

MACTECH 12-24 END PREP LATHE SPECIFICATIONS

Mactech Model 12-24 Single Point End Prep Lathe is a portable I.D. mounted end prep lathe for machining pipe and valves from 12" (schedule 10-120) to 24" (all schedules). Capable of simultaneously beveling, facing and counterboring, it also has single point beveling and flange facing capabilities out to 25" diameter. The tool has self-accepting torque, straight back feed and integral air or hydraulic drive.

The equipment listed is our current production Model 12-24, which when connected to the plant air or the hydraulic power supply according to the operating requirements specified below, can be used for the pipe machining functions described herein. At the rear of the 12-24 is an axial feed knob, which is manually rotated during form cutting, moving the tool bit and cutting head axially along the mandrel toward or away from the work piece. For single point operation, this axial movement (gauged by a removable ring) is accompanied by simultaneous automatic radial movement of the tool holder, producing the desired angled bevel.

Model 12-24 Components

Frame:

The lightweight frame is made of solid stock aluminum (stronger than cast aluminum). The frame has bearings mounted for the rotating head, a drive motor mount, and a torque housing which transfers the torque reaction generated by the cutting operation through the mandrel to the pipe being cut.

Mandrels & Locator Pads:

The 12-24 comes with two 4-jaw independent chuck mandrels, with required locator screws. An optional 3 jaw automatic chuck mandrels with locator pads are available for fast mounting on straight pipe.

Cutting Head Assembly:

The cutting head assembly is a heat treated 4340 alloy steel gear assembly, integrated into the aluminum frame.

Bearings:

The cutting head runs on high precision ball roller main bearings which provide for both axial and radial force reactions experienced in heavy wall pipe machining.

Drive Assembly:

The motor drive assembly is precision mounted to the machine frame and arranged with a pinion gear on a shaft supported by angular thrust radial ball bearings and needle bearings. The drive mounting bracket is designed to accept the reaction torque generated by the drive motor.

Tool Holders (Blocks):

The single point tool holder mounted to the cutting head assembly is provided with an automatic radial feed "star wheel" mechanism. This can be replaced with the extra form cutting tool block, which then gives the 12-24 simultaneous form bevel, land face, and counterbore capabilities. Once set up this way, the tooling can be used to prep repeated pipes with little or no re-adjustment. The slides feature adjustable gibs to adjust for wear.

Tool Bits:

Mactech tool bits are available for single and multi-angle beveling, J beveling, land facing, counterboring, flange facing, valve bonnet facing, victaulic grooving, etc. Tool bits are sold separately as consumables.

Model 12-24 Performance Data

Set-up Time:

A trained operation can set up the 12-24 on an unobstructed pipe end or flange in no more than 50 minutes.

Pipe Mounting Range: Nominal pipe diameter mounting range:

<u>#1 Independent Chuck</u>	<u>#2 Independent Chuck</u>
10.75" to 18" I.D.	18" to 24" I.D.
<u>#1 Automatic Chuck</u>	<u>#2 Automatic Chuck</u>
8.50" to 16.50" I.D.	16.50" to 24.50" I.D.

Pipe Cutting Range:

Step cutting may be required for form cutting heavy wall pipe.

<u>Type of Cut</u>	<u>Cutting Range</u>	<u>Wall Thickness</u>	<u>Clearance</u>
Form Cutting	10.75" I.D.-24.00" O.D.	All schedules	25.00"
Single Point Cut	10.75" I.D.-25.00" O.D.	All schedules	35.50"

Drive Capacity:

Drive capacities are based on in-house testing and extrapolation of test data.

In-Line Air Drive (4800U) - Motor Data:

Free Speed:	185 rpm (No load)
Speed @ Max. Power:	97 rpm (Full load)
Air Requirements:	95 cfm @ 90 psi
Max. Horsepower:	3.50 hp
Starting Torque:	265 ft/lb
Stall Torque:	354 ft/lb

Hydraulic Drive - Motor Data:

Max. Speed @ 15GPM; 1200psi	320 rpm
Effic. Speed @ 10GPM; 1200psi	207 rpm
Pressure Rating:	1200 psi continuous 1800 psi peak
Max. Horsepower:	6.5 hp
Torque:	1327 in/lb

Conversion Packages:

The 12-24 EPL can be converted for flange facing or end prepping from 24" to 36" pipe with the purchase of the 24-36 conversion package which includes 24-36 extension arms and extended mandrel head assembly. There are also the options of the Mactech Model 36-48 conversion package (for 36" to 48") and the 48-60 conversion package (for 48" to 60"). This gives the Mactech Model 12-24 the potential range from 10.75" I.D. to 60" pipe.

Model 12-24 General Information

The Model 12-24 End Prep Lathe is packed in protective foam and typically comes complete with the following:

- *1-Single Point Beveling Ring for specified angle from the following list:
5, 10, 15, 20, 25, 30, 37.5, 45, 30-10, 37.5-10, or 45-20 degrees.
- *In-line Air Drive or Hydraulic Drive
- *Form Bevel & Single Point/Face/Counterbore Blocks
- *Single Point and Form Cutting Tool Block Slides
- *Independent Chucks 1 & 2
- *All sets of locator screws
- *All hand tools required
- *Air Caddy (Filter & Lubricator) with any air drive
- *Metal gang box for machine storage
- *Operating Manual with parts list

Shipping Weight: 820 lb. Shipping Dimensions: 60x24x24 in.
Operating Weight: 475 lb.

Special Options:

Hydraulic Power Supply (480VAC)
Automatic Remote Feed for strict operating environment, with programmable digital display.
Right Angle Drive
Automatic Chucks 1 & 2
2T Counterboring Holder
24" - 36", 36" - 48", 48" - 60" Conversion Packages

Recommended Spare Parts:

Mactech, Inc. recommends purchasing extra parts to avoid time spent waiting for lost or damaged parts to be replaced.

Technical Support:

Mactech, Inc. recommends on-site training for your technicians by our technical support personnel to assure proper operation and maintenance. Costs would be predicated on travel expenses, number of days required to train technicians, per diem, expenses, etc.

Warranty:

Two (2) year limited warranty.