

TECHNICAL SPECIFICATION MODEL BOILERMASTER™ SYSTEM

The BOILERMASTER™ is a portable ID mounting end prep lathe designed specifically for weld end prepping boiler tubes. Special features for boiler work include:

- Mandrel shaft heat treated to Rc 50 for maximum strength and to minimize wear damage.
- Integral ratchet feed lever to keep the operators hands out from between adjacent tubes and for ease of operation (minimum operator hand stress).
- Integral mandrel ratchet wrench for speed of use and loss prevention.
- Heavy duty tool bits and tool bit wedge lock mounting system to maximize bit life.
- Heavy duty tapered mandrel and spindle bearings.
- Mandrel shaft seal to keep coolants out of the gears.
- Heat treated mandrel mounting blocks for maximum life and secure mounting.
- Heavy duty motor options and gear reduction for optimum performance.

The BOILERMASTER™ with the standard mandrel and 2.63" (66.8mm) diameter cutting head will bevel and face boiler tubes with an ID over 1.25" (31.8mm) and an OD up to 2.63" (66.8mm). Reduced size mandrels and larger cutting heads are available to expand the operating range.

The BOILERMASTER™ System comes complete with:

- BOILERMASTER™ Sub-Assembly
- Motor Assembly
- Mandrel Assembly
- Jaw Block Set
- Wrench Kit
- Carrying Case
- Operator's Manual

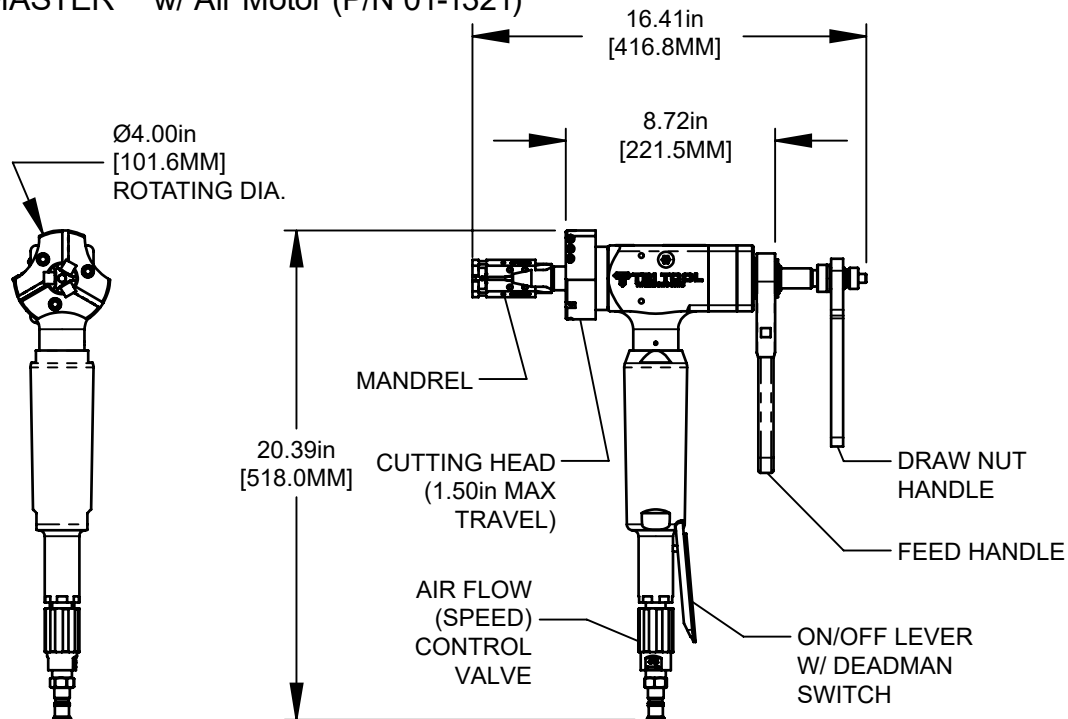
Design and Operating Features

- The lathe accepts its own torque through the mandrel.
- The expanding mandrel provides fast, accurate self-centering and alignment.
- All tools needed for operation (less Tool Bits) are provided with the system.
- The lathe [at less then 18 lbs. (8.16 Kg)] is lightweight and is easily handled by one operator.

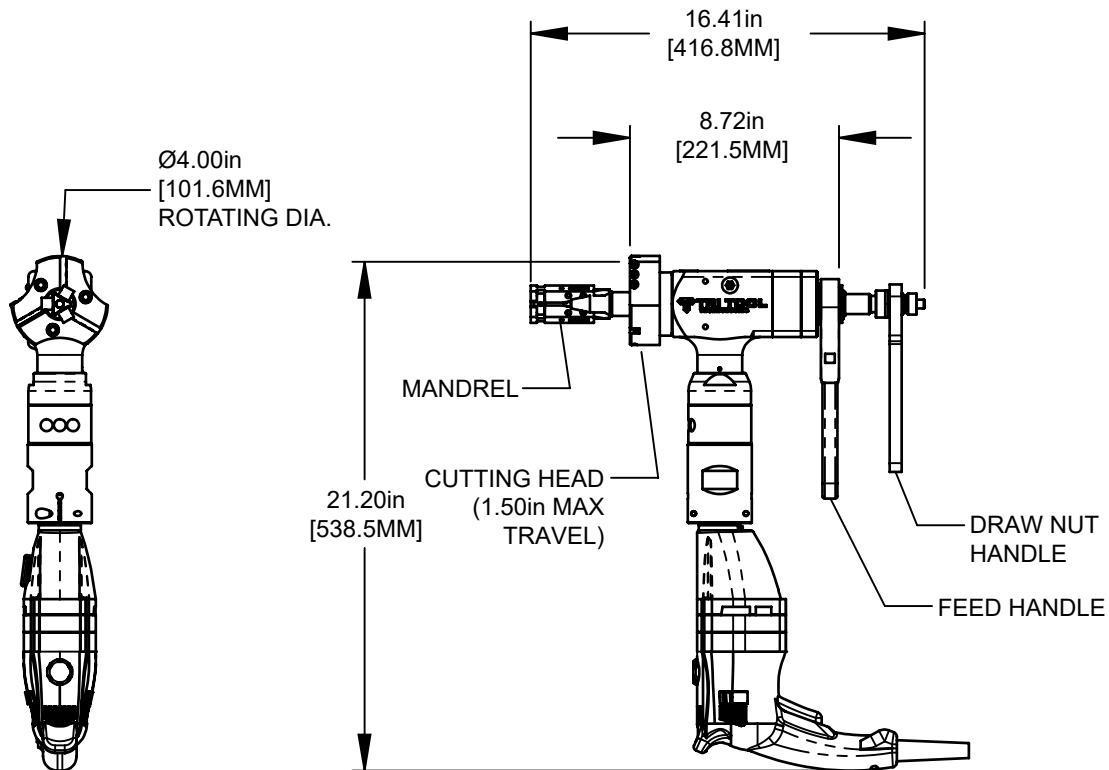
Specifications

Reference Envelope Drawings

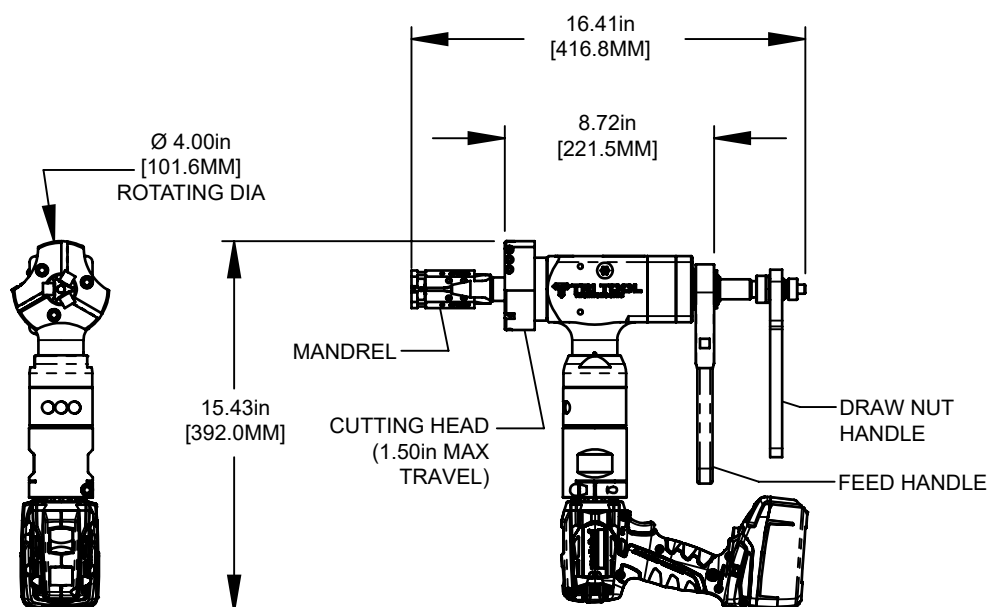
BOILERMASTER™ w/ Air Motor (P/N 01-1321)



BOILERMASTER™ w/ Corded Electric Motor (P/N 01-2051)



BOILERMASTER™ w/ Cordless Electric Motor (P/N 01-2749)



Clearance and Dimensions

Rotating parts diameter with 2.63" dia. head	2.63" (66.8mm)
Rotating parts diameter with 4.00" dia. head.	4.00" (101.6mm)
Length over motor:	Motor-specific (see drawings)
Length (of machine)	8.72" (21.5mm)
Available feed travel:	1.50" (38.1mm)

Pipe Cutting Capacities

Basic Pipe Sizes

1 1/4" through 4" pipe All Schedules

Note: Some schedules may require optional equipment.

Basic Tube Sizes

Up to .531" (13.5mm) wall tubing with a maximum OD of 4.50" (114.3mm) and a minimum ID of 1.25" (31.7mm) may be beveled with standard mandrel..

Wall Thickness Capacity

Wall thickness of all standard pipe schedules [.53" (13.5mm) maximum] in the range listed. Contact Tri Tool Technologies for heavier wall procedures.

Counterboring Operations

The tool will counterbore pipe and tubing with an ID range of 1.50" (38.1mm) to 4.33" (110.2mm).

Material Cutting Capabilities

Mild steels, Chrome steels (Rc 35 max), stainless steel, copper-nickel alloys and aluminum without limitations except size and wall thickness as specified.

Inconel and some other high temperature alloys may require special procedures as a function of wall thickness and type of end preparation. Contact Tri Tool Technologies' Engineering Department for details.

Drive System and Cutting Head Speeds

RPM at 300 surface inches per minute:

- | | |
|-------------------|--------|
| • 4.50" (114.3mm) | 21 RPM |
| • 1.25 (31.8mm) | 76 RPM |

Pneumatic Motor

Final Drive	Gear-Driven
Free Speed (Max HP speed)	325 RPM (162 RPM)
Maximum Cutting Head Speed	162 RPM
Cutting Head Speed @ Max HP	82 RPM
Functional Speed Range	20-100 RPM

Corded Electric Motor

Final Drive	Gear-Driven 12:1 Reduction
Free Speed (Max HP Speed)	
• Low Range	1068 RPM (712 RPM)
• High Range	3048 RPM (2032 RPM)
Cutting Head Speeds	
• Low Range	0-14 RPM
• High Range	0-42 RPM

Cordless DC Electric Motor

Final Drive	Gear-Driven 12:1 Reduction
Cordless Electric Motor	
Free Speed	
• Low Range	540 RPM
• High Range	1900 RPM
Cutting Head Speeds	
• Low Range	7 RPM
• High Range	26 RPM

Power Supply

Pneumatic (air) motor requires 55 cfm (26 L/s) air supply at 90 psi (621 kPa) for maximum horsepower delivery.

Note: Air Supply must have a Filter/Regulator/Lubricator (FRL) system to protect the warranty on the air motor.

Corded electric motor requires 115 VAC, 28 to 60 Hz 5.25 amp

Cordless DC electric motor requires 115 VAC, 50/60 Hz or 230 VAC 50/60 Hz (for charger).

Speed Control

Pneumatic motor: On/off safety lever valve and twist-type air flow control valve

Corded electric motor: On/off trigger with variable speed control

Cordless DC electric motor: Variable speed trigger

Feed

Manual-Feed wrench is at a right angle at the back of the machine. Feed rate is .100" (2.5mm) per revolution of the feed wrench.

Maximum available feed travel is 1.50" (38.1mm)

Mounting

Manually-actuated draw rod expands mandrel ramps and jaw blocks.

Accessories

- 2.63" (66.8mm) Dia. Head Kit (P/N 03-0047)
- 4.00" (101.6mm) Dia. Head Kit (P/N 03-0048)
- Mandrel Assembly, Reduced Dia., 1.00" (25.4mm) to 1.25" (31.8mm) range (P/N 06-0414)
- Mandrel Assembly, Reduced Dia., .610" (15.5mm) to 1.00" (25.4mm) range (P/N 06-0413)

Note To The Customer

Spare Parts and Standard Tool Bits are available from stock. Engineering design services for custom tool bits and special function modifications are available from the factory.

All Tri Tool Technologies and allied equipment products are subject to design improvements and specification changes at any time with no obligation to units already sold.

Warranty (limited): Parts and equipment are warranted against defects in material and workmanship for a period of one (1) year from date of purchase. Full details supplied on request and/or with the tools.



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