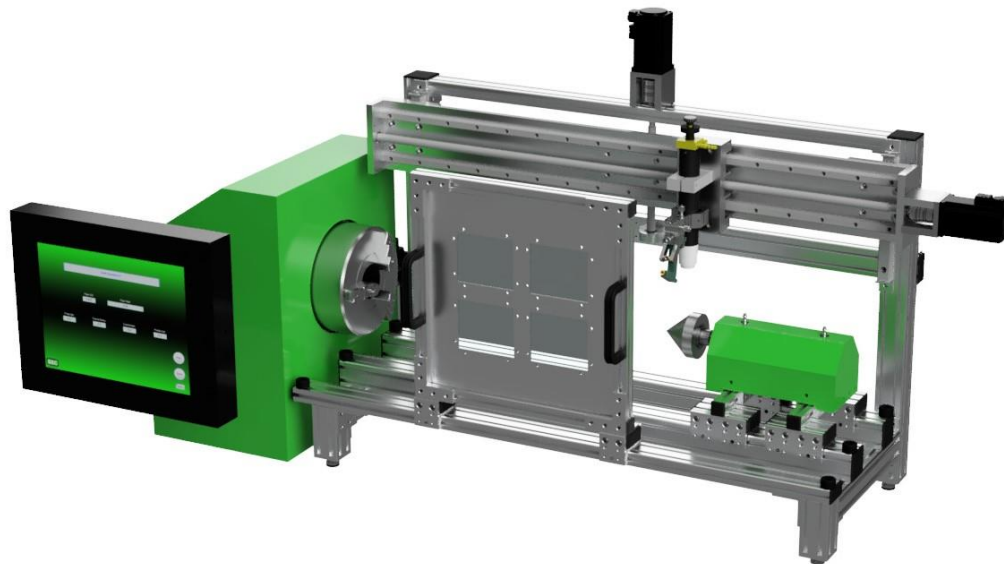




6621 Bay Circle • Norcross, GA 30071 • 404.301.9411

M3-WL03 Precision Weld Lathe



M3-WL03 Precision Weld Lathe

The M3-WL03 Precision Weld Lathe is an easy-to-use, servo-driven system that will maximize the operator's productivity while improving the quality and consistency of each welding operation. The weld lathe possesses single-point power distribution with 3-phase, 208-amp power. The modular design allows for long-term repairability, and its flexible configuration makes this machine suitable for a variety of operations and applications. SEC Industrial also offers custom fixturing for more unique welding applications.

No separate programming or software is required for the M3-WL03's user-friendly PLC-controlled touch screen. The system's program also allows the user to log weld data for each welding operation.

The M3-WL03 Precision Weld Lathe possesses four CNC controlled axes of movement, which include:

- **Headstock Rotation:** The headstock rotation can be programmed to rotate to allow the weld head to access the entire diameter of the pipe or tube. The rotation speed and direction can be changed using the M3-WL03 program.
- **X-Axis Travel:** Precision linear guide rails combined with precision ball screw allow the weld head to move along the length of the pipe or tube. In addition to standard travel along the pipe length, the servo driven X-axis travel allows the weld head to oscillate across a weld joint. The oscillation length and speed can be adjusted using the weld lathe's touch screen.
- **AVC Travel:** The Z-axis travel provides servo driven AVC control to maintain the torch offset position relative to the weld joint. With over 5 inches of vertical motion, the system allows for a wide range of pipe sizes to be welded.
- **Wire Feed:** With constant wire feeding, the cold-wire feeder included in the M3-WL03 allows for all weld passes in a single operation to be performed under a single arc, increasing arc-on time and productivity. The wire speed can be adjusted using the M3-WL03 program.

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The tail stock on the M3-WL03 Precision Weld Lathe will be outfitted with a pneumatic extension and retraction and a live center.

Component Listing and Specifications

Part Illustration	Description and Specs.
<p data-bbox="228 619 643 653">M3 Touchscreen Controller</p>  <p>The image shows a 15-inch touchscreen monitor with a green background. It displays various welding parameters and controls, including a 'SEC' logo in the bottom left corner.</p>	<ul style="list-style-type: none"> • HIS-UM15-CTTH Touchscreen Monitor for easy-to-use weld operation adjustments • 15" single-touch resistive touch screen • VESA-WALLMT3-BLK wall mount bracket • AVC and X-axis jogging travel • Adjustable primary and background amperage • Adjustable primary and background pulse time • Adjustable arc voltage • Adjustable travel speed and wire feed speed • Adjustable oscillation amplitude • Adjustable in and out dwell • Adjustable excursion time
<p data-bbox="285 1148 586 1182">Headstock Rotation</p>  <p>The image shows a grey industrial servo drive unit with a cooling fan on top and various ports on the side. It is labeled 'SV2A-2200'.</p>	<p data-bbox="857 1148 1252 1182">Headstock Rotary Module</p> <ul style="list-style-type: none"> • SV2A-2200 servo drive is configured for rotation control of the M3-WL03 Headstock • Programmable: <ul style="list-style-type: none"> ○ Rotation Speed ○ Direction ○ Delays (start & stop) • Manual jog and continuous rotation set on M3 Touchscreen Controller • Programmable synchronized motion with the Y-axis and Rotation Axis

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X-Axis Travel



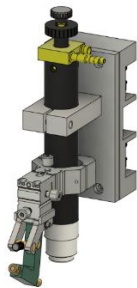
- SV2A-2040 servo drive is configured for linear travel control along the X-axis
- Precision servomotor with encoder for integrating to motorized linear device
- Programmable:
 - Travel Speed
 - Direction
 - Delays (start & stop)
- Manual jog is controlled by M3 Touchscreen Controller
- Oscillation capable

AVC Travel



- SV2A-2040 servo drive is configured for linear travel control along the Z-axis
- Precision linear guide rail assembly with torch mount
- Precision servomotor with encoder and limit switches
- Programmable voltage by segment
- Programmable voltage sensitivity
- Programmable start delay
- Touch retract for setting initial torch stand off from part
- Home position and travel extent limit switches included
- Brake for slide used in vertical orientation

TIG Torch



- MT500C-7 Barrel Machine TIG Torch
- Amperage: 500 A
- Cable Type: 1-Piece Standard
- Rated Output: 500 A ACHF or DCSP
- Adjustable wire feed manipulator

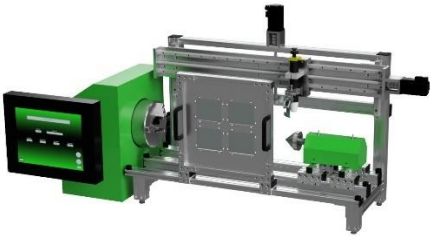
M3-WL03 Precision Weld Lathe

Cold-Wire Feeder



- SF SS4-ST4 4-Roll aluminum & polyamide wire drive unit
- Wire diameter: 0.6 mm – 3.2 mm
- Quick release system for feed rolls

M3-WL03 Workstation



- Maximum distance between headstock and tailstock is 24"
- 283 lb. Positioner Weight (128.5 kg)
- 665 lb-in rated positioner capacity
- Maximum part OD of 10" (254 mm)
- Precision servomotor with encoder for control and feedback of headstock rotation
- Tailstock – manually positioned and locked along length of the lathe
- Tailstock includes pneumatic cylinder with adjustable pressure regulator for clamping parts to be welded
- Standard Weld Chuck with thru hole
- Limit switches – fixed home position switch on the headstock
- Sliding 16" x 16" weld screen
- Adjustable leveling feet

M3-WL03 Precision Weld Lathe

Miller Maxstar 400



- Miller Maxstar 400 TIG Weld power supply
- Weldable Metals:
 - Specialty Metals
 - Stainless Steel
 - Steel
- Input Voltage:
 - 208 V
 - 220/230/240 V
 - 380/400 V
 - 460/480 V
 - 575 V
- Input Phase: 1- and 3- Phase
- Input Hz: 50/60 Hz
- Current Type: DC
- Max Open Circuit Voltage: 75 VDC
- Amperage Min/Max: 3 – 400 A

Miller Coolmate 3.5



- Miller Coolmate 3.5 water cooler
- Max Cooling Capacity: 4140
- Input Hz: 50/60 Hz
- Rated Cooling Capacity: 1660
- Tank Capacity: 13.2 l

Single Point Power Distribution






- SDR-480-24 Mean Well AC-DC Industrial DIN rail power supply
- Power Output: 480 W
- Output Voltage: 24 V
- Output Current: 20 A
- Input Voltage:
 - 110/230 V universal input
 - 90-264 V

M3-WL03 Precision Weld Lathe

Optional Features

In addition to the standard components listed above, the consumer as the option to include additional modules to better suit their welding needs. The additional modules are:

Part Illustration	Description and Specs.
<p data-bbox="272 466 604 499">M3-WL03 Workbench</p> 	<ul data-bbox="743 520 1399 751" style="list-style-type: none"> • 73" x 38" steel tabletop • 42" in height • Possesses the ability to house an M3-WL03 Precision Weld Lathe, Maxstar 4000, Coolmate 3.5, AllinOne, Electrical Cabinet, Weld Screen, and Light Curtain
<p data-bbox="289 919 587 953">Safety Light Curtain</p> 	<ul data-bbox="743 970 1409 1318" style="list-style-type: none"> • YBB-30S4-1800-G012 & YBB-30R4-1800-G012 Safety Light Curtain is an additional safety feature that will automatically turn off the weld arc if the operator reaches across the light curtain • Input Voltage: 24 VDC • Protected Height: 71.7 in. • Operating Distance: 9.84 – 472 in. • Connection: 5-pin M12 quick-disconnect
<p data-bbox="337 1386 532 1419">Weld Screen</p> 	<ul data-bbox="743 1444 1393 1633" style="list-style-type: none"> • Shade 12 polycarbonate weld screen with LxWxH of 73" x 48" x 21" • Weld screen can be mounted to the M3-WL03 Workbench tabletop • 270° protection from arc flash

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Hot Wire TIP TIG – AllinOne



- TIP TIG – AllinOne cold wire and hot wire feeder for increased deposition rate
- 400% improvement in deposition rate
- Dilution is reduced by up to 80%

