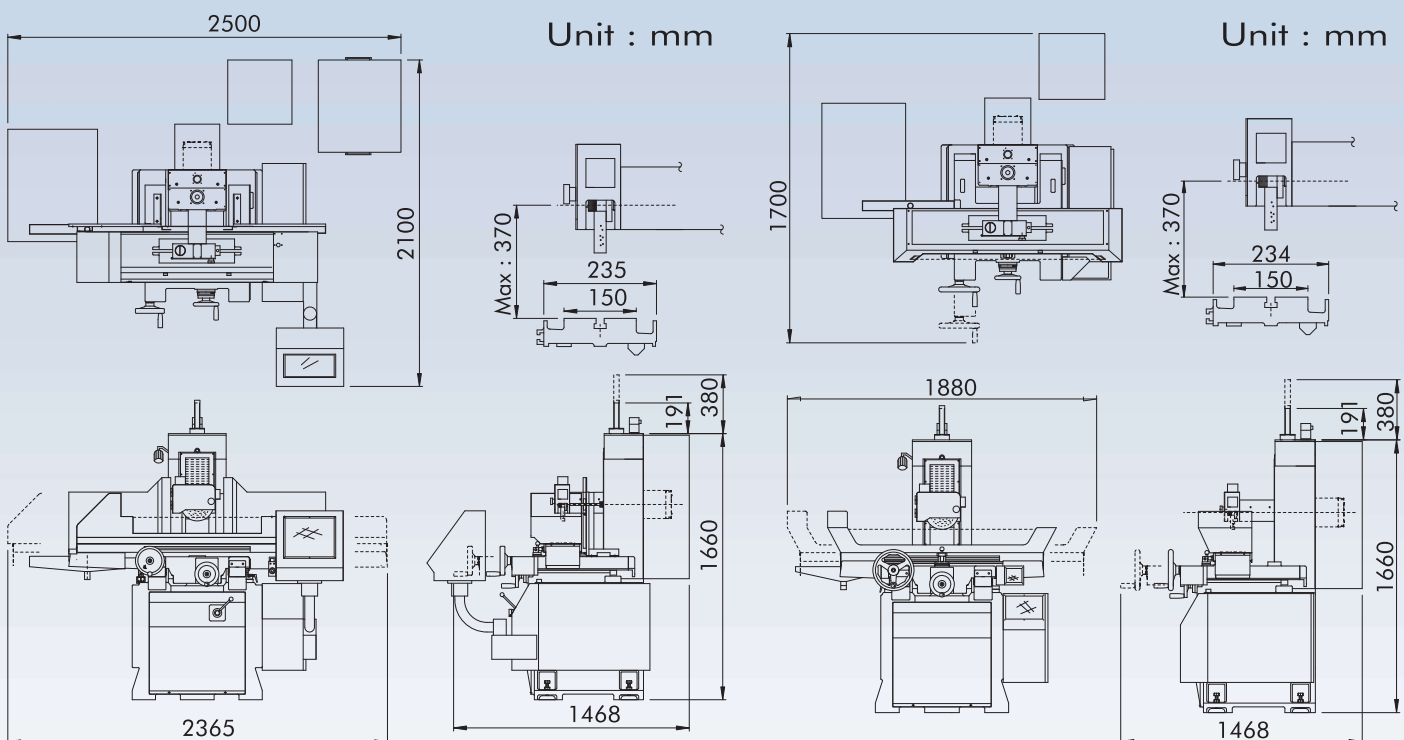
## Spindle coolant unit. (standard)

With a coolant unit, to ensure spindle running at a constant temperature. It's effectively to prevent the thermal deformation and further impacts on accuracy and surface roughness.

## Dimensional drawing

### NSG-618 H /AH/TS

### NSG-618





## Specifications:

Item	Unit	NSG-618TS	NSG-618
<b>Capacity</b>			
Maximum grinding (length x width)	mm	530 x 150	480 x 150
Maximum distance from table top to spindle center line	mm	370	370
<b>TABLE</b>			
Table surface (length x width)	mm	470 x 150	450 x 150
Maximum longitudinal travel	mm	560	490
Maximum cross travel	mm	210	210
T-slot width	mm	17	17
<b>FEED</b>			
Longitudinal movement of table			
Hydraulic feed	m/min	0.3~25	—
Hand feed per revolution	mm	70.6	95
Cross movement			
Intermittent feed	mm/min	0.15~10	—
Continuous transverse feed	mm/min	1200	—
Hand feed per revolution	mm	5	
Graduation of hand wheel	mm	0.02	
Vertical movement of wheel head			
Hand feed per revolution (X1, X10, X100)	μm	0.1/1/10	
Graduation of MPG (X1, X10, X100)	μm	0.1/1/10	
Rapid/Slow vertical feed.	mm/min	230 / 29	
Vertical automatic down feed			
Feed per time rough/fine	mm	0.0001~0.0999	
Total stock removal	mm	0.0001~99.9999	
Total fine feed stock removal	mm	0.0001~99.9999	
Spark-out (Times)	times	0~9	
<b>SPINDLE &amp; MOTOR</b>			
Spindle motor	HP	2	
Spindle speed (50/60Hz)	rpm	3000 / 3600	
Grinding wheel outside diameter (50/60Hz)	mm	Ø205 / 180	
Grinding wheel bore	mm	Ø31.75	
<b>MOTOR</b>			
Hydraulic	HP	2	—
Cross feed	W	90	—
Vertical feed (AC servo motor)	W	400	
Lubrication pump	HP	0.02	
Floor space (L x H x W)	cm	250 X 210 X 204	188 X 170 X 204
Weight (Approx.)	kgs	1350	1200

Note: As SEEDTEC is constantly improving the design of its machines, appearance, specification, dimension and weight are subject to be changed without notice.

## Standard accessory.

### NSG-618TS / NSG-618 / NSG-618H / NSG-618AH / Series

NSG-618H	NSG-618AH
530 x 150	
370	
470 x 150	
560	
210	
17	
0.3~25	
70.6	
	0.15~10
	1200
5	
0.02	
0.01 / 0.1 / 3	
0.0001 / 0.001 / 0.03	
600	
-	
-	
-	
-	
2	
3000 / 3600	
Ø205 / 180	
Ø31.75	
	2
	90
400	
0.02	
250 X 210 X 204	
1350	

ITEM	DESCRIPTION	Q'TY
1.	Grinding wheel (Dia x Thickness x Bore) ø205x13x31.75m/m(50HZ) or ø180x13x31.75m/m(60HZ)	1 pc
2.	Grinding wheel adaptor & puller	1 set
3.	Arbor for wheel balancing.	1 pc
4.	Diamond tool (1/4 carat) with a base.	1 set
5.	Dust sweeping plate.	1 pc
6.	Working lamp	1 set
7.	Leveling plates.	5 pcs
8.	Leveling bolts and nuts.	5 pcs
9.	Eyebolt.	4 pcs
10.	T-nut & screw.	2 sets
11.	Necessary tool with a tool box.	1 set
12.	Lubrication oil (4 liters, mobile #1405)	1 can
13.	Plug (5/8i)	4 pcs
14.	Operation manual and inspection certificate	1 copy each
15.	Spare paint	1 can

## Optional accessory.

(Note: The marks "※" to be installed at SEEDTEC)

- (1001) Permanent-magnetic chuck (standard or decline type)
- (1002) Grinding wheel balancing apparatus
- (1003) Spare grinding wheel adaptor
- (1004) Dust suction system
- ※ (1005) Coolant system
- ※ (1006) Coolant & dust suction system
- ※ (1007) Inverter
- ※ (1008) Digital read out for vertical movement.
- (1009) Micro-feeder for cross movement.
- (1012) Radius dressing device
- (1013) Angle dressing device
- (1014) Punch former
- (1015) Sine vise
- (1016) Tool maker vise
- ※ (1017) Sine plate with permanent magnetic chuck
- (1018) Hand dresser mounted on wheel head
- ※ (1019) Demagnetizer (for permanent magnetic chuck)
- ※ (1020) Automatic demagnetizing controller (for electro-magnetic chuck)
- ※ (1021) Electro-magnetic chuck (standard or decline type)
- ※ (1022) Consistent temperature control unit for hydraulic system.
- ※ (1023) Optical dresser with microscope (x10)
- ※ (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.
- (1032) Manual Dynamic balancer online
- ※ (1033) Powered conditioning tools for diamond & CBN wheel.
- ※ (1040) Splash guard unit
- (1042) Digital read out (with feedback function) (for vertical axis)
- ※ (1044) Table-mounted fixed dresser with one diamond tool for profiling and compensated device.