Millermatic® Series

///. Miller.

Everything You Need... Everywhere You Need It.

Table Of Contents

Millermatic® Series

Everything You Need... Everywhere You Need It.

**Millermatic®
140 Auto-Set™**

**Millermatic®
180 Auto-Set™**

**Millermatic® 211
Auto-Set™ w/MVP™**

**Millermatic®
212 Auto-Set™**

**Millermatic®
252**

**Millermatic®
350P**

**Millermatic®
Passport® Plus**

A Complete Line Of All-In-One MIG Welders

Whether you need ultimate arc performance, power to weld thick metals, pulsed MIG to weld thin-gauge aluminum, the flexibility to go anywhere, or all of the above — the Millermatic line from Miller provides you the optimal choice of all-in-one MIG welders.

From farmers to metal fabricators, manufacturing plants to home mechanics and hobbyists, there's a Millermatic to fit your application and budget. This guide is to help you decide which machine is right for you and your applications, answer popular questions, and provide detailed descriptions of Miller's full line of Millermatic welders.

Visit our SmartSelector guide for more help in choosing at MillerWelds.com/select

Fully Loaded Features For Best Value

We asked welders how we could make Millermatic MIGs even better. Then we responded with the most fully loaded MIG welders available today.

Our Millermatic models are packed with the industry's most competitive offering of features and standard capabilities. So they're even more versatile, even more reliable, and even easier to operate.

How The All-In-One MIG Welder Got Its Start

Miller Electric invented the Millermatic in 1971 by combining a MIG power source, wire feeder, and gun into the first all-in-one MIG welder. Today, several manufacturers offer this package, but no one else offers such a complete product line, with proven performance and innovative products designed to meet your specific challenges. And no one else can back you with nearly three decades of Millermatic reliability and excellence.

Just Ask, We'll Answer

Here are popular questions we answer for our customers:

Why Should I Buy A MIG Welder?

Sometimes referred to as a wire welder, a MIG welder creates an arc between a continuously fed filler metal (consumable) electrode and the weldment.

Some advantages of MIG welding are:

- Welds light gauge material, including aluminum, or thick plates
- Welds all common metals, including carbon steel, stainless steel, and aluminum
- High-production welding speeds — MIG welding is up to four times faster with nearly double the metal deposition rate as the Stick welding process
- Less smoke and no slag to chip off
- An easy process to learn

Can MIG Equipment Also Be Used For Flux Cored Welding?

Yes. Simply switch the polarity links near the drive system to change from solid wire to flux cored wire.

Some advantages of Flux Cored welding are:

- Works as well as the Stick process on rusty or dirty metal
- Deep penetration for welding thick sections
- Portable — can eliminate the need for a shielding gas bottle by using a gasless flux cored wire
- Gasless — also known as self-shielded flux cored wire, is better suited for outdoor work

How Much Amperage Do I Need?

One way of classifying welders is by how much amperage they can generate at a given duty cycle. Basically, amperage equals heat.

Some approximate amperages for MIG welding mild steel are:

Thickness	Amperage	
18 gauge	40 – 100	
1/8 in	80 – 100	*Note: Amperage requirement varies with wire size, welding position, joint and shielding gas being used.*
3/16 in	100 – 205	
1/4 in	120 – 225	
1/2 in	160+	

Does Input Power (115 or 230 Volts) Make A Difference?

Yes, because power in equals power out. A welder with 230 V/30 A of input can weld thicker metals than a 115 V/20 A welder. If you are unsure of what input power you have available, or think you may need both, look for a machine that can work off of either 115 or 230 V input power — Miller offers two products for this, the Millermatic˚ Passport˜ Plus and the Millermatic˚ 211 Auto-Set˜ w/MVP˜.

What Does Duty Cycle Mean?

Duty cycle is the amount of time during a 10-minute period that a welder can operate at a given amperage without overheating. For thicker metals or bigger jobs, choose a welder with higher duty cycle capabilities.

Do I Want A Welder That Can Run Different Wire Diameters?

Yes, for versatility. Using thinner wires, such as .023 or .030 inch, minimizes the chance for burn-through on thin materials. Conversely, using thicker wires, such as .045 inch can help ensure excellent fusion on thicker metals.

Can Any MIG Unit Weld Aluminum?

Yes, all Millermatic units are capable of welding aluminum; however, because aluminum is so soft it can be very difficult to feed through a standard MIG gun. In order to eliminate these feeding issues, we recommend using a spool gun or push-pull gun with your Millermatic. Please check each Millermatic product page to see which specific gun is recommended for aluminum welding.

Can I Use One Shielding Gas For Every Metal?

No. While many people weld on mild steel with straight CO_2, only a few machines produce good welds with low spatter (such as the Millermatic Passport Plus). Most mild steel applications call for a mixture of 75% Argon and 25% CO_2. Aluminum requires pure Argon, whereas stainless steel welds best with a tri-mix.

Millermatic® Series

Whether it's thick steel or thin aluminum, conventional MIG or Pulsed MIG, the Millermatic line combines easy-to-use features with ultimate arc performance to give you the best all-in-one MIG welders in the industry.

Auto-Set™ *Available on Millermatic 140, 180, 211 and 212.*

The right setting automatically —

- Set the wire diameter, a blue light shows that Auto-Set is activated
- Dial in the thickness of what you're welding
- Start welding with the exact parameters you need!

Set the Wire Size...

Set the Thickness...

Start Welding!

No more burn through and rework — Correct Auto-Set parameters make it easy to get quality welds, every time.

Weld flexibility with infinite voltage control — You also have the flexibility to manually adjust weld parameters to the exact settings you want. This comes in handy for broader welding applications such as aluminum or stainless steel.

Aluminum solutions — Whether you purchase a Millermatic 140 Auto-Set and a Spoolmate 100 Series spool gun or a Millermatic 350P with an Aluma-Pro push-pull gun, the entire Millermatic product line now offers an aluminum solution for your application.

Material thickness gauge — To help select parameters every Millermatic that features Auto-Set now comes with a material thickness gauge.

#229895

Aluminum drive systems — Every Millermatic features a heavy-duty aluminum drive system designed to provide superior feeding and durability. The toolless, quick-change reversible drive rolls and easy-to-set scaled tension knob make them the easiest to use in the industry.

Thermal overload protection — Designed to protect your investment, every Millermatic is now equipped with built-in thermal overload protection. . . not that you'll need it.

Set-up and operation CD — Miller makes it easy to get started. Every Millermatic comes standard with a CD that goes through the basics of how to set up and operate your machine to get optimal results.

True Blue® 3-year warranty — You should never have an issue with your Millermatic. . . but just in case, each welder is warranted for three years, parts and labor. Original main power rectified parts are warranted for five years. Gun is warranted for 90 days parts and labor.

Millermatic® Series Product Selector

MACHINE	MATERIAL THICKNESS WELDED IN A SINGLE PASS						FEATURES	APPLICATIONS
	Thin Gauge	3/16 in	1/4 in	5/16 in	3/8 in	1/2 in		
Millermatic® 350P	200/230/460 VAC 300 A at 60% Duty Cycle, 1-Phase or 3-Phase						• Pulse-MIG • Push-Pull Gun/ Spool Gun Ready • Millermatic Reach Wire Feeder Compatible	Light Industrial Manufacturing, Aluminum Fabrication
Millermatic® 252	208/230 VAC or 230/460/575 VAC 200 A at 60% Duty Cycle						• Standard Timers Menu • Push-Pull Gun/ Spool Gun Ready for Alum Apps • Millermatic Reach Wire Feeder Compatible	Farm & Ranch, Light Industrial Manufacturing, Aluminum Fabrication
Millermatic® 212 Auto-Set™	208/230 VAC 160 A at 60% Duty Cycle						• Spool Gun Ready for Aluminum Apps • Gun-On-Demand™ • Auto-Set™ • Millermatic Reach Wire Feeder Compatible	Hobby & Automotive, Farm & Ranch, Aluminum Fabrication
Millermatic® 211 Auto-Set™ w/MVP™	115 VAC 90 A at 20% Duty Cycle		230 VAC 150 A at 30% Duty Cycle				• Dual Voltage Input • MVP™ Plug • Auto-Set™ • Spool Gun Compatible	Hobby & Automotive, Farm & Ranch, Maintenance & Repair,
Millermatic® Passport® Plus	115 VAC 110 A at 20% Duty Cycle		230 VAC 150 A at 20% Duty Cycle				• MVP™ Plug • 45 lbs • Auto-Line™ • Spool Gun Compatible	Maintenance & Repair, Light Fabrication, Construction
Millermatic® 180 Auto-Set™	230 VAC 130 A at 30% Duty Cycle						• Auto-Set™ • Spool Gun Compatible	Hobby & Automotive, Farm & Ranch, Light Fabrication
Millermatic® 140 Auto-Set™	115 VAC 90 A at 20% Duty Cycle						• Auto-Set™ • Spool Gun Compatible	Hobby & Automotive, Farm & Ranch, Light Fabrication

Which Product Is Everything You Need?

Millermatic® 140 Auto-Set™

Auto-Set™ — the Auto-Set feature makes set up quick and easy. For more information on Auto-Set refer to page 8.

Infinite voltage adjustment provides broader operating range with finer control than a tap machine.

Smooth-Start provides smooth, spatter-free starts — no pop gun starts and no spatter to clean up.

"Tip Saver" shuts down output when tip is shorted to the work. Extends contact tip life and protects internal components from damage.

Heavy duty aluminum drive system.

Uses 4 or 8 in (102 or 203 mm) spools.

Welding Capability *Not to scale.*

Mild Steel

Min. — 24 ga (0.8 mm)   *Max. — 3/16 in (4.8 mm)*

Aluminum
w/Spoolmate 100
Series Spool Gun

Min. — 18 ga (1.2 mm)   *Max. — 14 ga (1.9 mm)*

Millermatic® 180 Auto-Set™

All the same great features as the Millermatic® 140 Auto-Set™ plus:

Welds thickest material in its class — up to 5/16 in (7.9 mm) in a single pass!

Welding Capability *Not to scale.*

Mild Steel

Min. — 24 ga (0.8 mm)   *Max. — 5/16 in (7.9 mm)*

Aluminum
w/Spoolmate 100
Series Spool Gun

Min. — 18 ga (1.2 mm)   *Max. — 1/4 in (6.4 mm)*

Recommended aluminum solution: Spoolmate 100 Series #300 371.

Millermatic® Passport® Plus

Portability is #1 because not all jobs can come to you — weighing in at 45 lb and running either 115 or 230 V, the Passport Plus is great for steel, aluminum and stainless steel jobs you need to go to.
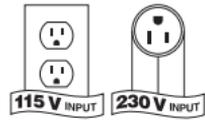
Multi-Voltage Plug (MVP™) — Miller's MVP allows connection to 115 or 230 V receptacles without tools.

Excellent arc characteristics! Unit offers positive arc starts and an extremely stable arc with minimal spatter on both mixed gases and straight CO_2.

Flexibility to use either external or internal gas cylinder. Self-contained gas cylinder provides 25 minutes of arc time or about 25 ft of weld on 3/16 in thick material with .030 in mild steel wire.

Auto-Line™ provides state-of-the-art flexibility, automatically connecting to 115/230 VAC, single-phase power.

Impact-resistant polymer case provides strength and durability while protecting the internal components and welding wire.

Welding Capability *Not to scale.*

Mild Steel
Min. — 24 ga (0.8 mm)   *Max. — 3/8 in (9.5 mm)*

Aluminum
w/Spoolmate 100 Series Spool Gun   *Min. — 18 ga (1.2 mm)*   *Max. — 1/4 in (6.4 mm)*
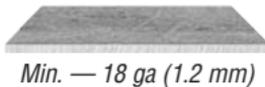
Recommended aluminum solution: Spoolmate 100 Series #300 371.

Millermatic® 211 Auto-Set™ with MVP™

Welds thickest material in its class —
up to 3/8 in (9.5 mm) in a single pass!

Auto-Set — the Auto-Set feature makes set up quick and easy. For more information on Auto-Set refer to page 8.

Infinite voltage adjustment provides broader operating range with finer control than a tap machine.
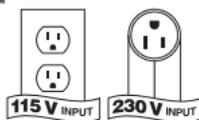
Multi-Voltage Plug (MVP™) — Miller's MVP allows connection to 115 or 230 V receptacles without tools.

Smooth-Start provides smooth, spatter-free starts — no pop gun starts and no spatter to clean up.

"Tip Saver" shuts down output when tip is shorted to the work. Extends contact tip life and protects internal components from damage.

Welding Capability *Not to scale.*
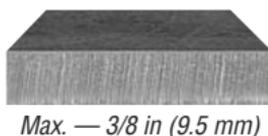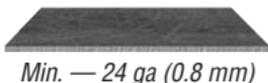
Mild Steel	Min. — 24 ga (0.8 mm)	Max. — 3/8 in (9.5 mm)
Aluminum w/Spoolmate 100 Series Spool Gun	Min. — 18 ga (1.2 mm)	Max. — 3/8 in (9.5 mm)
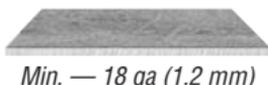
Recommended aluminum solution: Spoolmate 100 Series #300 371.

MVP™ (Multi-Voltage Plug) Configurations

115 V

115 V

230 V

230 V
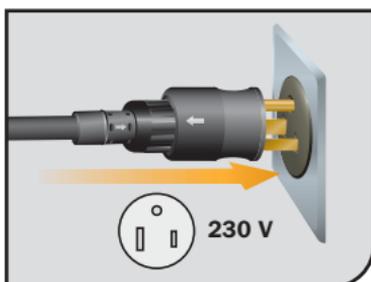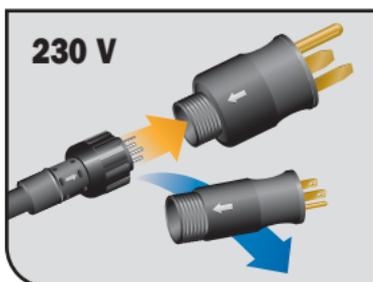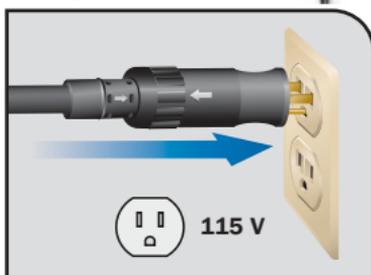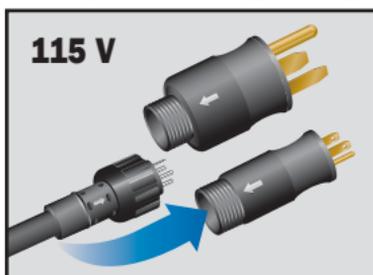
Millermatic® 212 Auto-Set™

Auto-Set™ — the Auto-Set feature makes set up quick and easy. For more information on Auto-Set refer to page 8.

Infinite voltage adjustment — when used in manual mode provides broader operating range with finer control than a tap machine.

Compatible with Spoolmate™ 200 Series spool gun with wire feed speed control on the gun. Saves time by reducing trips back to the machine. Also compatible with more industrial Spoolmatic® 15A or 30A spool gun.

Gun-On-Demand™ — simply pull the trigger for either gun and you're ready to weld. No wasted time installing modules and using gas valve kits.

Heavy duty angled aluminum drive system.

15 ft (4.5 m) M-25 MIG gun features durable one-piece handle, unicable outer jacket, trigger rated for one million cycles, and steel spring coils protecting cable ends.

Welding Capability *Not to scale.*

Mild Steel
Min. — 22 ga (0.9 mm)   *Max. — 3/8 in (9.5 mm)*

Aluminum
w/Spoolmate 200 Series Spool Gun
*Min. — 14 ga (1.9 mm)*   *Max. — 3/8 in (9.5 mm)*

Recommended aluminum solution: Spoolmate 200 Series #300 497.

Millermatic® 252

Infinite voltage control with digital meters have self-calibrating meters that permit presetting of voltage and wire feed speed. Ensures precise parameters and accuracy.

Integrated digital timers come complete with presettable preflow/postflow, burnback, spot and delay (Stitch) timers. Independent timers for MIG and spool gun.

Superior aluminum MIG welding with direct connection of optional XR push-pull guns and Spoolmatic 15A/30A spool guns. No extra module to buy or install.

Auto-Gun Detect automatically adjusts voltage, wire speed and timers for faster, easier switching between MIG, push-pull and spool guns.

Heavy duty angled aluminum drive system.

Fan-on-Demand cooling system only operates when needed reducing power consumption.

15 ft (4.5 m) M-25 MIG gun features durable one-piece handle, unicable outer jacket, trigger rated for one million cycles, and steel spring coils protecting cable ends.

Welding Capability *Not to scale.*

Mild Steel

Min. — 22 ga (0.9 mm)   *Max. — 1/2 in (13 mm)*

Aluminum
w/Spoolmatic 15A or
30A Spool Gun

Min. — 14 ga (1.9 mm)   *Max. — 1/2 in (13 mm)*

Recommended aluminum solution:
Spoolmatic 15A (#195 156), 30A (#130 831) or
XR-Aluma-Pro push-pull gun (#300 001).

Millermatic® 350P

Aluminum Pulse Hot Start™ automatically provides more arc power to eliminate a "cold start" that is inherent with aluminum starts.

Built-in Pulsed MIG programs. All programmed information is restored after each power up — aluminum/steel/stainless steel/metal core.

Infinite voltage control with digital meters have self-calibrating meters that permit presetting of voltage and wire feed speed. Ensures precise parameters and accuracy.

Integrated digital timers come complete with presettable preflow/postflow and spot timers. Independent timers for MIG and push-pull guns.

Superior aluminum MIG welding with direct connection of optional XR push-pull guns and Spoolmatic 15A/30A spool guns. No extra module to buy or install.

Auto-Gun Detect™ automatically adjusts voltage, wire speed and timers for faster, easier switching between MIG, push-pull and spool guns.

Heavy duty angled aluminum drive system.

Fan-On-Demand™ cooling system only operates when needed reducing power consumption and keeping internal components cleaner.

Welding Capability *Not to scale.*

| **Mild Steel** | *Min. — 24 ga (0.8 mm)* | *Max. — 1/2 in (13 mm)* |
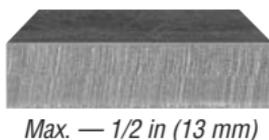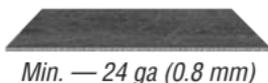
Aluminum
w/Aluma-Pro Push-Pull Gun | *Min. — 18 ga (1.2 mm)* | *Max. — 1/2 in (13 mm)*
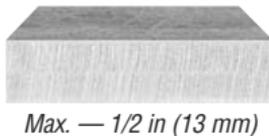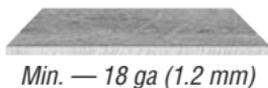
Recommended aluminum solution: 25 ft. Aluma-Pro push-pull gun #300 001

Most Popular Millermatic® Accessories

Spool Guns for Aluminum Welding

Spoolmate™ 100 Series #300 371
For use with all Millermatic® 140 and 180
models, Millermatic® Passport® Plus,
Millermatic® 211 Auto-Set™ with MVP™

Spoolmate™ 200 Series #300 497
For use with the Millermatic® 212
Auto-Set™ and Millermatic® 252

**Spoolmatic® 15A or 30A
#195 156/130 831**
For use with the Millermatic® 212
Auto-Set™, Millermatic® 252 and
Millermatic® 350P

XR-A™ Push-Pull Guns for Aluminum Welding

**Aluma-Pro™- 15 or 25 ft
#300 000/300 001**
For use with the
Millermatic® 252,
Millermatic® 350P

**XR™-A Pistol - 15 or 30 ft
#198 127/198 128**
For use with the
Millermatic® 252,
Millermatic® 350P

Wire Feeder Designed for Millermatics

**Millermatic Reach Wire Feeder - 25 ft
#907 438**
For use with the Millermatic® 212 Auto-Set™,
Millermatic® 252 and Millermatic® 350P

Protective Covers

Heavy-duty, water- and mildew-resistant covers protect and maintain the finish of your welder.

#195 149
For Millermatic 140 Auto-Set, 180 Auto-Set, and 211 Auto-Set with MVP.

#195 142
For Millermatic 212 Auto-Set™, 252 and 350P.

Running Gear/ Cylinder Racks

Standard #300 425 or Premium #770 187
For Millermatic® 140 Auto-Set™, 180 Auto-Set™, and Millermatic® 211 Auto-Set™ w/MVP™

Dual EZ-Change™ Low Cylinder Rack with Elevated Gun and Cable Rack #300 337
For Millermatic® 212 Auto-Set™ and Millermatic® 252

Elevated Gun and Cable Rack #300 335
For Millermatic® 212 Auto-Set™ and Millermatic® 252. For use with single cylinder rack.

Dual Cylinder Rack #195 299
For Millermatic® 350P. Replaces single cylinder rack.

ArcStation Workbench

ArcStation™ is the first-ever, all-in-one workbench designed for welding and metalworking. It comes in two convenient table sizes and can be customized with a wide range of accessories. Check out the newest ArcStation products and latest accessories at **MillerWelds.com/ArcStation**

Miller

For detailed specification sheets or to
locate your nearest Miller distributor, call:

**1-800-4-A-MILLER
(1-800-426-4553)**

MillerWelds.com