



# Auto Deltaweld™ Basic

## QUICK SPECS

### General Manufacturing

Heavy industrial manufacturing  
General fabrication  
Structural steel fabrication  
Transportation  
Sheet metal fabrication  
Light-gauge tube and sheet

### Processes

MIG (GMAW)  
Flux-cored (FCAW)  
Metal-cored (GMAW-C)  
Accu-Pulse® MIG (GMAW-P)  
High-deposition MIG (GMAW)  
RMD®

**Input Power** 380/400 V, three-phase, 50 Hz

### Rated Output

**Auto Deltaweld 350:** 350 A at 60% duty cycle  
**Auto Deltaweld 500:** 500 A at 100% duty cycle

### Output Range

**Auto Deltaweld 350:** 20–400 A, 10–38 V  
**Auto Deltaweld 500:** 30–650 A, 10–44 V

Designed for cobot integrators, Auto Deltaweld is your direct path to incorporate Miller welding technology into your offerings.

### Easy to use

Programming and operation is driven to the cobot pendant to allow for a single-point user interface.

### Pulse capable

Accu-Pulse offers a more forgiving arc and compensates for variations in operator technique, providing a wider operating window.

### Easy to integrate

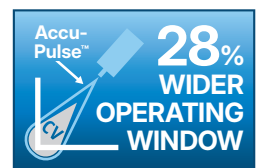
Auto Deltaweld provides both Modbus TCP and EtherNet/IP for direct communications to your cobot.



Auto Deltaweld 350 Basic shown with Auto Deltaweld Basic fixed wire drive.



Auto Deltaweld 350 Basic shown with user-supplied cobot.



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



### Miller Welding Automation

An ITW Welding Company  
281 E. Lies Rd.  
Carol Stream, IL 60188 USA

### Equipment Sales

Phone: 630-653-6819  
Email: MWASales@millerwelds.com

MillerWelds.com

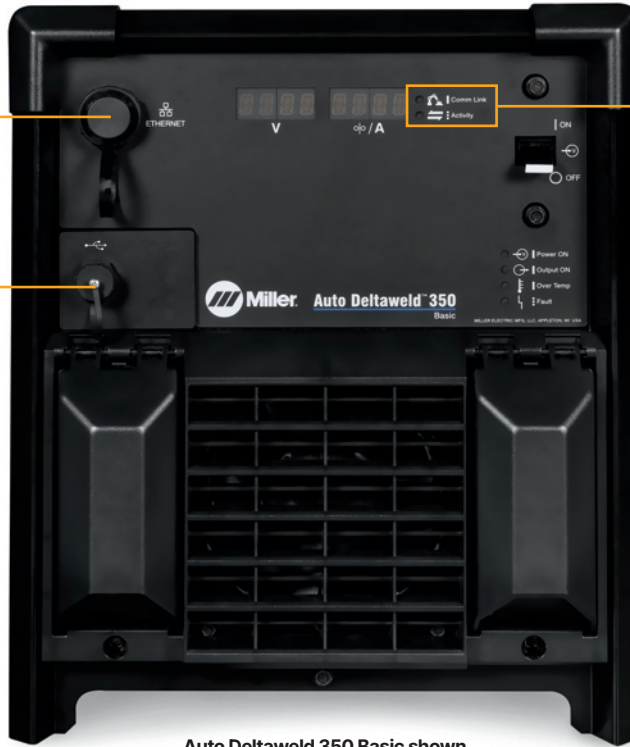


# Auto Deltaweld™ Basic Features



**Ethernet communication receptacle** allows webpage display and access for weld set up, troubleshooting, and power supply configuration.

**USB access** for software updates, and fault information downloading.



Auto Deltaweld 350 Basic shown.



**Status indicator LED lights** indicate communication and connectivity.

**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.

**ArcConnect™** is a next generation communication that utilizes high speed signals to improve weld performance and allow point-of-use controls to be located at the feeder.



Back panel

**Ethernet communication receptacle** allows for both Modbus TCP and EtherNet/IP communication protocols to directly communicate with your automation system.

# Auto Deltaweld™ Basic Specifications (Subject to change without notice.)



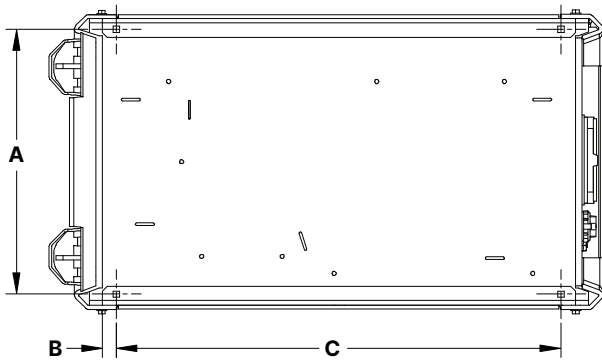
MODEL	MODE	OUTPUT RANGE	RATED OUTPUT	AMPS INPUT AT RATED OUTPUT, 50 HZ				DIMENSIONS	NET WEIGHT
				380 V	400 V	KVA	KW		
Auto Deltaweld 350 Basic	MIG (GMAW)	10–38 A	300 A at 29 VDC, 100% duty cycle	16.3	15.2	10.6	9.7	H: 18.55 in. (471 mm) W: 15.35 in. (390 mm) D: 29.15 in. (740 mm)	115 lb. (52.2 kg)
			350 A at 31.5 VDC, 60% duty cycle	20.4	19.2	13.4	12.3		
			425 A at 35.25 VDC, 30% duty cycle	27.0	25.7	17.8	16.7		
Auto Deltaweld 500 Basic	MIG (GMAW)	10–44 A	500 A at 39 VDC, 100% duty cycle	34.8	33.4	23.2	21.7	H: 18.55 in. (471 mm) W: 15.35 in. (390 mm) D: 31.65 in. (804 mm)	145 lb. (65.8 kg)
			575 A at 42.75 VDC, 60% duty cycle	43.6	41.5	28.8	26.9		
			650 A at 44 VDC, 25% duty cycle	50.8	48.4	33.5	31.4		

All models are certified by Canadian Standards Association to both the Canadian and U.S. Standards.

All CE models conform to the applicable parts of the IEC 60974 series of standards.

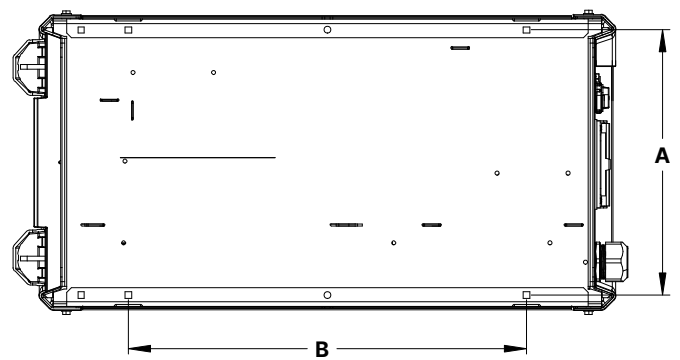
## Mounting Specifications

Auto Deltaweld 350 Basic Bottom View



- A. 14 in. (356 mm)
  - B. 0.75 in. (19.05 mm)
  - C. 23.5 in. (597 mm)
- Height:** 18.54 in. (471 mm)  
**Width:** 15.35 in. (390 mm)  
**Depth:** 29.15 in. (740 mm)

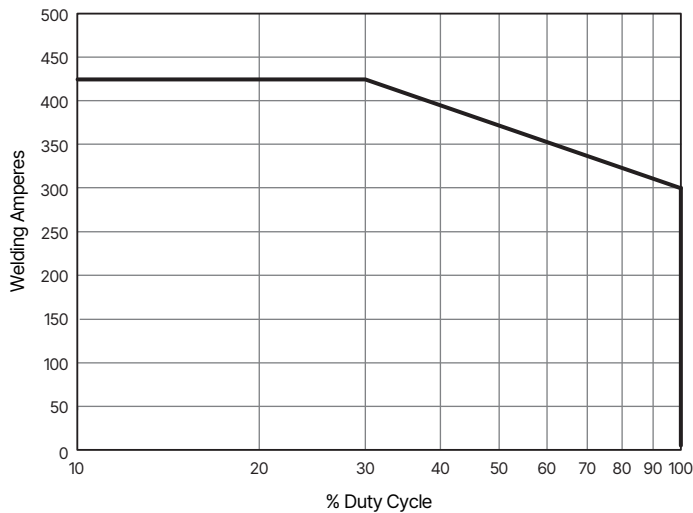
Auto Deltaweld 500 Basic Bottom View



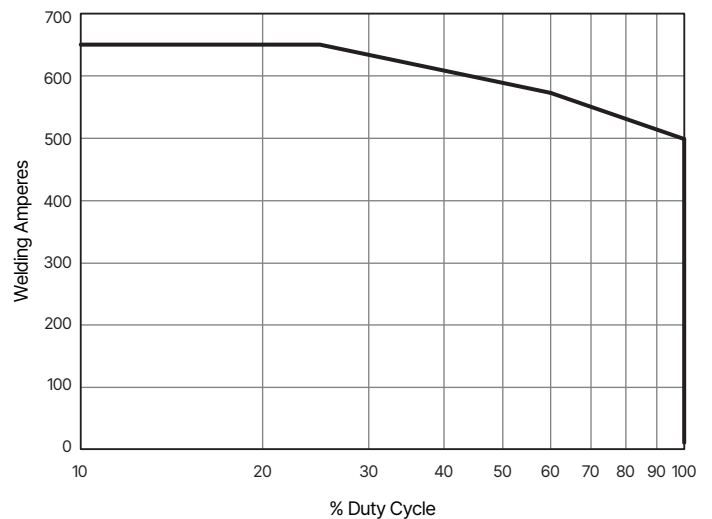
- A. 14 in. (356 mm)
  - B. 21 in. (533 mm)
- Height:** 18.55 in. (471 mm)  
**Width:** 15.35 in. (390 mm)  
**Depth:** 31.65 in. (804 mm)

## Performance Data

AUTO DELTAWELD 350 BASIC DUTY CYCLE CHART



AUTO DELTAWELD 500 BASIC DUTY CYCLE CHART



# Auto Deltaweld™ Basic Processes

## Take the performance of each process to the highest level

BEST FOR	STANDARD SPRAY	HD MIG	ACCU-PULSE	SHORT CIRCUIT	RMD
Deposition	A	A	A	D	D
Gap filling	D	D	B	A	A
Low heat input	D	C	B	A	A
Out-of-position welds			A	B	B
Low spatter	A	A	A	C	B
Thick metals	A	A	A	D	D
Thin metals			B	A	A
Increased travel speed	A	A	A	B	C



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.

### MIG

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

### Accu-Pulse®

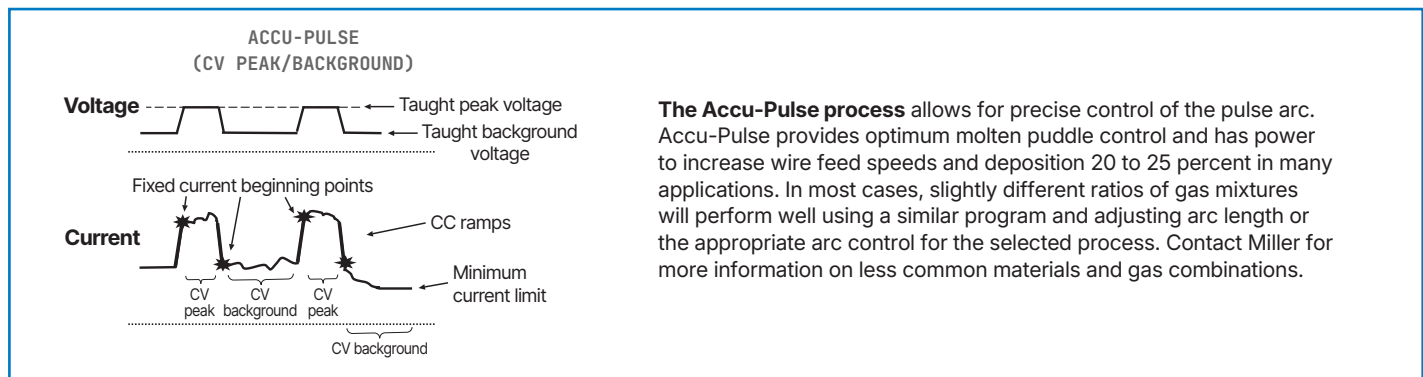
- The most popular process for majority of industrial welding applications
- Most adaptive arc on 16 gauge (1.6 mm) and thicker
- Designed for all weld positions

### High-deposition MIG (HD MIG)

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

### RMD®

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



# Auto Deltaweld™ Basic Fixed Wire Drive Specifications (Subject to change without notice.)



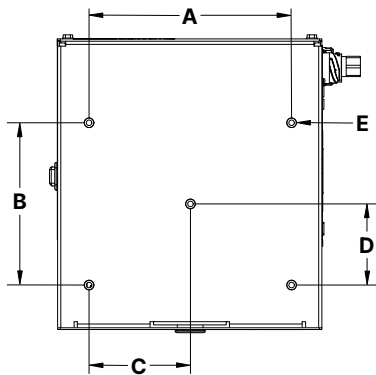
INPUT POWER	WELDING POWER SOURCE	INPUT WELDING CIRCUIT RATING	WIRE FEED SPEED	WIRE DIAMETER CAPACITY	MAXIMUM SPOOL CAPACITY	DIMENSIONS	NET WEIGHT
50 VDC	Auto Deltaweld 350/500 Basic	600 A at 60% duty cycle, 113 VDC	<b>Standard</b> 50–780 ipm (1.3–19.8 m/min.)	.023–5/64 in. (0.6–2.0 mm)	18 in. (457 mm), 60 lb. (27 kg)	H: 9.7 in. (246 mm) W: 11.8 in. (300 mm) D: 10.8 in. (274 mm)	21.2 lb. (9.6 kg)

All models are certified by Canadian Standards Association to both the Canadian and U.S. Standards.

All CE models conform to the applicable parts of the IEC 60974 series of standards.

## Mounting Specifications

Bottom View  
Wire Drive Motor



- A. 7.5 in. (190.5 mm)
- B. 6 in. (152.4 mm)
- C. 3.75 in. (95.25 mm)
- D. 3 in. (76.2 mm)
- E. (5) 1/4"-20 threaded holes

**Height:** 9.7 in. (246 mm)  
**Width:** 11.8 in. (300 mm)  
**Depth:** 10.8 in. (274 mm)

## Drive Roll Kits and Guides

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-COGGED FOR EXTREMELY SOFT WIRE OR SOFT-SHELLED CORED WIRES (I.E., HARD FACING TYPES)
.023/.025 in. (0.6 mm)	<b>087132</b>	—	—	—
.030 in. (0.8 mm)	<b>046780</b>	—	—	—
.035 in. (0.9 mm)	<b>046781</b>	<b>044750</b>	<b>046792</b>	—
.035 and .045 in. (0.9 and 1.2 mm)	<b>227061*</b>	<b>244293**</b>	—	—
.040 in. (1.0 mm)	<b>191917</b>	—	—	—
.045 in. (1.1/1.2 mm)	<b>046782</b>	<b>046785</b>	<b>046793</b>	<b>083319</b>
.052 in. (1.3/1.4 mm)	<b>046783</b>	<b>046786</b>	<b>046794</b>	—
1/16 in. (1.6 mm)	<b>046784</b>	<b>046787</b>	<b>046795</b>	<b>046800</b>
.068/.072 in. (1.8 mm)	—	—	—	—
5/64 in. (2.0 mm)	—	<b>046788</b>	<b>046796</b>	<b>046801</b>

\*Drive roll is dual-size reversible with one .035-inch and one .045-inch groove.

\*\*Drive roll is dual-size reversible with one .035-inch and one .045-inch groove which also accommodates .047-inch (3/64-inch) wire.

### Wire Guides

WIRE SIZE	INLET GUIDE	INTERMEDIATE GUIDE
.023–.040 in. (0.6–1.0 mm)	<b>221030</b>	<b>056206</b>
.045–.052 in. (1.2–1.3 mm)	<b>221030</b>	<b>056207</b>
1/16–5/64 in. (1.6–2.0 mm)	<b>221030</b>	<b>056209</b>
5/64–1/8 in. (2.0–3.2 mm)	<b>229919</b>	<b>056211</b>

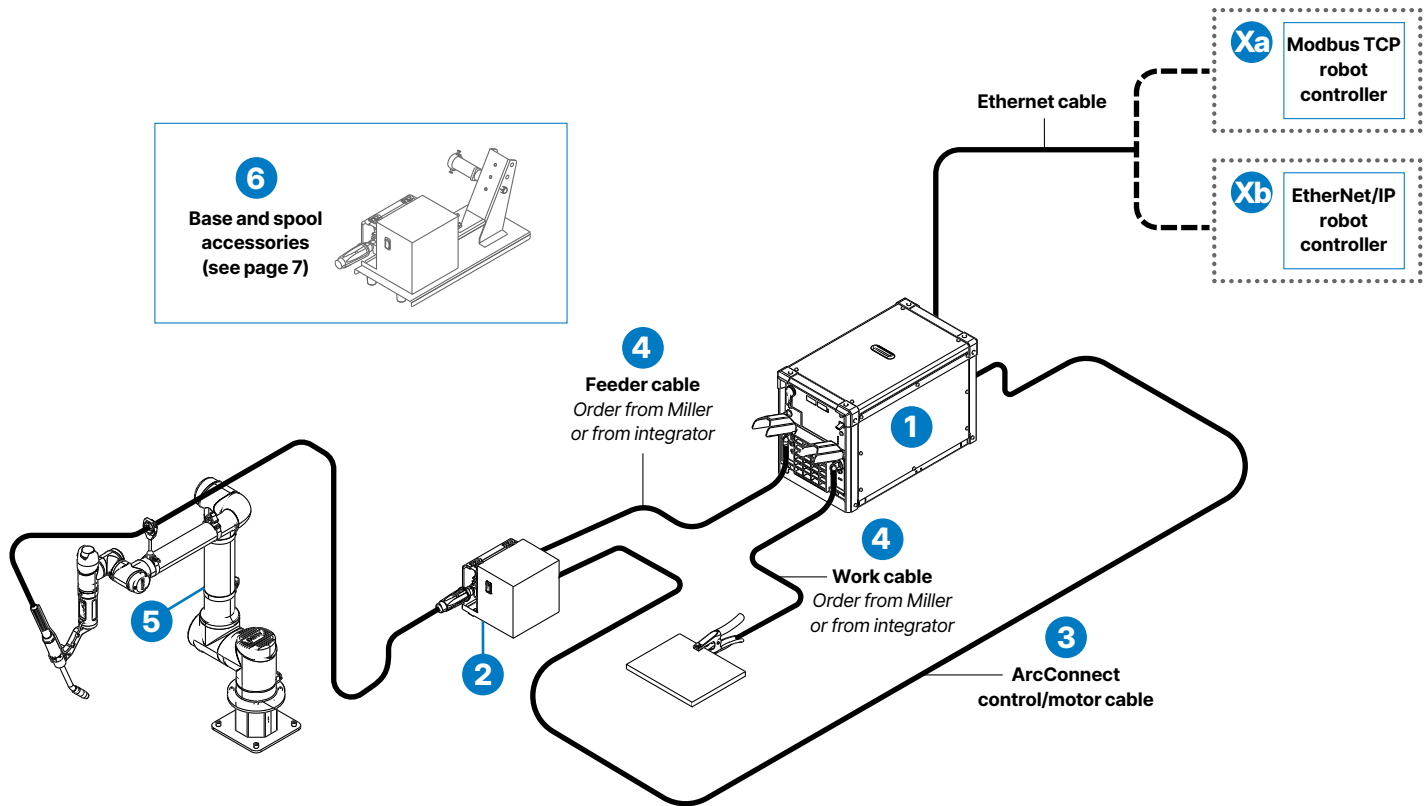
Note: When ordering hard wire kits, retain factory-supplied inlet guide.

### Nylon Guides for Feeding Aluminum

WIRE SIZE	INLET GUIDE AND INTERMEDIATE GUIDE KITS
.035 in. (0.9 mm)	<b>293928</b>
.047 in. (1.2 mm)	<b>293929</b>
1/16 in. (1.6 mm)	<b>293930</b>

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

# Typical Installations (Cobot and fixed/automation pulsed MIG or conventional MIG.)



## 1 Power Source

See page 7. All power sources are equipped with both Modbus TCP and EtherNet/IP communication, and include a 6.7-foot (2 m) Ethernet communication cable.

## 2 Wire Drive Motor Assembly

See page 7. Auto Deltaweld Basic only operates with a Miller Wire Drive.

## X Robot Controller Connection

**a** **Modbus TCP** — Requires Ethernet cable. 6.7-foot (2 m) cable included with power source. See page 7 for individual cables.

**b** **EtherNet/IP™** — Requires Ethernet cable. 6.7-foot (2 m) cable included with power source. See page 7 for individual cables.

## 3 ArcConnect Cables

See page 7 for available ArcConnect cables.

## 4 Additional Connection Cables

Order from Miller or from integrator.

## 5 Cobot

User-provided cobot.

## 6 Base and Spool Accessories

See page 7 for Miller spool assembly or alternative.

# Ordering Information

EQUIPMENT AND OPTIONS	STOCK NO.	DESCRIPTION	QTY.	PRICE
<b>Power Source</b>				
<b>1</b> Auto Deltaweld™ 350 Basic	<b>907893</b>	350 A, 380/400 V, 50 Hz, for Modbus or EtherNet/IP™ robot controller		
Auto Deltaweld™ 500 Basic	<b>907894</b>	500 A, 380/400 V, 50 Hz, for Modbus or EtherNet/IP™ robot controller		
<b>Wire Drive Motor Assembly</b>				
<b>2</b> Auto Deltaweld™ Basic Fixed Wire Drive	<b>301728</b>	Left-hand fixed wire drive		
<b>ArcConnect™ Cable (Choose One)</b>				
<b>3</b> 90 Degree ArcConnect Cable	<b>294080006</b>	6 ft. (1.8 m)		
Standard ArcConnect Cable	<b>280471009</b>	9 ft. (2.7 m)		
	<b>280471015</b>	15 ft. (4.6 m)		
	<b>280471025</b>	25 ft. (7.6 m)		
<b>4</b> Additional Connection Cables		Order feeder and work cables separately from Miller or from your integrator		
<b>5</b> Tregaskiss® Robotic MIG Guns, Peripherals and Consumables		Order separately. Visit <a href="http://Tregaskiss.com">Tregaskiss.com</a> for models and information on TOUGH GUN® robotic MIG guns, TOUGH GUN® reamers, QUICK LOAD® liners and TOUGH LOCK® consumables		
<b>Accessories</b>				
<b>6</b> Base and Spool Support	<b>301752</b>			
Upright with Hub and Spindle	<b>301753</b>			
Spool Cover	<b>295231</b>			
Ethernet Cable	<b>300734</b> <b>300736</b>	9.8 ft. (3 m) 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 Deltaweld power source — cable supports 10/100 Mbits-per-second transmission rate. Note: power source includes a 6.7 ft. (2 m) Ethernet cable		
Drive Rolls		See page 5		
Coolmate™ Cooler		See literature AY/7.2		

DATE:

TOTAL QUOTED PRICE:

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