

**Technical specification of APEX Universal Tool and Cutter Grinding Machine: Model AG – 310T (M)**



**1. Purpose:-**

For grinding of Radius single point/multipoint tools, spiral fluted tools, fir-tree cutters, cylindrical grinding, end mills, reamers, shell end mills, ball nose cutters, taps etc.

**2. Broad Specifications of machine:-****Work Head Capacity**

Center height (Optional- 130mm)	120 mm $\pm$ 5mm
Swing	270 mm
Swing with raising block	440 mm
Swing of Work Head	360 mm
Tilting of Work Head	180° Deg.
Admit between tailstock canters	530 mm
Admit between work head and Tailstock center Height	390 mm
Max. Job weight for cylindrical grinding	15kg
Work Head Spindle Standard Bore	ISO: 40 & MT-4/5
Work Head RPM	120/160/250 RPM or more

**Table**

Sliding Table Area	1120mm x 195mm
Working table Area	750mm x 125mm
Working Area	750mm x 125mm
Clamping Area	730mm x 125mm
Longitudinal travel	445mm
Cross traverse	185mm
Swivel with center locking	$\pm$ 45 Deg.
Fine/ Swivel with end locking	$\pm$ 9 Deg.

**Tilting Wheel Head**

Eccentricity with centerline of column	30mm (40mm/50mm optional)
Vertical adjustment:	
Manual	280 mm (min)
Power	260 mm (min)
Spindle axis	
Above the axis of centers	150 mm (min)
Below the axis of centers	70 mm (min)
Swivel	
Vertical plane tilting	±30 Deg.
Horizontal plane	360 mm
Wheel speed in either sense of rotation	2800-3400 RPM
Grinding Wheel max Dia x Bore x Thickness	200mm x 31.75mm x 15mm
	Cup Wheel: 100mm x 31.75mm x 50mm
Motor power	0.75HP

**GENERAL**

Machine floor area (L x W x H)	1150mm x 1050mm x 1350mm
Wooden box area (L x W x H)	1270mm x 1170mm x 1425mm
Machine net weight	650kgs.
Machine with wooden box	760kgs.

**3. Essential accessories****(Cost to be included in the basic machine)**

- Universal Standard work-head with MT-4/5 taper bore & ISO: 40 Spindle 1 No
- Universal Standard Wheel-head With Motor (0.75 HP-3000/3400 R.P.M.) With suitable electrical 1 No
- Universal standard wheel spindle with universal type Wheel adaptor (Size-31.75mm mounted on wheel Head) 1 No
- Stander Tail-stocks (Right hand- quick acting spring loaded With MT-2 center) 1 No
- Standard pulley, belt & electrical for Cylindrical grinding(optional) 1 No
- Set of Do-carrier for cylindrical grinding attachments 3 Nos.
- Set of Straight Mendel- 25.4mm Dia/125L 1 No
- Wheel Spindle wrench with Tommy Rod-6'' 2 Nos.
- Wheel Adaptor key 2 Nos.
- Standard Wheel Dresser Holder with diamond dressing stick 1 No
- Set of Finger-rest/Tooth rest 1 No

• Universal Centre Height Gauge	1 No
• Wheel guards	2 Nos.
• Pulley Drive Cover	1 No
• Set of grinding wheel flange adaptors 50mm	2 Nos.
• Set of grinding wheel flange adaptors 75mm	1 No.
• Set of grinding wheel flange adaptors 125mm	1 No.
• Tool kit for handling the machine ( spanners & Allen key)	1 set
• Standard Grinding Wheels-A46/54K5V10 180mm/13Thk./31.75 Universal Bore	1 No.
• Standard Tapper Cup Wheel -AA60K5 100mm/50Thk./31.75 Universal Bore	1 No.
• Standard Disc- grinding wheel-AA60K5V8/10 150mm/12.7Thk./31.75	1 No.
• Conversion (Cut) Sleeve MT5/MT-2	1 No
• Machine operating manual book	1 No

## 5. SPARES

We offer essential spares of the machine with item wise price & quantity separately  
For trouble free operation at future.

a)	Bellow covers with clamp	1 Set	Rs. 4200/-
b)	Lead screw – Lead nut set	1 Set	Rs. 16500/-
c)	Wheel head bearing set	1 Set	Rs. 5600/-
d)	Work head bearing set	1 Set	Rs. 11300/-
e)	Belts	1 Set	Rs. 900/-
f)	Lubricating pump	1 Set	Rs. 3500/-
g)	Wheel Spindle	1 Set	Rs. 45400/-
h)	Rack & Pinion	1 Set	Rs. 3200/-
i)	Roller & Channel	1 Set	Rs. 8200/-
j)	Pulleys	1 Set	Rs. 2250/-

**6. Documents:-**

- We will provided a Sets of documents of operational and maintenance of the whole machine along with accessories operations & maintenance.
- Assembly drawing of each sub-assemblies with marking of each components
- Bill of material of each sub-assemblies having specification and part number of each components.
- Description of different settings done/require in m/c with reference of their drawing in their sub-assemblies.
- Instruction of cleaning & lubrication by operator.
- Electrical circuit diagram clearly mentioning the components.

**7. Delivery Period:-**

3 to 3.5 months after the confirmation of P.O & advance as per quotation

**8. Guarantee Period :-**

Guarantee for 1 year from the date of successful installation of machine

**9. Installation & Commissioning :-**

Installation & Commissioning at your site is chargeable Rs. 25000/- for two working days.

- 1) Transportation in client Scope
- 2) Food & Accommodation in Client Scope