

Millermatic® 355

**MIG Power Source,
Wire Feeder and Gun Package**



Quick Specs

Industrial Applications

General manufacturing
General fabrication
Maintenance and repair

Processes

MIG (GMAW)
Pulsed MIG (GMAW-P)
Flux-cored (FCAW)

Input Power 3- or 1-phase, 208/240/460/575 V, 50/60 Hz

Rated Output 310 A at 29.5 V, 60% duty cycle

Amperage Range 20–400 A (3-phase and 1-phase 460/575 V),
20–350 A (1-phase, 208/240 V)

Net Weight Machine only: 99 lb. (45 kg)
Machine with running gear: 163 lb. (74 kg)

Easy to Use. Versatility. Mobility.

THINK SIMPLY. WELD SMARTER.

The Millermatic 355 gives you power, precision, simplicity and versatility. It MIG and pulsed-MIG welds mild steel, aluminum or stainless in thicknesses from 22 gauge to 1/2 inch. Advanced features make it easy for welders of any skill level to be productive and get great results. And because the Millermatic 355 operates on either single-phase or three-phase AC input power, it can work anywhere you do.



Heavy-duty aluminum four-drive-roll system.



Millermatic 355 with MIG gun package shown.

NEW!



Easy-to-use machine addresses issues due to lack of skilled labor.



Welds a variety of materials and thicknesses to help increase productivity.



Capable of welding in various conditions and workplaces, to go anywhere you need it to weld.



Power source is warrantied for three years, parts and labor.
Gun warrantied for 90 days, parts only.



Miller Electric Mfg. LLC
An ITW Welding Company
1635 West Spencer Street
P.O. Box 1079
Appleton, WI 54912-1079 USA

Equipment Sales US and Canada
Phone: 866-931-9730
FAX: 800-637-2315
International Phone: 920-735-4554
International FAX: 920-735-4125

MillerWelds.com
f t y i n

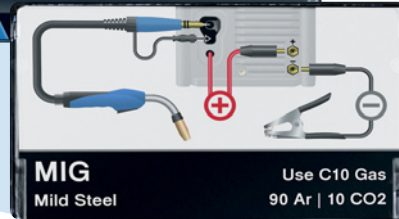


Millermatic® 355 Features and Benefits

Easy to Use



Pulsed MIG setup screen



Connection screen for MIG process using C10 gas

Easy-to-understand interface with 7-inch color LCD display

ensures proper machine setup and parameter selection, reducing setup time and increasing weld time.

- Quick-access backlit Auto-Set and Pulse buttons above the LCD display illuminate when active.
- Soft-key buttons below the display change function depending on which screen is displayed. Makes setup or change quick, easy and intuitive.
- Large text for easier readability.
- Intuitive connection setup images.
- Full troubleshooting descriptions versus help errors and look up codes.

Auto-Set™ Elite offers predefined weld settings to increase ease of use and ensure that the job is done right for operators of all skill levels.



- Available for MIG and pulsed MIG processes with the ability to fine-tune your settings.
- Set weld parameters by selecting wire and gas type, wire diameter and material thickness.

Program mode allows easy save and recall of favorite weld settings.

- Delivers greater productivity by eliminating the need to manually set or change parameters.
- Deliver consistent quality by welders of all skill levels by using prequalified weld settings.
- Minimize supervisor need to intervene.



Trigger program select increases productivity by eliminating the need to go back to machine to change weld settings. Simply tap gun trigger to select the program.



Bernard BTB Gun 300 A MIG gun with AccuLock™ S consumable system

features a dual-locked, front-loading liner that optimizes wire feedability.

- Install AccuLock contact tips with a single turn.
- AccuLock liner locks at front and back of gun to align with contact tip and power pin for a flawless wire feed path.
- Durable, ergonomic handle improves grip and comfort.



Optional demo cable kit (sold separately) powers the display through USB to train users in a quiet conference room or showroom versus connecting to shop power in a noisy work environment.



Millermatic® 355 Features and Benefits

Versatility



Capabilities include MIG, pulsed MIG and use of MIG, push-pull or spool guns.

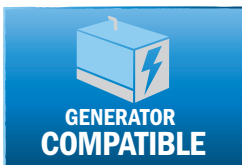
Compatible with push-pull MIG guns. Increases productivity by allowing the use of 12-inch wire spools versus a spool gun's 4-inch spools. Reduces downtime changing wire spools.

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

Single- or three-phase input power provides versatility to utilize any North American power (208, 240, 460, 575 V).



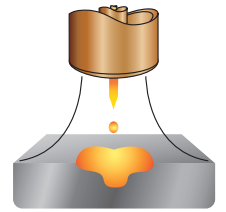
Input voltage selection switch located in the wire drive compartment provides the ability to manually switch input voltage. An error message will be displayed if the wrong input voltage is utilized.



Generator compatible. The Millermatic 355 will be able to operate and provide full output when powered by generators with 19,000-watt (19 kW) output or higher. Limited output will occur when used with smaller generators.

Pulsed MIG welding delivers higher quality welds for ALL welders.

- Lower heat input for less distortion on thin materials and better puddle control on out-of-position welds.
- Less spatter minimizes post weld grinding and rework allowing more welding time.
- Perform welding applications that couldn't be done in the past.
- Ideal for MIG welding aluminum and stainless steel.



Best For	Standard Spray	Pulsed MIG	Short Circuit
Gap Filling	D	B	A
Low Heat Input	D	B	A
Out-of-Position Welds		A	B
Low Spatter	A	A	C
Thick Metals	A	A	D
Thin Metals		B	A
Increased Travel Speed	A	A	B
Aluminum MIG Welding	C	A	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.

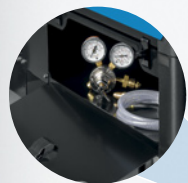
Mobility



Easy to maneuver or integrate within the work cell.

Optional EZ-Latch™ running gear

EZ-Latch running gears are available in single cylinder and dual cylinder models (included with package or can be ordered separately). Operators no longer need to lift machine AND running gear into the truck. Latches secure machine to running gear. Simply loosen the latch retaining knob and rotate latches to disengage machine from running gear for easy portability. Cylinder racks feature bottle forward technology for increased stability when moving along an incline and running gears have built-in storage for accessories. Dual cylinder model includes an elevated gun and cable rack to keep cables off the floor and tangle free.



Storage solution

Single cylinder running gear



Latches shown in open position without machine and in closed position securing the machine

Bottle forward technology



Dual cylinder running gear

Dual cylinder model includes elevated gun and cable rack



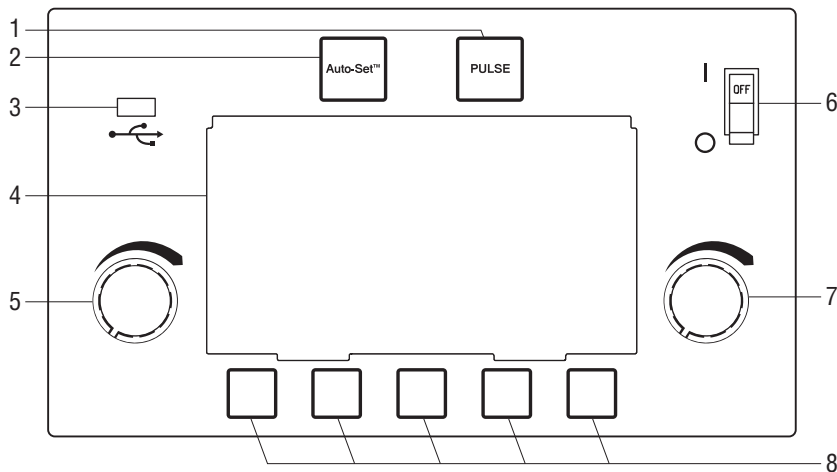
Specifications (Subject to change without notice.)



Input Power	Voltage Range in CV Mode	Welding Amperage Range	Rated Output	Amps Input at Rated Output, 60 Hz 208 V 240 V 460 V 575 V KVA KW	Max. Open-Circuit Voltage	Wire Feed Speed	Wire Type and Diameter	Dimensions	Net Weight
3-phase	12–34 V	20–400 A	310 A at 29.5 V, 60% duty cycle	32.3 28.8 18.2 15.4 15.3 11.5	90 VDC	50–800 ipm (1.3–20.3 m/min.)	Steel: .035–.045 in. (0.9–1.2 mm) Stainless: .023–.045 in. (0.6–1.2 mm) Aluminum: .035–.047 in. (0.9–1.2 mm) Flux-cored: .035–.045 in. (0.9–1.2 mm) Metal core: .045–.052 in. (1.2–1.3 mm) Silicon bronze: .030–.035 in. (0.8–0.9 mm)	Machine only H: 19.25 in. (489 mm) W: 13.75 in. (349 mm) D: 26.25 in. (667 mm) Machine with running gear H: 32 in. (813 mm) W: 13.75 in. (349 mm) D: 45 in. (1,143 mm)	Machine only 99 lb. (45 kg) Machine with running gear 163 lb. (74 kg)
1-phase, 460 or 575 V	12–34 V	20–400 A	310 A at 29.5 V, 60% duty cycle	— — 35.6 32.3 15.0 11.1					
1-phase, 208 or 240 V	12–32 V	20–350 A	310 A at 29.5 V, 60% duty cycle	69.6 62.5 — — 15.0 11.1					

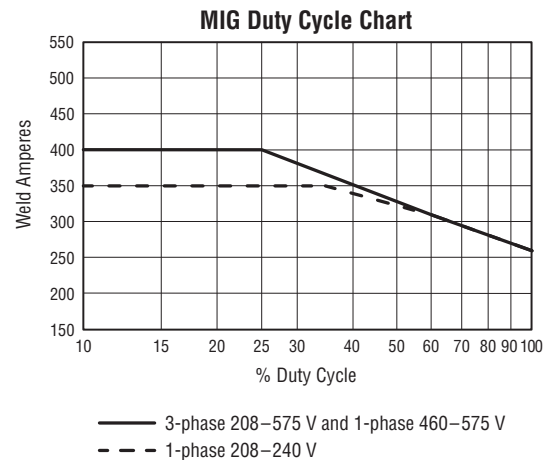
Certified by Canadian Standards Association to both the Canadian and U.S. Standards.

Control Panel



1. Pulse Button
2. Auto-Set Button
3. USB Port
4. Color LCD Display
5. Left Adjustment Knob
(Adjusts voltage, arc length or parameter values depending on mode.)
6. Power Switch
7. Right Adjustment Knob
(Adjusts wire feed speed or parameter values depending on mode.)
8. Soft Keys
(Multiple functions depending on screen displayed.)

Performance Data



Millermatic® 355 Packages



907808
Machine only

Comes complete with:

- Power source with 9 ft. (2.7 m) industrial power cord
- 15 ft. (4.5 m) 300-amp Bernard® BTB MIG gun with Bernard® AccuLock™ S consumables for .035/.045 in. (0.9/1.2 mm) wire
- 10 ft. (3 m) work cable with clamp and 50 mm Dinse-style connector
- Flow gauge regulator and gas hose for argon or AR/CO₂ mix
- .035/.045 in. (0.9/1.2 mm) reversible drive rolls
- Extra .035 and .045 in. (0.9 and 1.2 mm) contact tips
- Material thickness gauge



951926
Machine with
MIG gun
package

Comes complete with:

- Power source with 9 ft. (2.7 m) industrial power cord
- 15 ft. (4.5 m) 300-amp Bernard® BTB MIG gun with Bernard® AccuLock™ S consumables for .035/.045 in. (0.9/1.2 mm) wire
- 10 ft. (3 m) work cable with clamp and 50 mm Dinse-style connector
- Flow gauge regulator and gas hose for argon or AR/CO₂ mix
- .035/.045 in. (0.9/1.2 mm) reversible drive rolls
- Extra .035 and .045 in. (0.9 and 1.2 mm) contact tips
- Material thickness gauge
- EZ-Latch™ single cylinder running gear
- Chain to secure gas cylinder



951927
Machine with
Aluma-Pro gun
package

Comes complete with:

- Power source with 9 ft. (2.7 m) industrial power cord
- 25 ft. (7.6 m) XR-Aluma-Pro™ air-cooled push-pull MIG gun with Miller® FasTip™ consumables for .035/.047 in. (0.9/1.2 mm) aluminum wire
- 10 ft. (3 m) work cable with clamp and 50 mm Dinse-style connector
- Flow gauge regulator and gas hose for argon or AR/CO₂ mix
- .035/.047 in. (0.9/1.2 mm) reversible U-grooved drive rolls
- Extra .035 and .047 in. (0.9 and 1.2 mm) contact tips
- Material thickness gauge
- EZ-Latch™ single cylinder running gear
- Chain to secure gas cylinder



EZ-Latch™ Single Cylinder Running Gear 301449

Running gear with a single cylinder rack and storage compartment. Latches secure machine to cart. Simply rotate latches to disengage machine from cart for easy portability.

EZ-Latch™ Dual Cylinder Running Gear 951769

Similar to above, but with a dual cylinder rack which allows operator to easily store two gas cylinders. Includes elevated gun and cable rack (shown below) to keep cables off the floor and tangle free.



EZ-Latch™ Dual Cylinder Rack with Elevated Gun and Cable Rack 301481

Converts an EZ-Latch single cylinder running gear into a dual cylinder rack to easily store two gas cylinders. Gun and cable rack keeps cables off the floor and tangle free. (Included with EZ-Latch dual cylinder running gear.)



Demo Cable Kit 289696

Demo cable kit will power the front display through the USB. Powered via the supplied 115-volt adapter.

MIG Gun



Bernard® BTB Gun 300 A with AccuLock™ S Consumables Q3015AE4VMA 15 ft. (4.6 m)
Industrial 300-amp MIG gun with consumables for .035 in. (0.9 mm) wire.

Order through Bernard Customer Service at 1-855-MIGWELD (1-855-644-9353).

Spool Guns



Spoolmatic® 15A Spool Gun 195156
Spoolmatic® 30A Spool Gun 130831
Ideal for aluminum welding jobs. Air-cooled, one-pound spool gun with 15-foot (4.6 m) or 30-foot (9.1 m) cable assembly. Rated at 200 amps at 100 percent duty cycle. For detailed information, see Spoolmatic literature M/1.73.



Spoolmate™ 200 Spool Gun 300497
Reliable and economical spool gun perfect for hobbyists and light fabricators who weld aluminum. Handles .030–.035 inch (0.8–0.9 mm) aluminum wires and .023–.035 inch (0.6–0.9 mm) steel/stainless steel wires. Rated at 160 amps, 60 percent duty cycle with 20-foot cable assembly. For detailed information, see Spoolmate literature M/1.47.

Optional Spoolmate™ 200 Head Tubes

- 300591** 45-degree head tube
- 300592** 9-inch extension head tube
- 243385** 5-inch head tube

Push-Pull Guns



XR-Aluma-Pro™ Push-Pull Guns
301568 15 ft. (4.6 m)
301569 25 ft. (7.6 m)
Air-cooled gooseneck-style gun for .030–.047 inch (0.8–1.2 mm) aluminum. Rated at 300 amps at 100 percent duty cycle.



XR-Aluma-Pro™ Lite Push-Pull Gun 300948 25 ft. (7.6 m)
Air-cooled gooseneck-style gun for .030–.047 inch (0.8–1.2 mm) aluminum. Rated at 175 amps at 60 percent duty cycle.



XR™-Pistol-Pro Push-Pull Guns
300782 15 ft. (4.6 m), air-cooled
300783 25 ft. (7.6 m), air-cooled
Air-cooled pistol-grip gun for .030–.047 inch (0.8–1.2 mm) aluminum. Rated at 200 amps at 100 percent duty cycle.

U-Grooved Aluminum Drive Roll and Accessory Kits for XR-Aluma-Pro Push-Pull Guns

- 195311** .035 in. (0.9 mm)
 - 195313** .047 in. (1.2 mm)
- Kits include Millermatic U-grooved drive rolls, nylon wire guides and contact tips.

Consumables

For Bernard® BTB Gun 300 A

Standard Bernard® AccuLock™ S Consumables*
Consumables for increased durability and longer life when guns are used in industrial applications.

Contact Tips (10 per package)

T-A023CH	.023 in. (0.6 mm)
T-A030CH	.030 in. (0.8 mm)
T-A035CH	.035 in. (0.9 mm)
T-A039CH	.039 in. (1.0 mm)
T-A045CH	.045 in. (1.2 mm)
T-A052CH	.052 in. (1.4 mm)

Nozzles

N-A5800C	Copper, 5/8 in. ID, flush, standard
N-A5818C	Copper, 5/8 in. ID, 1/8 in. recess
N-A5814C	Copper, 5/8 in. ID, 1/4 in. recess

Diffuser D-A1

Monocoil 15 ft. Replacement Liners

LA1A-15	.023/.030 in. (0.6/0.8 mm)
LA2A-15	.030/.035 in. (0.8/0.9 mm)
LAD3A-15	.035/.045 in. (0.9/1.2 mm)
LADA4A-15	.052 in. (1.4 mm)

**Order Bernard parts and consumables through Bernard Customer Service at 1-855-MIGWELD (1-855-644-9353).*

For Spoolmatic® Spool Guns and XR™ Push-Pull Guns

For Aluminum Wire

FasTip™ Contact Tips (25 per package)

206186	Heavy-duty, .030 in. (0.8 mm)
206187	Heavy-duty, .035 in. (0.9 mm)
206188	Heavy-duty, .040 in. (1.0 mm)
206189	Heavy-duty, 3/64 in. (1.2 mm)
206191	Heavy-duty, 1/16 in. (1.6 mm)
209026	Tapered, .030 in. (0.8 mm)
209027	Tapered, .035 in. (0.9 mm)
209029	Tapered, 3/64 in. (1.2 mm)
209030	Tapered, 1/16 in. (1.6 mm)

Screw-On Nozzles

199610	Brass, 1/2 in. orifice, tapered
199611	Brass, 3/4 in. orifice, straight
199612	Brass, 3/4 in. orifice, straight HD
199613	Brass, 5/8 in. orifice, tapered
199614	Brass, 5/8 in. orifice, tapered HD
209035	Copper, 3/8 in. orifice, tapered
199615	Copper, 1/2 in. orifice, tapered
209036	Copper, 1/2 in. orifice, tapered HD
198855	Copper, 5/8 in. orifice, tapered
199618	Copper, 5/8 in. orifice, tapered HD
207313	Copper, 5/8 in. orifice, tapered 15/16 OD
199616	Copper, 3/4 in. orifice, straight
199617	Copper, 3/4 in. orifice, straight HD

Bernard® Centerfire™ Consumables*

“T” Series Contact Tips*

T-035AL	.035 in. (0.9 mm)
T-047AL	.047 in. (1.2 mm)

Small Nozzles

NST-3818B	Brass, 3/8 in. ID, 1/8 in. tip recess
NS-1218B	Brass, 1/2 in. ID, 1/8 in. tip recess
NS-1200B	Brass, 1/2 in. ID, flush tip
NS-5818B	Brass, 5/8 in. ID, 1/8 in. tip recess
NS-1218C	Copper, 1/2 in. ID, 1/8 in. tip recess

**Order Bernard parts and consumables through Bernard Customer Service at 1-855-MIGWELD (1-855-644-9353).*

For Spoolmate™ 200 Spool Gun

Note: Spoolmate 200 spool gun ships with (2) .030 in. and (2) .035 in. contact tips and (1) nozzle.

For Standard Heavy-Duty Head Tube

Contact Tips (5 per package)

199387	.030 in. (0.8 mm)
199388	.035 in. (0.9 mm)

Nozzle 050622

For Optional Head Tubes

Note: The same consumables are used on 45-degree, 5-inch, and 9-inch extension head tubes.

Contact Tips (5 per package)

199730	.024 in. (0.6 mm) (requires V-knurled drive roll 136135)
186419	.030 in. (0.8 mm)
186406	.035 in. (0.9 mm)

Nozzle 186405

For Millermatic® 355

Note: Machine drive roll kits include four drive rolls and an inlet guide.

V-Grooved Drive Roll Kits (hard wire)

087132	.023 in. (0.6 mm)
046780	.030 in. (0.8 mm)
046781	.035 in. (0.9 mm)
227061	.035 and .045 in. (0.9 and 1.2 mm) combination (reversible)
046782	.045 in. (1.2 mm)
046783	.052 in. (1.4 mm)

U-Grooved Drive Roll Kits (aluminum wire)

044750	.035 in. (0.9 mm)
046785	.047 in. (1.2 mm)

V-Knurled Drive Roll Kits

(flux-cored or difficult-to-feed wire)

046792	.035 in. (0.9 mm)
046793	.045 in. (1.2 mm)
046794	.052 in. (1.4 mm)

Ordering Information

Power Source and Options	Stock No.	Description	Qty.	Price
Millermatic® 355	907808	3- or 1-phase, 208/240/460/575 V, 50/60 Hz		
Millermatic® 355 with MIG Gun Package	951926	Includes EZ-Latch™ single cylinder running gear		
Millermatic® 355 with Aluma-Pro Gun Package	951927	Includes EZ-Latch™ single cylinder running gear		
Accessories				
EZ-Latch™ Single Cylinder Running Gear	301449	Running gear with single cylinder rack		
EZ-Latch™ Dual Cylinder Running Gear	951769	Running gear with dual cylinder rack and elevated gun and cable rack		
EZ-Latch™ Dual Cylinder Rack with Elevated Gun and Cable Rack	301481	Upgrades single cylinder rack to dual <i>(included with EZ-Latch dual cylinder running gear)</i>		
Demo Cable Kit	289696			
Guns				
Bernard® BTB Gun 300 A with AccuLock™ S Consumables	Q3015AE4VMA	15 ft. (4.6 m), 250 A, .035 in. (0.9 mm) wire. Order through Bernard Customer Service at 1-855-MIGWELD (1-855-644-9353)		
Spoolmatic® 15A Spool Gun	195156	15 ft. (4.6 m), 200 A, .030–.047 in. (0.8–1.2 mm) for aluminum wire		
Spoolmatic® 30A Spool Gun	130831	30 ft. (9 m), 200 A, .030–.047 in. (0.8–1.2 mm) for aluminum wire		
Spoolmate™ 200 Spool Gun	300497	20 ft. (6 m), 160 A, .030–.035 in. (0.8–0.9 mm) for aluminum wire, .023–.035 in. (0.6–0.9 mm) for steel/stainless steel wire		
Optional Spoolmate™ 200 Head Tubes		See page 6		
XR-Aluma-Pro™ Guns (air-cooled)	301568 301569	15 ft. (4.6 m), 300 A, .030–.047 in. (0.8–1.2 mm) for aluminum wire 25 ft. (7.6 m), 300 A, .030–.047 in. (0.8–1.2 mm) for aluminum wire		
XR-Aluma-Pro™ Lite Gun (air-cooled)	300948	25 ft. (7.6 m), 175 A, .030–.047 in. (0.8–1.2 mm) for aluminum wire		
XR™-Pistol-Pro Guns (air-cooled)	300782 300783	15 ft. (4.6 m), 200 A, .030–.047 in. (0.8–1.2 mm) for aluminum wire 25 ft. (7.6 m), 200 A, .030–.047 in. (0.8–1.2 mm) for aluminum wire		
Consumables				
Contact Tips		See page 7		
Replacement Liners		See page 7		
Nozzles		See page 7		
Drive Rolls		See page 6 for gun drive rolls and page 7 for machine drive rolls		

Date:

Total Quoted Price:

Distributed by:

