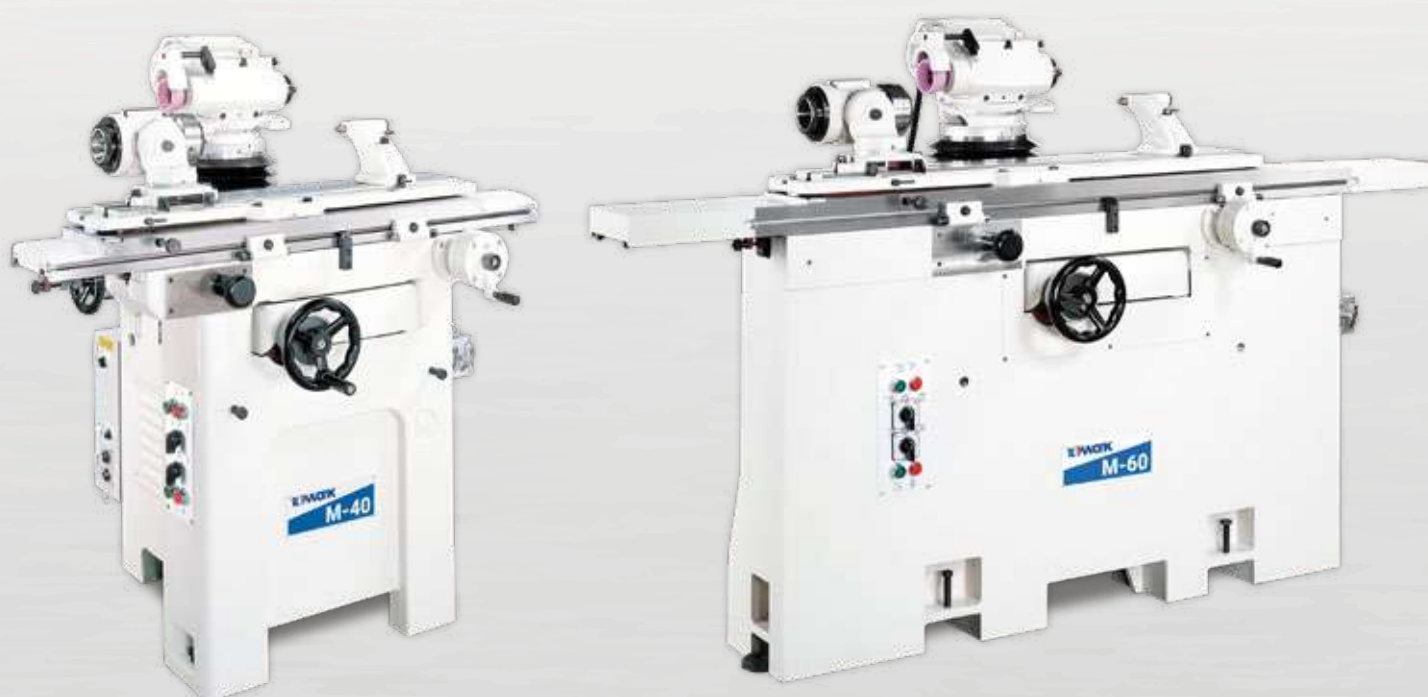


UNIVERSAL CUTTER & TOOL GRINDER



M-40 / M-60

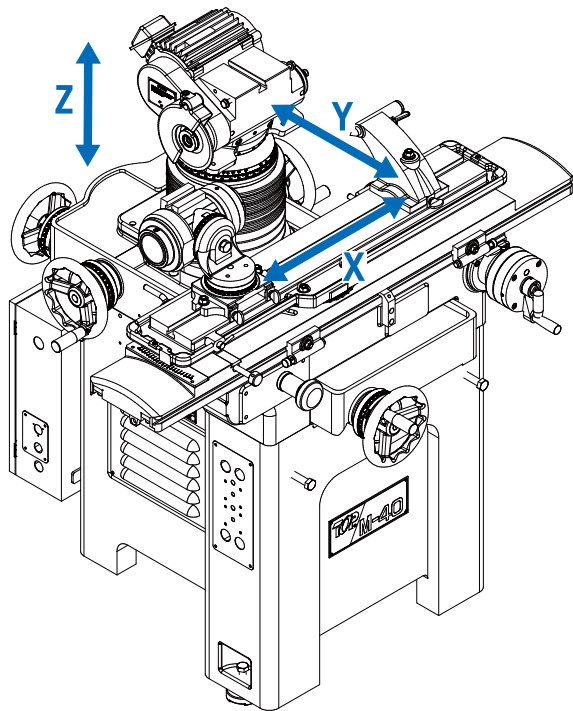
The universal cutter and tool grinder can operate in a wide range of grinding work, according to your work needs. Special functions with a variety of special accessories achieve the economic benefits of one machine with multiple functions.

TOPWORK

UNIVERSAL CUTTER & TOOL GRINDER

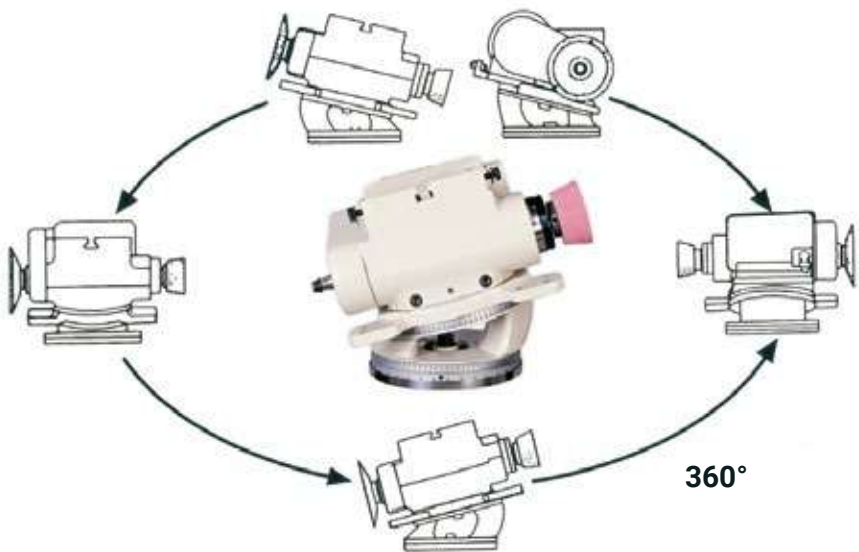
M-40 / M-60

The universal cutter and tool grinder can operate in a wide range of grinding work, according to your work needs. Special functions with a variety of special accessories achieve the economic benefits of one machine with multiple functions.



-  Tool Grinding
-  Surface Grinding
-  Cylindrical Grinding
-  Internal Grinding
-  Grinding Wheel Dressing

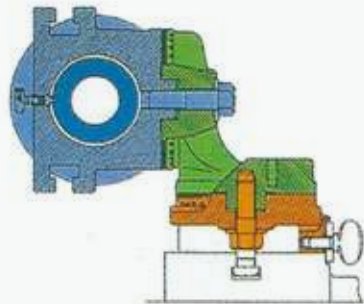
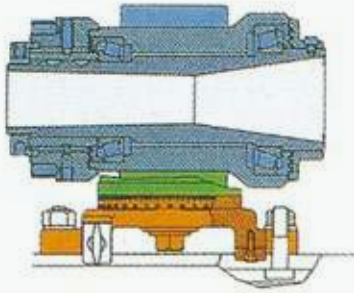
- Functions**
- Helical Grinding
 - Step Grinding
 - Broach Grinding
 - Drill Point Grinding
 - End Mill Grinding



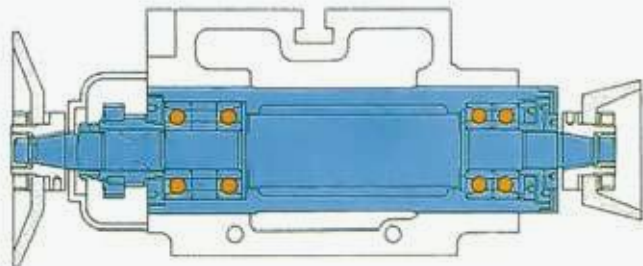
Wheel Head Incline Device
The wheel head can be rotated 360 degrees in this horizontal plane. It has an inclination angle of ± 15 degrees, these features make it easy to grind at the rake angle, relief angle, and various angles required.



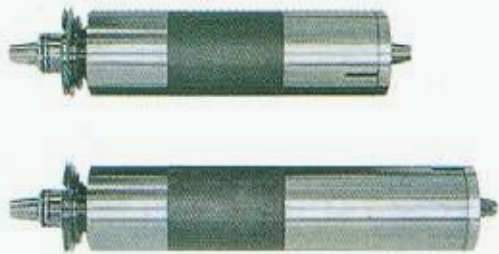
Universal Workhead
The universal working head can be operated in a very light and flexible way. It can be accurately adjusted at any required angle in the horizontal and vertical directions.



There are taper holes at both ends of the spindle, which is NT50 and MT5. Using it with collet or collet chuck improves the efficiency of grinding.



Wheel head Central Axis Set
The central axis set is designed to support, tighten, and fix two pairs of angular ball bearings with nuts at appropriate positions on both sides of the spindle.



Extended Grinding Wheel Spindle (option)

To increase the life of grinding wheel shaft, the interior has been lubricated with grease, so no additional lubrication is required.

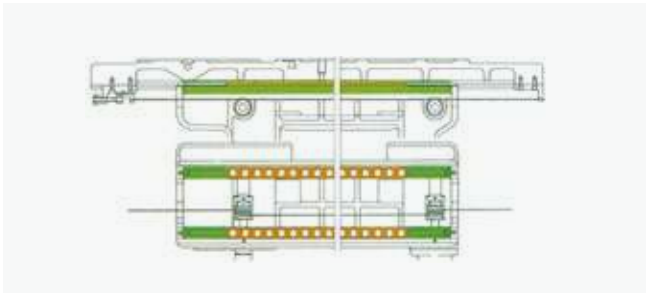
Features



Precise and Accurate Multipurpose Workbench
At 120° of the worktable is a scale that rotates $\pm 60^\circ$. When rotating at $\pm 60^\circ$, the workhead can be rotated simultaneously, which facilitates M-40's grinding large or long milling cutters and any other cutting tool.



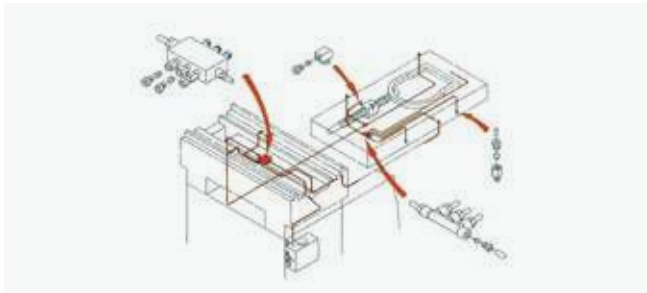
Slow-acting Clutch
In order to easily grind all kinds of tools, the slow acting and fast feed of the table feed are controllable. Table feed handles are on the left and right sides of the table; the clutch lever on the right side operates on the slow acting. Turning the clutch lever when grinding will not affect the accuracy.



Precision Ball Chute Structure
The precision ball chute enables flexible sliding of the workbench. The chute is composed of special alloy steel, processed and ground by high frequency. The workbench is also wound with steel cables, improving the work efficiency for operators.



Tailstock
There are two tailstocks; one is used to fix the thimble with bolts, and the other is equipped with the spring-compressed thimble. It is very convenient to assemble and disassemble the parts. The combination of one or two tailstocks and a universal workhead leads to a stable clamping of the workpiece and grinding of the best quality.

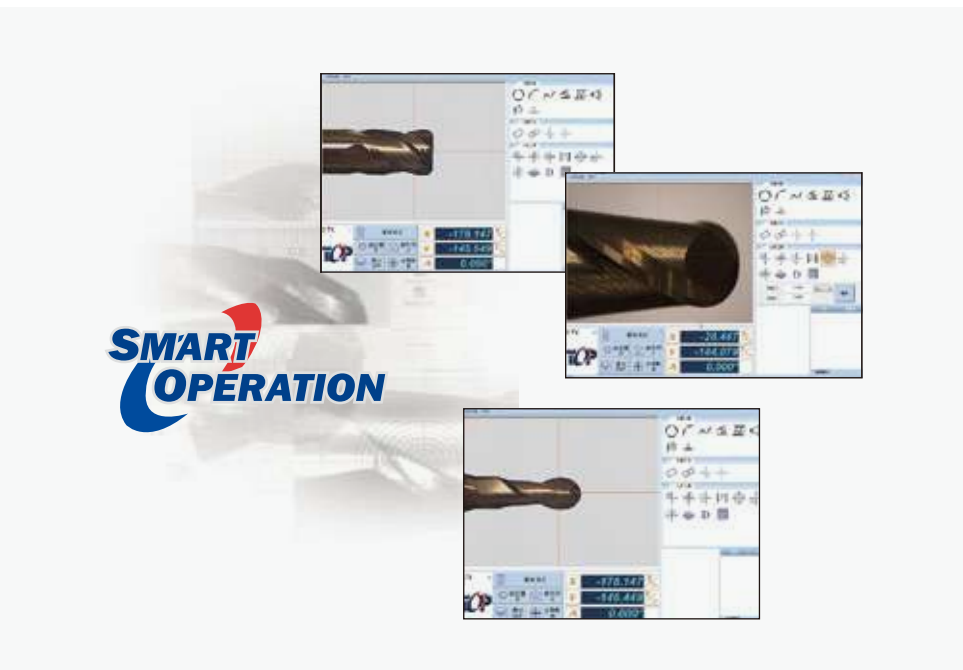


Centralized Lubrication
M-40 machine has centralized lubrication system that ensures the great supply of lubricant to every part evenly. With such lubrication system, it ensures the machine to stay in great condition, and moreover it extends the durable life of the machine.

User-friendly



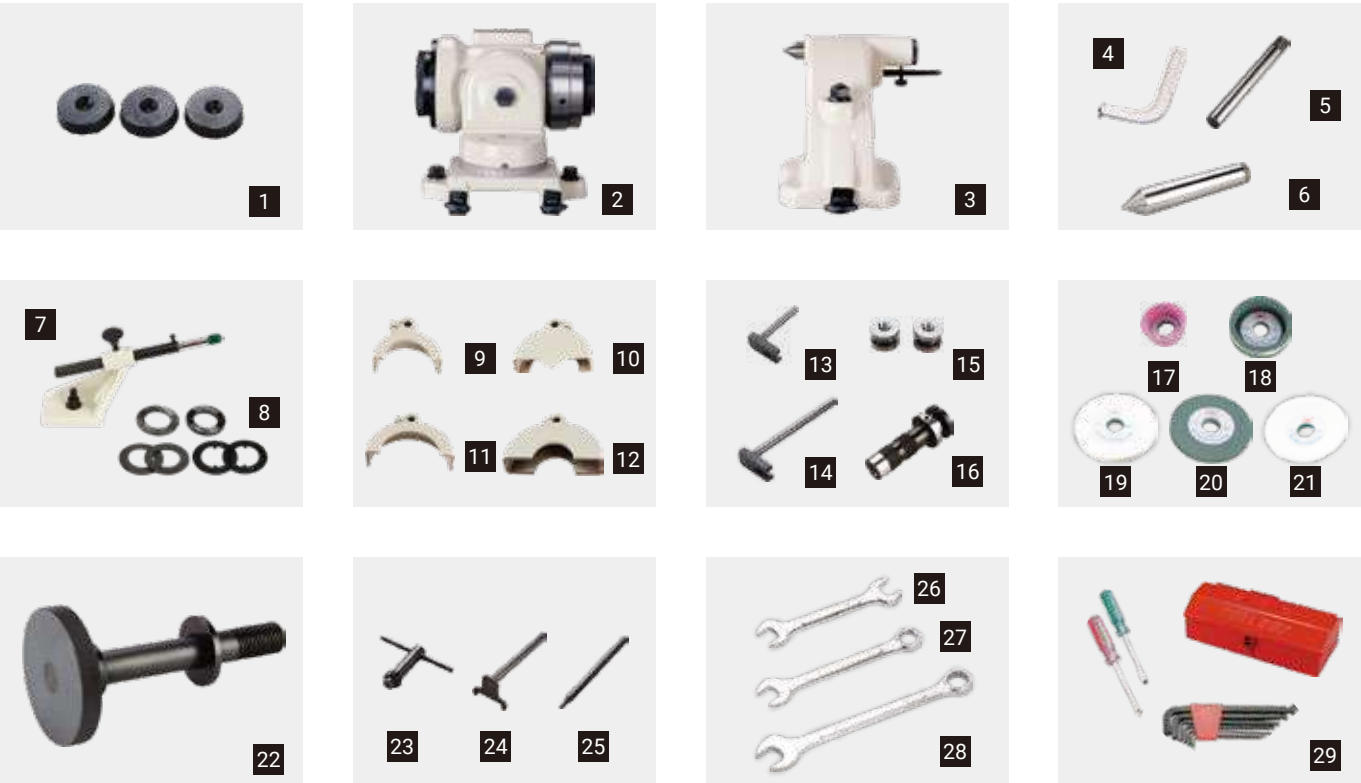
CCD Camera System (Option)
Online measuring process greatly improves the efficiency and quality of production, especially for the angle, arc, and high-precision generation and regrinding of various small cutters.



M-40MP Universal Cutter and Tool Grinder
· Transverse motion (X-axis) is driven by hydraulic cylinder.
· Cross motion (Y-axis) is driven by servo motor.
· PLC touch panel for manually inputting parameters.

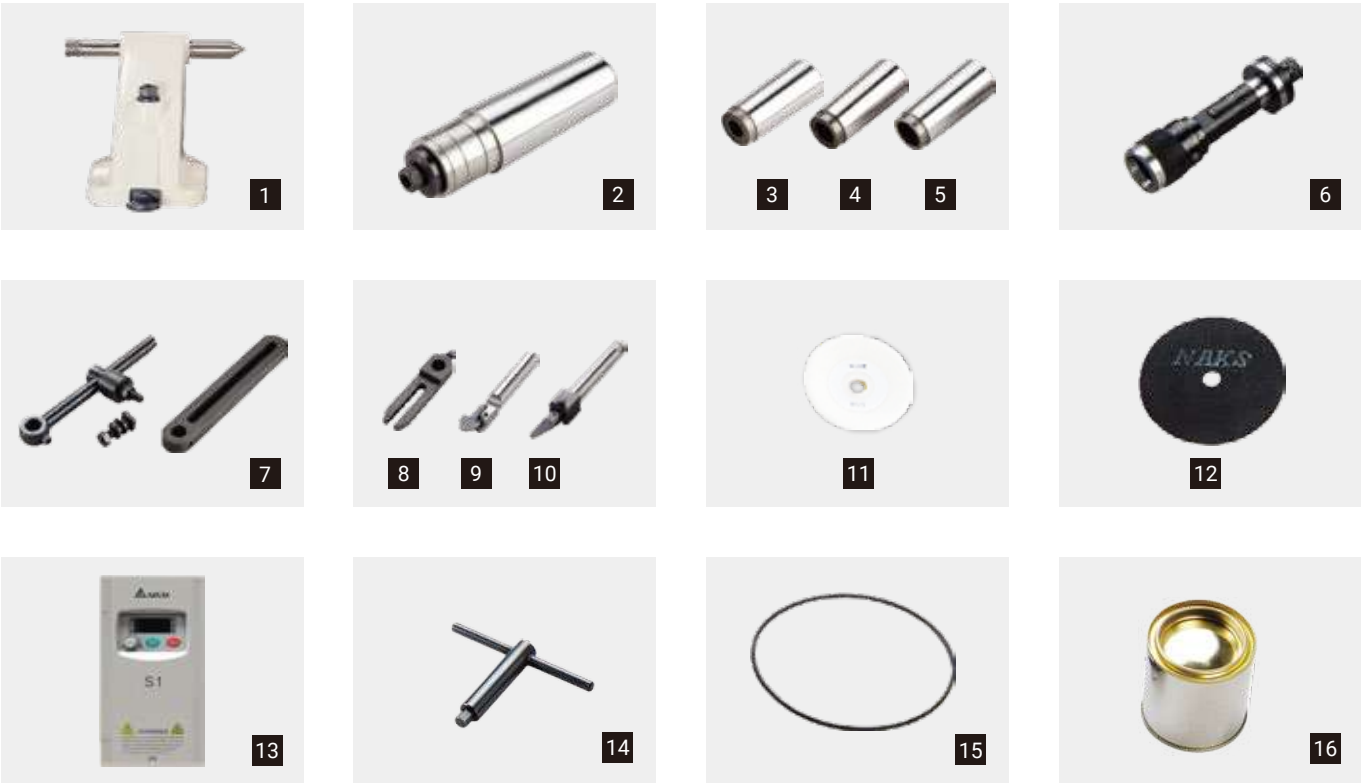


Standard Aecessories



1.Leveling Blocks	16.4" Grinding Wheel Flange Extension (Ø31.75 mm)
2.Workhead	17.Grinding Wheel (PA 90D x 38T x 31.75H)
3.Right-hand Tailstock	18.Grinding Wheel (GC 125D x 38T x 31.75H)
4.Center Gauge	19.Grinding Wheel (WA 150D x 13T x 31.75H)
5.Ejector Rod	20.Grinding Wheel (GC 150D x 13T x 31.75H)
6.Center for Workhead Spindle MT5	21.Grinding Wheel (WA 150D x 19T x 31.75H)
7.Diamond Dresser Holder	22.Draw-in Bolt for Workhead and Spacer
8.Grinding Wheel Washer Set	23.Wheel Spanner
9.Wheel Guard (Outer Diameter of Grinding Wheel Max. Ø90)	24.Collet Wrench
10.Wheel Guard (Outer Diameter of Grinding Wheel Max. Ø110)	25.Fixture Rod
11.Wheel Guard (Outer Diameter of Grinding Wheel Max. Ø125)	26.Open End Wrench (17-19 mm)
12.Wheel Guard (Outer Diameter of Grinding Wheel Max. Ø150)	27.Combination Wrench (19 mm)
13.Wheel Guard Holder (short)	28.Combination Wrench (24 mm)
14.Wheel Guard Holder (long)	29.Tool Box & Adjusting Tool
15.2 Sets Grinding Wheel Flanges	

Optional Aecessories



1.Left-hand Tailstock	21.Cylindrical Grinding Attachment
2.Tool Holder	22.Internal Grinding Attachment
3.MT5 to MT2 Morse Taper Sleeve	23.Workhead Indexing Attachment
4.MT5 to MT3 Morse Taper Sleeve	24.Extended Grinding Wheel Spindle
5.MT5 to MT4 Morse Taper Sleeve	25.Surface Grinding Attachment
6.4" Grinding Wheel Flange Extension (Ø12.7 mm)	26.Drill Pointing Attachment
7.Universal Tooth Rest Plate and Blade Holder Extension	27.Lathe Tool & Planer Tool Grinding Attachment
8.Plain Tooth Rest Holder	28.Spring Collet Set
9.Plain Tooth Rest Holder	29.Dust Collector
10.Fine Adjustment Guide Rod	30.Wet Grinding Attachment with Waterproof Equipment
11.Grinding Wheel (WA 76D x 12.7T x 12.7H)	31.5C Chuck
12.Grinding Wheel (A 100D x 1.5T x 12.7H)	32.CCD System with Software and IPC
13.Frequency Converter	33.Linear Scale (Resolution of X&Y-axis is 0.001)
14.T-Wrench	34.Linear Guideway - X-axis (M-40)
15.Belt for Spindle Drive	35.Hydraulic Device - X-axis (M-40) Travel:350 mm
16.Touch-Up Paint	36.PLC Controller - X-axis (M-40) Travel:300 mm
17.Radius Grinding Attachment (Radius NO.1)	37.PLC Controller - Y-axis
18.Radius Grinding Attachment (Radius NO.2)	38.Upgrading Grinding Wheel Spindle Motor to 2 HP
19.Face Mill Grinding Attachment	39.CE Safety Device
20.Helical Grinding Attachment	40.Transformer

Optional Accessories



17. Radius Grinding Attachment (Radius NO.1)

- Peak Power of motor : 0.2 kW (1/4 HP)
- Holder : MT5, Clamping range of tool diameter : $\varnothing 3 - \varnothing 32$ mm
- Max. Grinding range of arc radius : 50 mm
- Suitable for regrinding radius of ball, and end radius of ball end mill.



18. Radius Grinding Attachment (Radius NO.2)

- Holder : NT50 (BT50) Max. Tool diameter : $\varnothing 300$ mm
- Suitable for regrinding side cutter, face mill and end radius.
- Max. Grinding range of arc radius : 25 mm



19. Face Mill Grinding Attachment

- Grinding range of tool diameter : $\varnothing 170 - \varnothing 457$ mm
- Inclination of workhead : $\pm 15^\circ$
- Rotary horizontal angle : 360°
- Suitable for regrinding large face cutter or large cutting tool.



20. Helical Grinding Attachment

- Max. Grinding outer diameter : 125 mm
- Holder : MT4, Clamping range of tool diameter : $\varnothing 3 - \varnothing 25$ mm
- The inner workhead equally distribute 24 teethes for indexing device.
- Suitable for regrinding mill, hob, and drill of helical flute.



21. Cylindrical Grinding Attachment

- Peak Power of motor : 0.2 kW (1/4 HP)
- Three-jaw chuck : 4"
- Clamping range of tool diameter : $\varnothing 3 - \varnothing 90$ mm
- Suitable for regrinding surface of cylinder and surface of taper.



22. Internal Grinding Attachment

- Must be used with cylindrical grinding attachment that could grind taper of the internal hole.
- The internal attachment is driven by wheel spindle.
- Wheel spindle speed : 20000 rpm
- Internal grinding wheel diameter : $\varnothing 3 / \varnothing 6$ mm



23. Workhead Indexing Attachment (24 T)

- Standard issued attachment is a 24 equally distributed teethes indexing plate.
- Available for customize different numbered teeth of indexing plate.



24. Extended Grinding Wheel Spindle

- Length of extended grinding wheel spindle: extension 75 mm
- Suitable for regrinding small and special tool.



25. Surface Grinding Attachment

- Width of Vise : 100 mm
- Depth of vise : 30 mm
- Rotary horizontal angle : 360°
- Suitable for regrinding horizontal surface



26. Drill Pointing Attachment

- Six-jaw chuck
- Clamping range : 3 – 60 mm
- Suitable for re-grinding drill point, step drill, center drill, chamfer mill, relief angle of 3 or 4 flutes' taps.



27. Lathe & Planer Tool Grinding Attachment

- Clamping range of tool : 10 – 38 mm
- Suitable for regrinding lathe and planer



28. Spring Collet Set

- Clamping range of tool diameter : $\varnothing 6 - \varnothing 25$ mm
- Holder : MT5

Optional Acessories



- 29.Dust Collector

 - Peak Power of Motor: 0.4 kW (1/2 HP)
 - It collect chips with dusts to keep working environment clean.



- 30.Wet Grinding Attachment with Waterproof Equipment

 - Peak Power of Motor: 0.1 kW (1/8 HP)
 - Suitable for cooling tool while it grinds.



31.5C Chuck



- 32.CCD Camera System

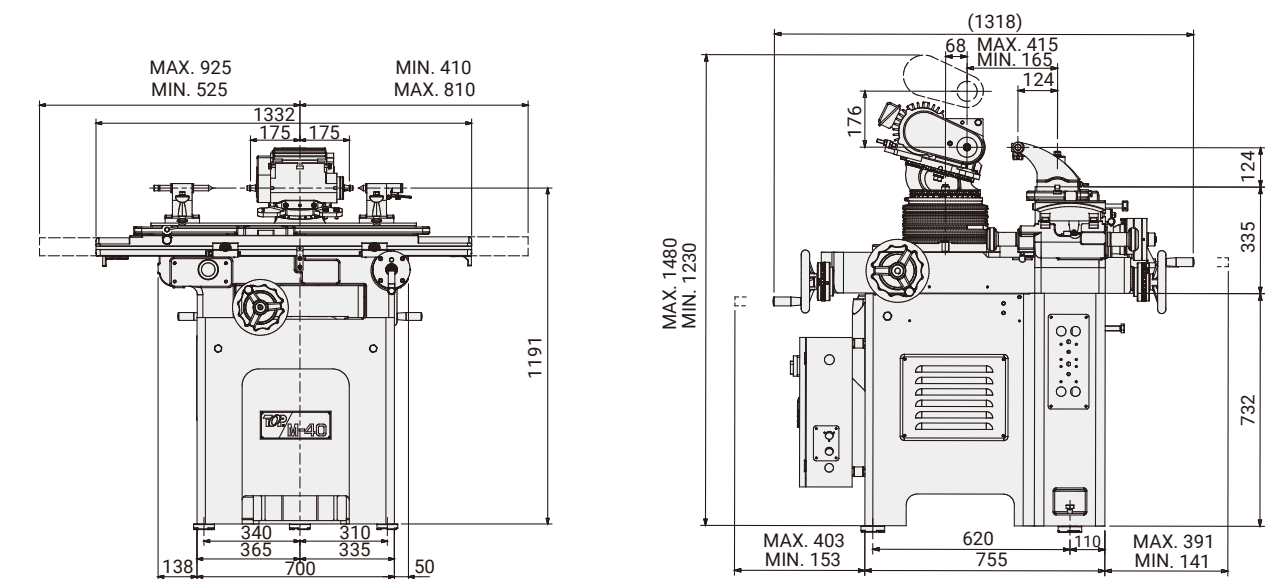
Online measuring process greatly improves the efficiency and quality of production, especially for the angle, arc, and high-precision generation and regrinding of various small cutters.

 - For irregular and complex tools and parts regrinding.
 - Online measuring system (24" magnification for full screen : Max. 135x)
 - Tool comparison software (including dxf import)

Machine Layout

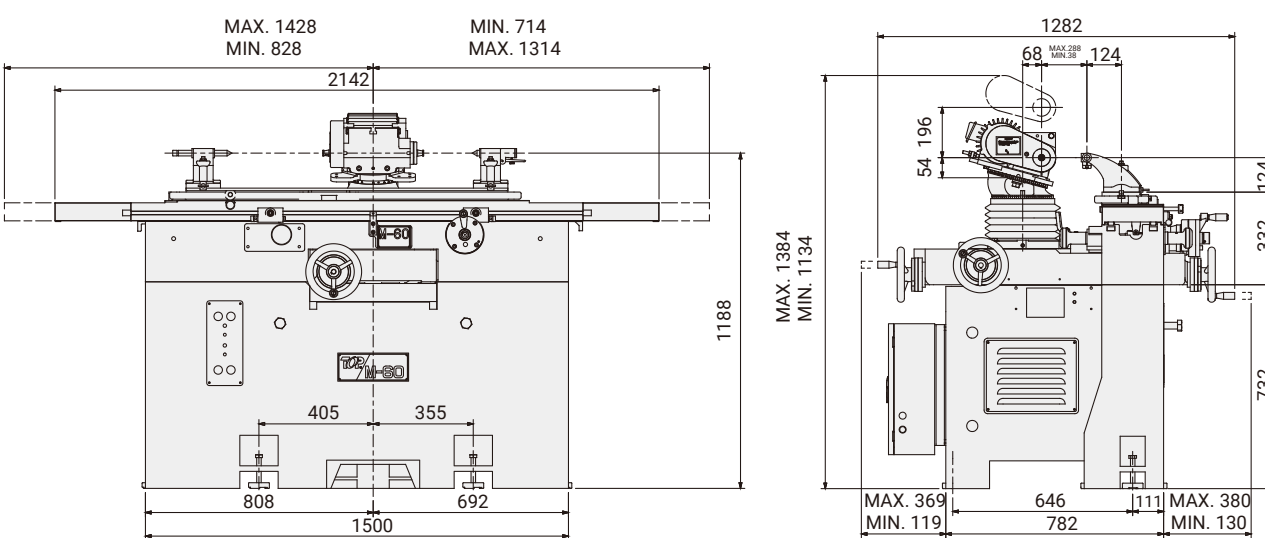
M-40 UNIVERSAL CUTTER & TOOL GRINDER

Unit : mm



M-60 UNIVERSAL CUTTER & TOOL GRINDER

Unit : mm



Specifications

	M-40	M-60
Stroke		
Longitudinal Movement of Table (X-axis)	400 mm	600 mm
Cross Movement of Saddle (Y-axis)	250 mm	250 mm
Verticle Movement of Wheelhead (Z-axis)	250 mm	250 mm
Distance Between Center	700 mm	900 mm
Distance Between Tailstock and Workhead	580 mm	780 mm
Workbench		
T-slot	15 mm (+0.05 – +0.10 mm)	15 mm (+0.05 – +0.10 mm)
Working Range of Table	135 x 940 mm	135 x 1140 mm
Rotative Angle of Table	±60°	±60°
JOG Adjustment of Table	±10°	±10°
Workhead		
Workhead Taper	One end MT5/the other NT50	One end MT5/the other NT50
Wheelhead		
Inclination of Wheelhead	±15°	±15°
Rotative Angle of Wheelhead	360°	360°
Distance Between Center of Spindle and Table	Max. 300 mm/Min. 50 mm	Max. 300 mm/Min. 50 mm
Distance Between Center of Spindle and T-slot	Max. 415 mm/Min. 165 mm	Max. 415 mm/Min. 165 mm
Peak Power	1.5 HP (1.1 kW) 2 HP (1.49 kW) - opt. 3 HP (2.23 kW) - opt.	1.5 HP (1.1 kW) 2 HP (1.49 kW) - opt. 3 HP (2.23 kW) - opt.
Grinding wheel spindle Speed	2600/3700/6200 rpm	2600/3700/6200 rpm
Machine Dimensions		
Dimensions (W x D x H)	1332 x 1318 x 1480 mm	2142 x 1282 x 1384 mm
Weight	970 kg	1370 kg

※ All specifications are subject to alternations without prior notice.

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