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ADVANCED
**SURFACE
AND PROFILE
GRINDING
MACHINE**



Discover the Meaning of Value



S&T
GROUP
SINCE 1996



Established in 1996, S&T GROUP is a renowned provider of high-quality machinery. Leveraging our strengths in industrial trading business and built with a formidable customer base, S&T GROUP got into manufacturing activity to sustain the Group Vision, “Making Technology Affordable” to the customers.

Established in June 2015, with state-of-the-art manufacturing facilities in a very less time span, now STM (S&T Machinery (P) Ltd.) is one among the top 5 machine tools brands in India.



S&T MACHINERY (P) LTD.

(Manufacturing Unit of S&T Group)

Unmatched
Precision Grinding

High-Accuracy
Profile Machining

Superior
Surface Finish

User-Friendly
Controls



Powered by 25+ years of machine tool expertise, the S&T Group has turned precision into a promise-delivered through STM. As the Group's manufacturing powerhouse, STM crafts advanced machining solutions that evolve with industry needs.

Trusted by manufacturers who value performance and reliability, STM combines cutting-edge technology with strong after-sales support. Our deep-rooted understanding of machining intricacies sets us apart in the field. With our latest venture into machining center production in India, we are redefining access to high-performance solutions for the Indian manufacturing sector.

The STM Surface and Profile Grinding Machine (Functional on Flat and parallel workpieces in longitudinal and traverse directions)

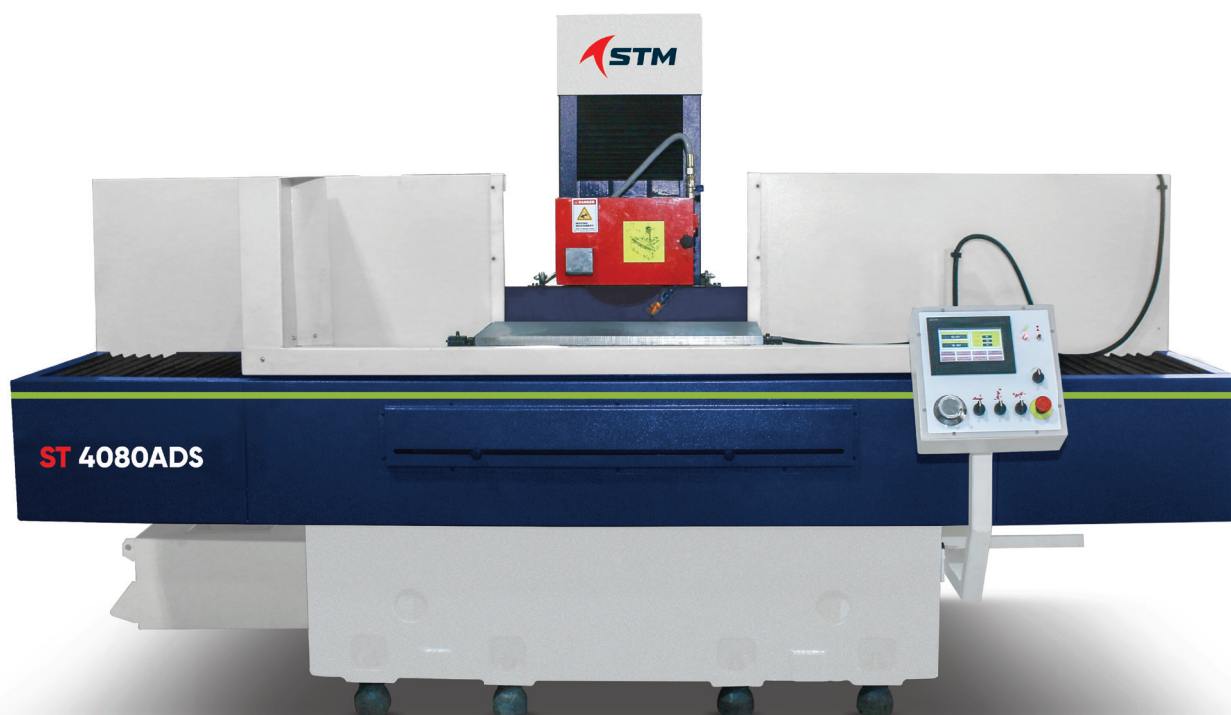
The table operates solely on longitudinal traverse, with the grinding area consistently supported by the grinding and front bed slideways, even at extreme positions. The column moves on cross traverse and remains uniformly supported by the V and flat slideways of the rear bed throughout.

The spindle head moves vertically, maintaining a constant distance between the grinding wheel and vertical slideways to ensure perfect parallelism with the work table.



ST 4080ADS

STM Surface & Profile
Grinding Machine Three-Axis
Precision “The Complete 90”



The wheel head and all other moving parts travel along V and flatways, which enable it to move vertically and prevent the wheel head from being tilted.

The ways reduce friction and remove ‘stickslip’ in the machine parts supported by plastic-coated passage, central lubrication and aerostatic systems.

The STM machine is capable of moving in three directions through one precise V and flatway, therefore ensuring high precision in all three axes.

The grinding table and its slideways, on the table and position, are fully supported along with the cross slide, which is supported by overhangs.

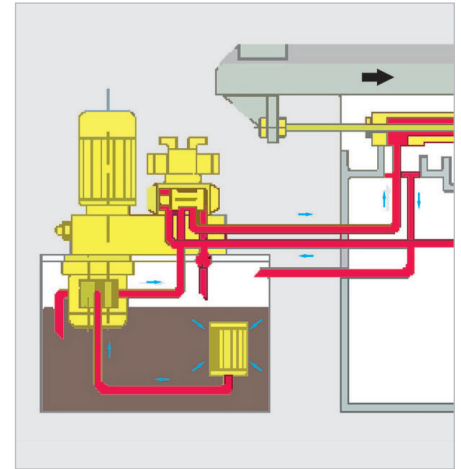
THE HYDRAULIC TABLE DRIVE

The gear pump on the STM Surface and Profile Grinding Machine contains a mature hydraulics monoblock unit that is fitted outside the machine to be easily accessible and serviceable.

The pressure oil is supplied to the hydraulic cylinder along with end position clamping. The separate oil tank forms the base for the machine, holds both the hydraulic and lubricating oil. To regulate temperatures, the oil tank is connected to the coolant tank.

The STM machine is designed in a way to allow easy access to the suction filter and central lubrication.

It also allows for easy servicing of oil and coolant circuits. The hydraulic system works at optimum speed and via remote controls. The range of speed and table speed can be adjusted from the operating panel in a myriad of ways through the gear motor.



Direct Driven Ball Screw



The cross axis has a direct driven ball screw for precision and easy maintenance.

Spindle



The grinding spindle is equipped with two sets of preloaded precision bearings at the front, ensuring exceptional stability and enabling high MMR.

Ball Screw



The graded recirculating ball screw enables silent axes operation.

CE Norms Regarding Machine Enclosure (Option)

- There are no moving parts outside the machine enclosure. The X-Axis is also fixed while the machine is running.
- It opens on the right side for a clear view of the workpiece.

Longer Guideways

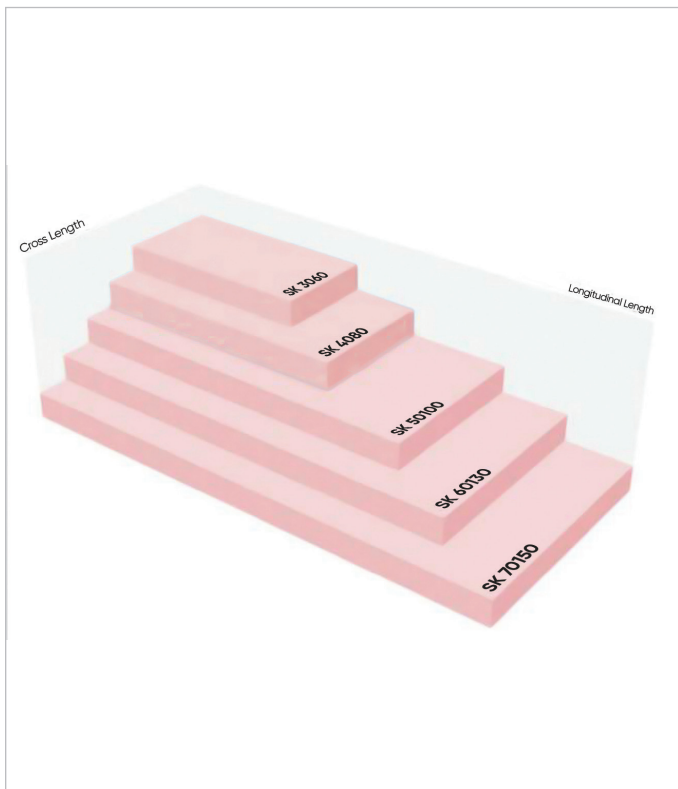
Longer guideways allows for minimum axis deflection at high cutting forces.

The STM surface and grinding machine has multifaceted grinding abilities that include:

- Surface grinding
- Plunge grinding
- Crisscross grinding
- Two sides feed grinding

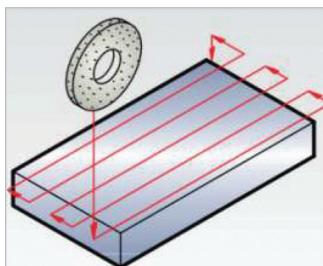
AUTOMATION HUMANIZATION HIGH EFFICIENCY

Description of the new generation NC Surface Grinding Machine

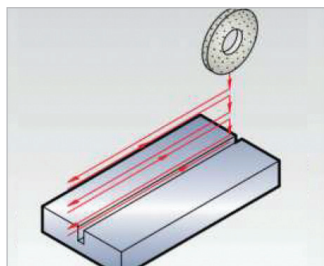


VERSATILE GRINDING CAPABILITIES

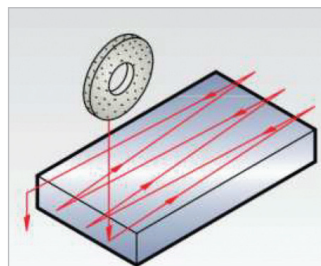
Surface Grinding



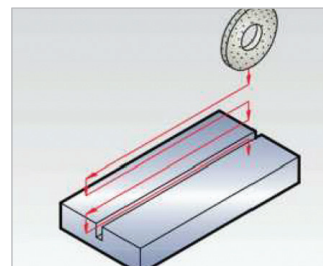
Plunge Grinding



Crisscross Grinding



Two Sides Feed Grinding



THE NC CONTROL SYSTEM

- Capable of two-step machining that includes rough and fine grinding. When this setting is combined with sparkle elimination, it allows for greater accuracy and higher efficiency.
- The spindle position is displayed on the screen and can be set to zero position or at any position featuring a similar function, as a linear scale.

The spindle feed works in 3 modes:

- Rapid Traverse (0-300 mm/min)
- MPG Feed (0.0001 mm/per time)
- MPG feed; feed rate includes 1u, 10u and 100u.
- When the spindle moves on the way or after wheel dressing, it does not affect the originally set feed amount and therefore it doesn't have to be set again.
- When 'auto and cycle start' keys are pressed.

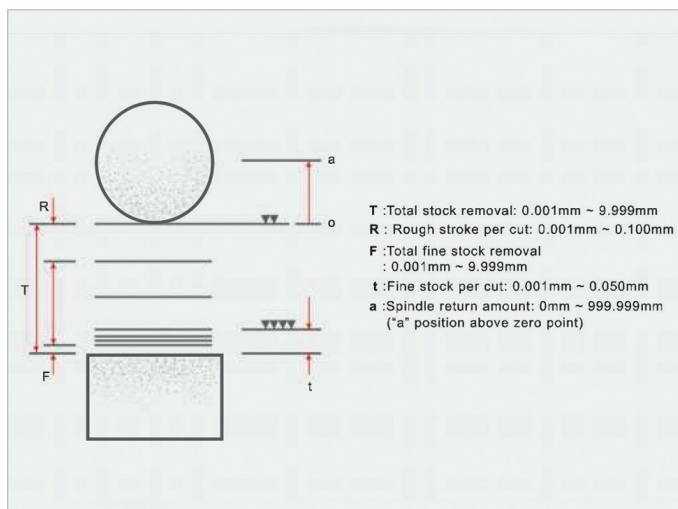
Customers can select between three types of spindle raise:

- No spindle raise.
- Raise to 'a' position above the zero position.
- Raise to zero position.
- Simultaneously the spindle position is lowered to 100 microns plus the job touch value. After one second, it moves to the job touch value. At the same time, all the axes reach the set position and perform an automatic cycle of operation which enables safe operations.
- The total feed amount and machining condition settings are directly entered and therefore no calculation is required and no machine residual.

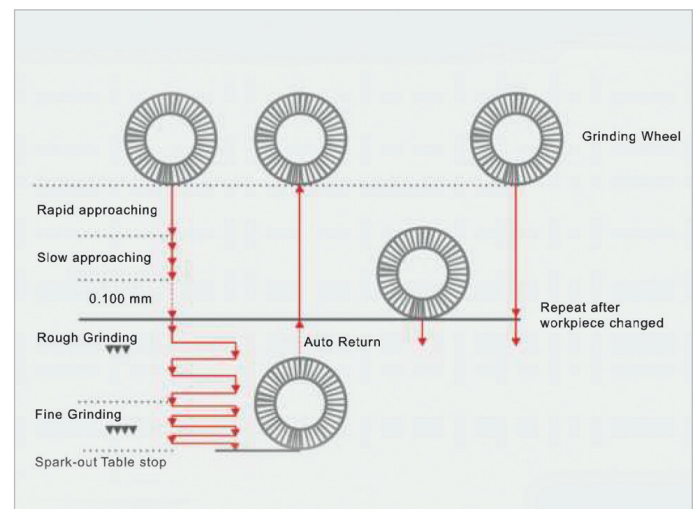
After machining is completed, the operator can select the following conditions:

- The table stops at the right side and the machine stops. This is the suitable mode during the last setting of grinding, before the job is finished everyday.

Diagrammatic Feed Instruction



Automatic Grinding Cycle



SPECIFICATIONS

DESCRIPTION	UNIT	ST 3060ADS	ST 4080ADS	ST 50100ADS	ST 60130ADS
CAPACITY					
Grinding Area (L x W)	mm	600 x 300	800 x 400	1100 x 500	1300 x 600
Longitudinal Travel (X-Axis)	mm	650	850	1150	1350
Cross Travel (Z-Axis)	mm	310	410	510	610
Spindle Centre to Table Surface	mm	400	530		650
Max. Load on Table including Chuck	kg	275	550	650	750
Guideways	All v-flat				
SPINDLE AND GRINDING WHEEL					
Spindle Power	kW	3.7		5.5	7.5
Spindle Speed (Max.)	rpm	1400			3000
Grinding Wheel Size (OD x W x ID)	mm	300 x 40 x 76.2		350 x 50 x 127	350 x 65 x 127
FEED AND TRAVERSE					
Table Speed (Longitudinal)	m/min	1-28			1-22
Vertical Rapid Traverse Rate	mm/min	300			
Cross Rapid Traverse Rate	mm/min	10-2000			
Least Count for Vertical Feed	micron	0.001			
Least Count for Cross Feed	micron	0.001			
DRIVE					
Longitudinal (X-Axis)		Hydraulic			
Vertical (Y-Axis)		Servo Motor & Ball Screw			
Cross (Z-Axis)		Servo Motor & Ball Screw			
GENERAL					
Floor Space (L x W x H)	mm	3320 x 2330 x 2275	3800 x 2500 x 2575	5300 x 2500 x 2655	6000 x 2960 x 2775
Net Weight	kg	2500	4000	5000	6000
Input Power Source	415 V / 3 phase / 50 Hz				
Total Connected Load	kW	6	8	10	14

***Std: Auto Down Feed System + Auto Dressing Cycle + Auto Compensation**

*All values are approximated & may change depending on selected options.

*All information is subject to change.

*Auto down feed system *Auto dressing *Auto Compensation.

SPECIFICATIONS

DESCRIPTION	UNIT	ST 70150ADS	ST 70200ADS	ST 10200ADS	ST 10250ADS
CAPACITY					
Grinding Area (L x W)	mm	1500 x 700	2000 x 700	2000 x 1000	2500 x 1000
Longitudinal Travel (X-Axis)	mm	1550	2050	2050	2550
Cross Travel (Z-Axis)	mm	730		1050	
Spindle Centre to Table Surface	mm	850		900	
Max. Load on Table including Chuck	kg	1000	1500		
Guideways	All V-Flat				
SPINDLE AND GRINDING WHEEL					
Spindle Power	kW	11			
Spindle Speed (Max.)	rpm	3000	2000		
Grinding Wheel Size (OD x W x ID)	mm	400 x 100 x 127	500 x 100 x 203.2		
FEED AND TRAVERSE					
Table Speed (Longitudinal)	m/min	1-28			1-22
Vertical Rapid Traverse Rate	mm/min	300			
Cross Rapid Traverse Rate	mm/min	10-2000			
Least Count for Vertical Feed	micron	0.001			
Least Count for Cross Feed	micron	0.001			
DRIVE					
Longitudinal (X-Axis)		Hydraulic			
Vertical (Y-Axis)		Servo Motor & Ball Screw			
Cross (Z-Axis)		Servo Motor & Ball Screw			
GENERAL					
Floor Space (L x W x H)	mm	6880 x 3395 x 3422	8000 x 3395 x 3422	8000 x 4500 x 3600	9000 x 4500 x 3600
Net Weight	kg	8500	10000		15000
Input Power Source	415 V / 3 phase / 50 Hz				
Total Connected Load	kW	18	24		

***Std: Auto Down Feed System + Auto Dressing Cycle + Auto Compensation**

*All values are approximated & may change depending on selected options.

*All information is subject to change.

*Auto down feed system *Auto dressing *Auto Compensation

*We offer 2-Axis & 3-Axis CNC-Controller upon request.

APPLICATIONS

A wide range of applications can be created with the STM Surface and Profile Grinding Machine

Connecting Rod



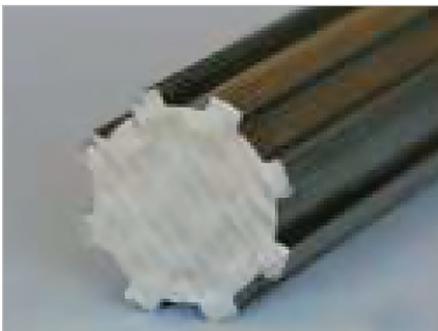
Rack and Pinion Teeth



Serration



Spline Shaft



Turbine Blade



Turbine Wheel



VDI Tool Holder



Roker Arm



SERVICES



Startup

Commissioning warranty extension



Qualification

Training and Production support



Prevention

Inspecting and Maintenance



Materials

Spare parts, Replacement parts
Accessories



Service

Customer service, Customer
consultation, Helpline, Remote service

ACCESSORIES

STANDARD

- Grinding wheel
- Grinding wheel flange
- Wheel balancing arbor
- Grinding wheel clamping/ extraction bolt
- Table mounted single point diamond dresser
- Machine levelling base
- Coolant system

OPTIONAL

- Electromagnetic chuck with controller
- Variable spindle speed
- Auto paperband filtration unit
- Auto magnetic separator
- Combined paperband & magnetic separator
- Wheel balancing stand
- Precision sine vice
- Tool maker vice
- Radius and angle dresser
- Dust collector

Discover the Meaning of Value



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**S&T
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SINCE 1996



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**Due to continuous improvements, we reserve the right to amend any aspect or the specifications without further notice.

*** Images for reference only