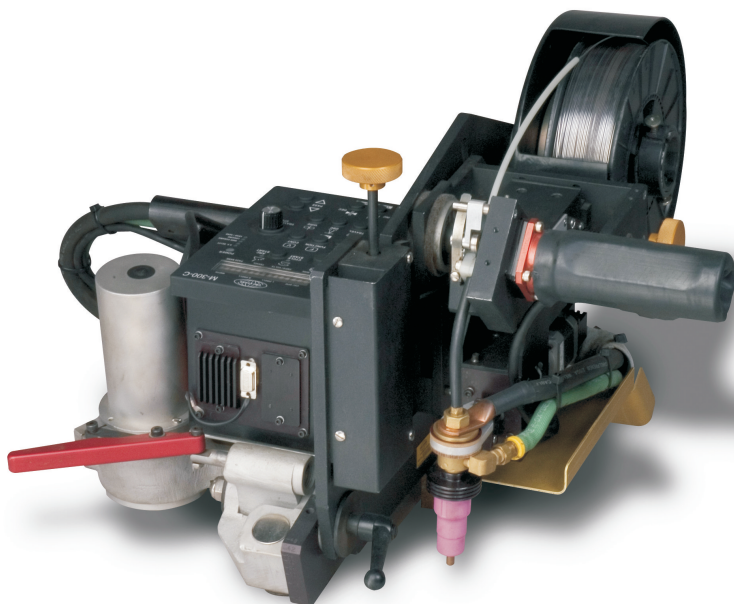


M-300-C Computerized Welding Machine



Advanced Technology

The M-300-C external welder is a functional upgrade to the CRC-Evans M-300 system.

This single torch external welding system offers consistent welding parameter and quality control, and provides the user 32 programmable welding passes. The onboard computer ensures precise control of welding parameters: travel speed, oscillation, dwell times, etc.

The M-300-C is a self-contained platform incorporating a travel carriage, wire feed motor and wire spool, computer control box, and adjustable welding head. Suitable for FCAW, GMAW, or Pulsed-GMAW processes, this versatile design easily interfaces with most constant-voltage or pulsed-current welding power sources, including the new inverters. The M-300-C has the ability to perform external root pass welding in addition to standard hot, fill, and cap pass welding.

Welding System	
Features	Benefits
● Narrow-gap joint design ● Increased deposition rate ● Microprocessor control ● Easy operation ● Consistent weld properties	● Less weld metal required ● Higher production rates ● Programmable for all passes ● Lower cost per weld ● Less physical strain on welders ● Consistent weld quality

Mechanical Specifications					
Length	21.0’’	533mm	Wire Spool Weight	10lbs	4.5kg
Width	20’’	508mm	Vertical Axis Stroke	2.75’’	69.9mm
Height	14’’	356mm	Head Angle Adjustment	±10 ^o	-
Weight (w/o wire spool)	51lbs	23.18kg			
Oscillation Speed ¹			0-250 BPM	-	
Oscillation Width ²			0-0.75’’	0-19mm	
Dwell Time ²			0-1.0 seconds	-	
Wire Feed Speed ³			100-625 IPM	2.56-16 meter/min	
Travel Speed ⁴			4-60 IPM	0.1-1.54 meter/min	
Wire Feed Motor (DC Brush-type motor)			Speed controlled via digital encoder		
Travel Motor (DC Brush-type motor)			Speed controlled via digital encoder		
Oscillation Motor			Uses a digital stepper motor		
Minimum Cutback Distance (bevel to coating)			11’’	279.4mm	
Minimum Cutback Distance (bevel to concrete)			15’’	381.0mm	

Electrical Specifications
Required main power: 28 VDC regulated. AC (115V to 230V auto-switching). DC 28v power supply provided by CRC-Evans with M-300-C system.
Generator requirement: 50 KVA per shack
Temperature Range: -40°C to +70°C contact CRC-Evans for extreme weather application setup requirements

Programmable Welding Parameters	
Motor Speeds	Crater Fill Time
Potentiometer Function	Burn Back Time
Oscillation Width	Pre- and Post- Purge Times
Oscillation Frequency	Dry Cycle Mode
Right and Left Dwell Times	Turn Display On or Off
Clockwise and Counterclockwise Welder Type	Enable/Disable Oscillation Width Adjustment
Travel Direction	Travel Motor Startup Delay
Units (English or Metric)	

Note: More programmable welding parameters can be made available based on customer need.

Welding Power Supplies Supported ⁵
Miller 456MP, Miller XMT304
Lincoln 350 PRO, Lincoln Dc400
Lincoln STT (External Root)
(Contact CRC for support of other power source)

¹ Uses 70:1 gear box for high torque; speed based on width setting, dwell time

² Based on beats per minute

³ For 55.3:1 gear box

⁴ For 94:1 gear box

Additional Features	
Thirty-two programmable welding passes	
Enforced limits on programmable welding parameters (motor speeds, oscillation width, etc.)	
No trim pots or jumper settings on any hardware component	
Feedback from optical encoders on digital motors removes the need for motor calibration	
Removable elastomeric keyboard is easy to replace after prolonged use	
Onboard display shows critical weld parameters (Travel Speed, Wire Feed Speed, Oscillation Width and Frequency, Dwell Times, and Pass Name) as well as user-friendly diagnostic information	
System can be configured to perform a single pass on multi-station jobs or perform all passes on a single station.	
Independent modular power driver stages for all motors assist in easy troubleshooting	
Programmable potentiometer can be set to control wire feed speed or travel speed	

Conformance Testing	
CE European Certification	The CRC Evans External Welder (M-300-C) was tested to EN 55011, Group 1 Class A and was found to be in compliance with the required criteria.



Automatic Welding

USA: 281-999-8920 • Netherlands: +31-33-253-4369 • UK: +44-1282-855040
www.crc-evans.com