

Auto-Continuum™ Systems

Automated MIG
Welding Systems



Quick Specs

Industrial Automation

Construction equipment
Automotive components
Recreational vehicles
Farm machinery
Office furniture
Mining machinery

Processes

Advanced MIG processes:
Versa-Pulse™
Accu-Pulse® MIG (GMAW-P)
RMD®
MIG (GMAW)
High-deposition MIG (GMAW)
Flux-cored (FCAW)

Input Power Auto-Line™ 230–575 V
3-phase, 50/60 Hz

Rated Output at 104°F (40°C)
350: 350 A at 31.5 V, 100% duty cycle
500: 500 A at 39 V, 100% duty cycle

Output Range
350: 20–400 A, 10–44 V
500: 20–600 A, 10–44 V

Take your welding to the next level.

Next generation automation welding solution delivers advanced arc performance to improve throughput and weld quality.

The Auto-Continuum system features an adaptive arc with less spatter and improved gap handling, providing increased travel speeds and high-quality welds on a variety of base materials. Simple integration with fixed and flexible robotic systems.

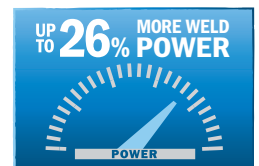
Insight

Integrated Welding Intelligence™ solutions. Delivers information to measure and improve your welding operation. See page 4 for more information.



New!

Auto-Continuum 350 and Auto-Continuum wire drive motor assembly shown.



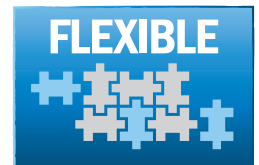
More power, better reliability



Better weld quality



Easy to set up and install for EtherNet/IP™, DeviceNet or Analog protocols



Easy to add capabilities



Power source is warranted for three years, parts and labor. Original main power rectifier parts are warranted for five years.



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MillerWelds.com
f t y i n



Auto-Continuum™ System Processes

Each weld program is designed for specific wire and gas combinations — for optimized performance.

Low spatter levels at high travel speeds is a requirement in automated welding. The Versa-Pulse process precisely controls the welding arc, significantly reducing spatter size and quantity. Total spatter can significantly reduced over traditional processes.



Better weld quality

The adaptive arcs of Versa-Pulse™ and Accu-Pulse® instantly make adjustments to handle weld tacks, large gaps and inconsistent parts. The result is higher quality welds and fewer weld defects.

NEW! Versa-Pulse™

- Fast, low-heat, low-spatter process — for high-speed automation on materials 1/4 inch (6.35 mm) and thinner
- Great for gap filling
- Shortest arc length/lowest pulse voltage for lower heat and lower spatter at higher speeds

Accu-Pulse®

- The most popular process for majority of industrial welding applications
- Most adaptive arc on 16 gauge (1.6 mm) and thicker
- Designed for all weld positions

RMD®

- Lowest heat process, best for gap handling
- Limited travel speed

High-deposition MIG

- Higher deposition rates than standard spray transfer on thicker materials
- Designed for welding applications in which spray transfer is preferred

MIG (short circuit)

- Lower spatter than traditional MIG welders
- Better arc performance with silicon bronze and coated materials

Best for	Standard Spray	High-Deposition MIG	Accu-Pulse	Versa-Pulse	MIG Short Circuit	RMD
Deposition	A	A	A	B	D	D
Gap Filing	D	D	B	B	A	A
Low Heat Input	D	C	B	A	A	A
Out-of-Position Welds			A	B	B	B
Low Spatter	A	A	A	A	C	B
Thick Metals	A	A	A	C	D	D
Thin Metals			B	A	A	A
Increased Travel Speed	A	A	A	A	B	C

HOT **COLD**

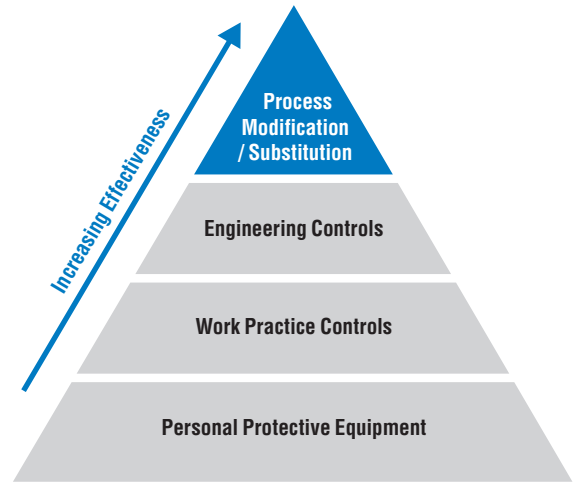
Ratings A, B, C, and D are relative values. An “A” rating indicates a best fit between your performance needs and process. A “blank” rating indicates that the process is not recommended for that application.

Weld Fume Control

Modifying your welding processes to include Versa-Pulse and Accu-Pulse is an effective way of reducing fumes at the source. These processes reduce fume generation by up to 50 percent over traditional CV MIG.

Fume Weight as a Percentage of Wire Weight	
CV MIG	.049%
Accu-Pulse	.024%
Versa-Pulse	.024%

OSHA hierarchy of control

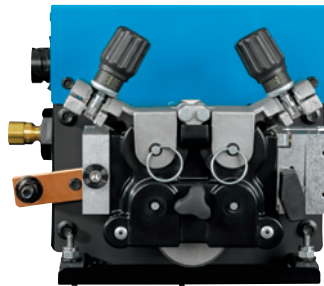


Auto-Continuum™ System Features

Tru-Feed™ technology provides precise feeding operation for stable arc performance.

- **New low-inertia motor** provides faster response for the best arc starts with the least amount of spatter.
- **Balanced-pressure drive-roll design and tensioners** feed wire in its truest and straightest form for consistent feedability.

Spring-loaded Accu-Mate™ connection prevents the gun from being pulled loose.



Quick-change dual-bearing drive rolls give you more consistent wire feeding.

Drive rolls and guides are common with other Miller industrial feeders (use existing, not new parts).

Inlet guide installation is toolless.

Wind Tunnel Technology™ Internal air flow that protects electrical components and PC boards from dirt, dust, debris — greatly improving reliability.

Fan-On-Demand™ operates only when needed reducing noise, power consumption, and the amount of airborne contaminants pulled through the machine.



AUTOLINE™ Power Management Technology Auto-Line™ power management technology allows for any input voltage hook-up (230–575 V) with no manual linking, providing convenience in any job setting. Eliminates weld defects caused by dirty or unreliable power.

Control display for easy reference of weld parameters.

Parameter flexibility allows the system to be set for voltage and wire feed speed control, or for voltage and amperage control.

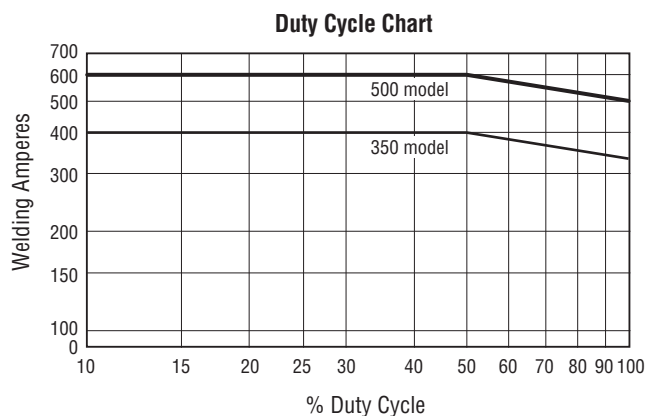
Model	Amp/Volt Ranges	Rated Output	Amps Input at Rated Output, 50/60 Hz, 3-Phase						Max. Open-Circuit Voltage	Dimensions	Net Weight	
			230 V	380 V	400 V	460 V	575 V	KVA				KW
Auto-Continuum 350	20–400 A 10–44 V	350 A at 31.5 VDC, 100% duty cycle	36.7 0–1*	21.8 0–1*	20.8 0–1*	18.8 0–1*	14.6 0–1*	14.4 0.8*	13.8 0.17*	75 VDC	H: 27.19 in. (691 mm) (including lift eye)	130 lb. (59.4 kg)
Auto-Continuum 500	20–600 A 10–44 V	500 A at 39 VDC, 100% duty cycle	34.9 0–1*	—	33.2 0–1*	28.9 0–1*	23.3 0–1*	23.1 0.8*	21.9 0.17*	75 VDC	W: 17.5 in. (444 mm) D: 28.22 in. (717 mm)	150 lb. (69 kg)

*While idling.



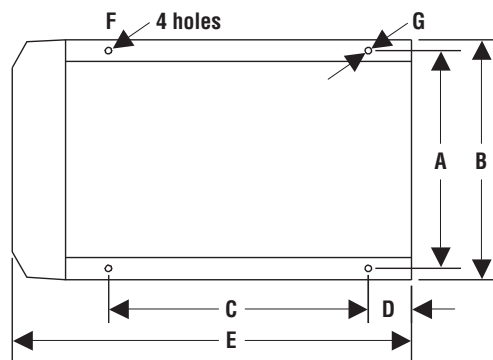
Certified by Canadian Standards Association to both the Canadian and U.S. Standards.

Performance Data



Mounting Specifications

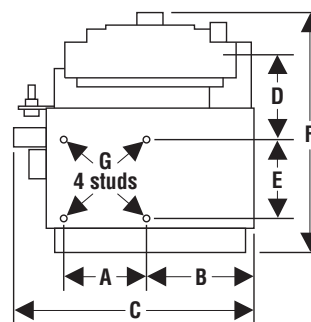
Bottom View Power Source



- A. 16.093 in. (409 mm)
- B. 17.5 in. (444 mm)
- C. 17.375 in. (441 mm)
- D. 2.281 in. (58 mm)
- E. 26.172 in. (665 mm)
- F. .468 in. (12 mm) dia.
- G. .468 in. x 1 in. (12 x 25 mm)

Height: 27.187 in. (691 mm)
Width: 17.5 in. (444 mm)
Depth: 28.125 in. (714 mm)

Bottom View Wire Drive Motor



- A. 3.5 in. (89 mm)
- B. 4.36 in. (111 mm)
- C. 10 in. (254 mm)
- D. 3.56 in. (101 mm) (distance from mounting studs to power pin hole)
- E. 3.25 in. (83 mm)
- F. 10 in. (254 mm)
- G. 1/4 in.-20 mounting studs

Height: 8.75 in. (222 mm)
Width: 10 in. (254 mm)
Depth: 10 in. (254 mm)

Wire Drive Motor Assembly Specifications (Subject to change without notice.)








Auto-Continuum™ Wire Drive Motor Assembly
301207 Left-hand drive
301208 Right-hand drive

Input Power	Welding Power Source	Input Welding Circuit Rating	Wire Feed Speed	Wire Diameter Capacity	Dimensions	Net Weight
50 VDC	Auto-Continuum 350 or 500	500 A at 100% duty cycle	Standard 50–1,000 ipm (1.27–25.4 m/min.)	.035–5/64 in. (0.9–2.0 mm)	H: 8.75 in. (222 mm) W: 10 in. (254 mm) D: 10 in. (254 mm)	16.5 lb. (7.5 kg)

 Certified by Canadian Standards Association to both the Canadian and U.S. Standards.

Drive Roll Kits and Guides (Order from Miller Service Parts.)

Select drive roll kits from chart below according to type and wire size being used. Drive roll kits include four drive rolls, necessary guides and feature an anti-wear sleeve for inlet guide.

Wire Size	"V" groove for hard wire 	"U" groove for soft wire or soft-shelled cored wires 	"V" knurled for hard-shelled cored wires 	"U" clogged for extremely soft wire or soft-shelled cored wires (i.e., hard facing types) 	"U" groove for aluminum wires contains nylon guides 
.035 in. (0.9 mm)	151026	—	151052	—	265255
.040 in. (1.0 mm)	161190	—	—	—	—
.045 in. (1.1/1.2 mm)	151027	151037*	151053	151070	265256*
.052 in. (1.3/1.4 mm)	151028	—	151054	—	—
1/16 in. (1.6 mm)	151029	151039	151055	151072	265257
.068/.072 in. (1.8 mm)	—	—	151056	—	—
5/64 in. (2.0 mm)	—	—	151057	—	—
3/32 in. (2.4 mm)	—	151041	151058	—	—

*Accommodates .045- and .047-inch (3/64-inch) wire.

Nylon Wire Guides for Feeding Aluminum Wire

Wire Size	Inlet Guide	Intermediate Guide
.035 in. (0.9 mm)	221912	242417
.047 in. (1.2 mm)	221912	205936
1/16 in. (1.6 mm)	221912	205937

Note: "U" groove drive rolls are recommended when feeding aluminum wire.

Wire Guides

Wire Size	Inlet Guide	Intermediate Guide
.023–.040 in. (0.6–1.0 mm)	221030	149518
.045–.052 in. (1.1–1.4 mm)	221030	149519
1/16–5/64 in. (1.6–2.0 mm)	221030	149520
3/32–7/64 in. (2.4–2.8 mm)	229919	149521

Consulting Services

Field Application Support 195480

Auto-Continuum™ systems may require factory-trained technical support, depending on the complexity of the application and the local availability and capability of qualified welding engineers or technology experts. Contact the factory with questions. Factory support is available at a flat rate of \$1,250.00 per day (plus expenses) when scheduled more than 10 days in advance. With less than 10-day notice, rates may be higher. Rates are based on a 10-hour day, including travel. One day minimum.

Wire Drive Motor Mounting Brackets

- 300013** Universal – FANUC®/KUKA®/Motoman®
- 301276** ABB® 1600
- 301277** ABB® 2600
- 300483** FANUC® 100 and 120 IC
- 301282** KUKA® KR5 HW
- 301275** KUKA® KR16 HW
- 300375** Motoman® EA1400
- 300376** Motoman® EA1900

Welding Guns

Manual — see BernardWelds.com
Automation — see Tregaskiss.com

Motor Control Cables

- 263368025** 25 ft. (7.6 m)
 - 263368050** 50 ft. (15.2 m)
 - 263368080** 80 ft. (24.4 m)
 - 263368100** 100 ft. (30.5 m)
- Includes overmolded connections on high-flex cables for optimal service life.

Volt-Sense Cable 242212050

Replacement 50 ft. (15.2 m) cable. One cable supplied with Auto-Continuum power source.

Ethernet Cables

- 300734** 9.8 ft. (3 m)
 - 300735** 16.4 ft. (5 m)
 - 300736** 32.8 ft. (10 m)
- Industrial-grade 360-degree-shielded Cat 5 Ethernet cable with conventional RJ45 overmolded four-pole connector on one end to connect to factory network, and industrial M12 overmolded connector on the other end to attach to Auto-Continuum power source. Cable supports 10/100 Mbits-per-second transmission rate.



Auto-Continuum Robotic MIG Kit 301422

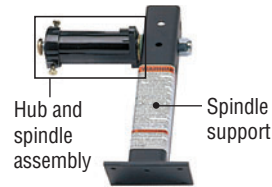
Includes Auto-Continuum wire drive motor assembly (left-hand drive), flowmeter regulator with 50-foot (15.2 m) gas hose, two 50-foot (15.2 m) 4/0 weld cables with lugs, one motor control cable, one 16.4-foot (5 m) Ethernet cable, .035/.045-inch V-groove drive roll kit with four drive rolls and necessary guides, and 30-foot (9 m) conduit assembly with quick disconnects.

Continuum Feeder Base and Spool Support 301431

Sheet metal construction. Allows mounting of Auto-Continuum wire drive motor for manual welding operations.

Wire Feeder Drive (Left) 301216

Use with feeder base and spool support when converting to a manual weld system.



Hub and Spindle Assembly 072094

Spindle Support 092989



Spool Cover 057607



Wire Reel Assembly 108008

Reel Cover 195412

For 60-pound (27 kg) coil. Helps to protect the welding wire from dust and other contaminants.



Wire Straightener

141580 For .035–.045 in. (0.9–1.1 mm) wire.

141581 For 1/16–1/8 in. (1.6–3.2 mm) wire.

Helps reduce the cast in wire to improve wire feeding performance and increase the service life of the gun liner and contact tip.

Coolant Systems



Continuum Cooler 301214

For use with water-cooled torches rated up to 500 amps. Integrated coolant flow switch ensures coolant is flowing in the system. The Continuum cooler mounts to the bottom of the Continuum power source. Power is supplied via an internal connection with the power source.

Low-Conductivity Coolant 043810

Sold in cases of four one-gallon recyclable plastic bottles. Miller coolants contain a base of ethylene glycol and deionized water to protect against freezing to -37 degrees Fahrenheit (-38°C) or boiling to 227 degrees Fahrenheit (108°C). Also contains a compound that resists algae growth.

Auto-Continuum with DeviceNet

DeviceNet Communication Cables

- 300020** 9 ft. (2.7 m)
- 300021** 20 ft. (6.1 m)

Auto-Continuum Digital Peripheral Cable

- 301104** 20 ft. (6.1 m)

Auto-Continuum Analog

Analog Receptacle Kits

- 194793** ABB®
- 194791** FANUC®
- 194790** Motoman®
- 300056** Panasonic®
- 195002** Universal

One required per machine. 12-inch (305 mm) length. For analog communication with robot controls via 72-pin Harting connector on Auto-Continuum.

DeviceNet to Analog Adapter 301427 Field

Adapts DeviceNet to analog communication.

Analog Robot Simulator 195030

Device simulates the analog commands of typical robots. It can be used as a diagnostic tool to determine power source functionality and isolate robot, power source or cable issues.

For All Auto-Continuum Models



ADAM DI/O Module 300803

Provides a digital I/O interface for communication between a robot /PLC and Auto-Continuum power supply. The interface allows for the interaction of a robot or PLC and the Insight Centerpoint™ application. This module is **required** for all

DeviceNet and analog Auto-Continuum models to run Insight Centerpoint.

Continuum Sourcing I/O Kit 301150