

Spectrum® 875/875 Auto-Line™ Air Plasma Cutting and Gouging

Quick Specs

Industrial Applications

Construction
Maintenance/Repair
Fabrication

Process

Air Plasma Cutting
and Gouging

Rated Input

875: 208 or 230 V, 1-Phase
875 Auto-Line: 208–575 V, 1- or 3-Phase

Rated Output at 104° F (40° C)

875/875 Auto-Line: 1-Phase: 60 A at 140 VDC,
208 V: 40% Duty Cycle, 230 V: 40% Duty Cycle
875 Auto-Line: 3-Phase: 60 A at 140 VDC,
208 V: 40% Duty Cycle
230–380 V: 50% Duty Cycle
380–575 V: 60% Duty Cycle

See page 2 for 100% Duty Cycle ratings

Cutting Capability

Rated: 7/8 in. (22.2 mm)
Sever: 1-1/4 in. (32 mm)

System Weight

875: With 20-ft. torch: 49 lb. (22.2 kg)
With 50-ft. torch: 58 lb. (26.3 kg)
875 Auto-Line with hand-held torch:
With 20-ft. torch: 54 lb. (24.5 kg)
With 50-ft. torch: 63 lb. (28.6 kg)
875 Auto-Line with machine torch:
With 25-ft. torch: 56 lb. (25.4 kg)
With 50-ft. torch: 63 lb. (28.6 kg)

Required Input Pressure/Flow

6.75 SCFM
(191 L/min.) at
90 PSI minimum
(621 kPa),
120 PSI maximum
(828 kPa)

875 Auto-Line™ unit automatically connects to any primary input voltage from 208–575 volts single- or three-phase, 50 or 60 Hz.

LVC™ line voltage compensation provides peak performance power under variable conditions (power fluctuations up to ±15 percent) for steady cuts and cleaner ending cuts.

Consumables storage compartment provides convenient access to consumables and parts.

Heavy-duty work clamp with flexible cable and quick connect.

Wind Tunnel Technology™ prevents abrasive dust and particles from damaging internal components.

Fan-On-Demand™ cooling system operates only when needed. In dirty or dusty environments, this feature reduces the amount of airborne dust/dirt pulled through the unit.

Auto postflow calculates the length of postflow time based on the amount of cutting time to optimize consumable life and eliminate excessive air usage.

Can be powered by any Miller engine drive with generator power at or above 11 kW (e.g. Bobcat™), or by equivalent competitive equipment. See page 2 for engine drive compatibility and recommended settings.



NEW! Ultra-Quick Connect™ XT60 torch with an ergonomic handle to help prevent operator fatigue and a flexible cable that makes maneuvering easier (see page 4 for more detail).

NEW! XT60M long body or short body machine torches (see page 4).

Comes complete with:

- XT60 hand-held torch with 20-ft. (6 m) or 50-ft. (15.2 m) cable; or XT60M long body or short body machine torch with 25-ft. (7.6 m) or 50-ft. (15.2 m) cable. Torches include a complete set of 60 A consumables
- Heavy-duty work clamp and flexible cable with quick connect
- 10-ft. (3 m) power cord
- Extra consumables

Auto-Refire™ technology provides ultimate customer convenience by automatically controlling the pilot arc when cutting expanded metal or multiple pieces of metal. The pilot arc will switch in and out as fast as needed when cutting expanded metal and provides maximum power for cutting thicker metal—all automatically! No need for manual re-triggering which reduces user hand fatigue.

Starts without high-frequency so it will not interfere with or damage controls or computers.

Automatic air regulation. For end user convenience, the unit has no pressure gauge or manual regulator knob. The unit automatically adjusts the air pressure to the torch for optimum cutting and gouging. No adjustments necessary.

Automation kits and accessories are available. See page 3 for more information.



Power source is warranted for 3 years, parts and labor.
XT torch is warranted for 1 year, parts only.



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Specifications (Subject to change without notice.)



Non-Auto-Line model is 1-Phase only.

Model	Rated Output at 104° F (40° C)*	Amps Input at Rated Output, 50/60 Hz	Max. Open-Circuit Voltage	Plasma Gas	Dimensions	Net Weight
875	1-Phase: 60 A at 140 VDC, 208 V: 40% duty cycle 230 V: 50% duty cycle	208 V: 47 KVA: 9.9 230 V: 42 KW: 9.8	400 VDC	Air or Nitrogen only	H: 13.5 in (343 mm) W: 8.75 in (222 mm) D: 18.5 in (470 mm)	With Hand-Held Torch* 20 ft. (6.1 m): 49 lb. (22.2 kg) 50 ft. (15.2 m): 58 lb. (26.3 kg)
875 Auto-Line™	1-Phase: 60 A at 140 VDC, 208: 40% duty cycle 230 V: 50% duty cycle 230 V: 100% duty cycle at 50 A	208 V: 47.4 KVA: 9.9 230 V: 42.2 KW: 9.7	400 VDC	Air or Nitrogen only		With Hand-Held Torch* 20 ft. (6.1 m): 54 lb. (24.5 kg) 50 ft. (15.2 m): 63 lb. (28.6 kg) With Machine Torch** 25 ft. (7.6 m): 56 lb. (25.4 kg) 50 ft. (15.2 m): 63 lb. (28.6 kg)
	3-Phase: 60 A at 140 VDC, 208 V: 40% duty cycle 230–380 V: 50% duty cycle 380–575 V: 60% duty cycle 380–575 V: 100% duty cycle at 50 A	208 V: 27.5 KVA: 9.9 230 V: 25 KW: 9.4 380 V: 15 460 V: 12.4 575 V: 9.8				

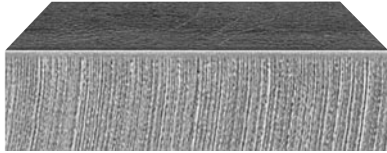
*Add 8.5 lb. (3.9 kg) for shipping weight.

**Add 11.5 lb. (5.2 kg) for shipping weight.

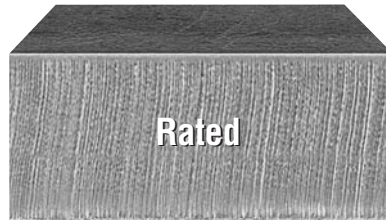


Certified by Canadian Standards Association to both the Canadian and U.S. Standards.

Mild Steel Cutting Capability (Thickness to scale.)



1/2 in. (12.7 mm) at 27 IPM



7/8 in. (22.2 mm) at 13 IPM

Note: Recommended maximum piercing capacity for hand-held and automated applications is 7/16 inch (11 mm).

Maximum sever cut of 1-1/4 inches (32 mm) at 3 IPM.

For aluminum and other metals with high thermal conductivity, cutting capabilities will be derated as much as 30%.

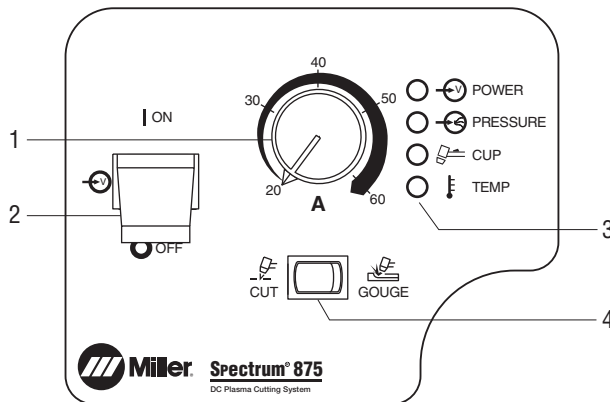
Mild Steel Recommended Cut Speed

Thickness	Approximate Travel Speeds*
1/4 in. (6.4 mm)	105 IPM (2667 mm/min.)
3/8 in. (9.5 mm)	54 IPM (1372 mm/min.)
1/2 in. (12.7 mm)	34 IPM (864 mm/min.)
5/8 in. (15.9 mm)	27 IPM (686 mm/min.)
3/4 in. (19.0 mm)	18 IPM (457 mm/min.)
7/8 in. (22.2 mm)	13 IPM (330 mm/min.)
1 in. (25.4 mm)	10 IPM (254 mm/min.)

*Travel speeds are approximately 80% of maximum.

Rated cut capacity is based on traveling approximately 15 inches per minute to achieve a steady, precise cut. This is the key rating that should meet or exceed your typical cutting thickness requirements.

Control Panel



1. Output Control
2. Power Switch
3. Status and Troubleshooting Lights
4. Process Control

Engine Drive Compatibility

Equipment	Generator Power	Mild Steel Cut Capacity (Approximate)	Spectrum Output Amp Setting
Bobcat™ 225 and 250	11 kW	5/8 in.	45 A, 240 V, full KVA plug
Bobcat™ 250 with EFI, Trailblazer®	12 kW	5/8 in.	50 A, 240 V, full KVA plug
Big Blue® 400 Pro	10 kW	7/8 in.	60 A, 240 V, full KVA plug
Big Blue® 500 Pro	15 kW	7/8 in.	60 A, 240 V, full KVA plug

Note: LP powered machines need to be derated by 15%.

Genuine Miller® Accessories



No. 30B Economy Running Gear and Cord Wrap #300 511
Economical running gear with angle for easy front panel access provides storage for gloves and tools.



Protective Cover #300 388
Mildew-resistant, odor-free, waterproof cover protects your machine's finish. Cable management pouches provide storage for 20-foot (6.1 m) torch and work cables.



Adapter Cord, Full KVA #300 517 Field NEMA 14-50P to NEMA 6-50R. Adapts engine drive 120/240 V plug to Spectrum® 240 V plug.



RTI Filter and Bracket Kit #300 491
Dryer will remove water, dirt and oil as small as one micron with 99.9 percent efficiency. Can be mounted on plasma cutter or on wall. Install as close as possible to point of air consumption.

Female Receptacle



Miller Service Parts Accessories

The following accessories must be ordered from Miller Service Parts.

RTI Replacement Filter Element #212 771
For kit #300 491.



XT60 Consumable Kit #256 033
Consumable kit includes 3 standard electrodes, 3 standard tips, 1 drag shield, 1 deflector, 1 o-ring, 1 swirl ring, 1 retaining cup, 1 gouge tip, 1 gouge shield and silicone grease.



Plasma Standoff Roller Guide #253 054
Helps maintain recommended standoff distance to maximize cutting performance and improve tip life.



Plasma Circle-Cutting Guide #253 055
Cut straight lines or circles up to 12-inch diameter with ease.



Suction/Magnetic Pivot Base #195 979
Add this to your cutting guide for convenient attachment to all flat surfaces. The extended arm accommodates holes up to 30-inch diameter.



In-Line Air Filter Kit #228 926
Mounts to the back of the Spectrum® 375 X-TREME™, 375, 625 X-TREME™, 875 and 875 Auto-Line™. Includes male and female 1/4-inch NPT quick disconnect fittings and hose for easy on/off connection. The replaceable filter element filters to .85 microns for removal of 99.9 percent of water, dirt and oil.

In-Line Air Filter Replacement Element #228 928
For in-line filter #228 926.



Torch Cable Cover Kits
#239 642 20 ft. (6.1 m)
#231 867 25 ft. (7.6 m)
#231 868 50 ft. (15.2 m)



Flexible Work Cable with Heavy-Duty Clamp #263 799
12-ft. (3.7 m) cable with quick connect.

Automation Accessories

NEW! For Spectrum 875 (single-phase)



Automation Kit #301 156
Now available for single-phase Spectrum 875, kit works with both XT60M long and short body machine torches to provide automation capabilities. Consists of the following components which can also be ordered separately:

- **Jumper Plug #256 574**
For changing back to hand-held torch after kit has been installed.
- **Internal Remote Harness #265 527**
For remote start only.
- **CNC Signal Cable #220 240**
For arc initiation and cutting sequence.
- **Voltage Sensing Signal Wire Assembly #300 872**
For torch height control.
- **Shield Sense Tab #263 310**

For Spectrum 875 Auto-Line

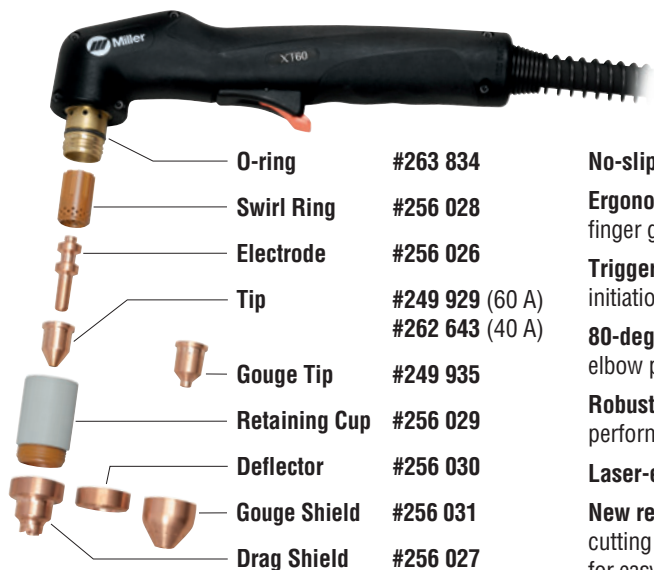


Automation Kit #301 157
Kit for Spectrum 875 Auto-Line works with both XT60M long and short body machine torches to provide automation capabilities. Consists of the following components which can also be ordered separately:

- **Internal Remote Harness #265 528**
For remote start and ok-to-move signal.
- **CNC Signal Cable #220 240**
For arc initiation and cutting sequence.
- **Voltage Sensing Signal Wire Assembly #246 285**
For torch height control.
- **Remote Pendant Control #195 513**
For remote manual momentary on/off.
- **Shield Sense Tab #263 310**

Note: Automation Kits are for upgrading hand-held torch packages to add machine torch capabilities. Machine torches are not included in Automation Kits and must be ordered separately. See back page to order machine torches.

XT60 and XT60M Replacement Torches and Consumables



XT60 Hand-Held Torch
 #249 953 20 ft. (6.1 m)
 #249 954 50 ft. (15.2 m)

- No-slip grip** for easy control and torch dexterity.
- Ergonomic design** with unique thumb guide and finger grip contours.
- Trigger guard** protects against inadvertent arc initiation.
- 80-degree handle** provides natural arm and elbow positioning while cutting.
- Robust tip front end design** optimizes arc performance and tip life.
- Laser-etched tip** for easy identification.
- New retaining cup design** provides increased cutting visibility and quick turn for easy consumable change.
- Strain relief** is durable and corrosion resistant, and **exclusive flexible cable** has improved bend radius.



Note: Replacing drag shield with deflector offers improved arc visibility while maintaining 1/16-inch standoff. For gouging, replace the tip and drag shield with gouge tip and gouge shield. The rest of the XT60 consumables are common.

XT60M Machine Torch
 #249 955 25 ft. (7.6 m), long body
 #249 956 50 ft. (15.2 m), long body
 #257 464 25 ft. (7.6 m), short body
 #263 952 50 ft. (15.2 m), short body



Shield Sense Tab #263 310
 Included in Automation Kits, not included with torches.

Machine Shield #265 226

Note: The XT60M consumables are the same as the XT60 consumables, except for the machine shield.

Ordering Information

Power Source	Stock No.	Description	Qty.	Price
Spectrum® 875 208/230 V, 1-phase	#907 583	With 20-ft. (6.1 m) XT60 hand-held torch		
	#907 583 001	With 50-ft. (15.2 m) XT60 hand-held torch		
	#907 583 002	With 25-ft. (7.6 m) XT60M long body machine torch		
	#907 583 003	With 25-ft. (7.6 m) XT60M short body machine torch		
Spectrum® 875 Auto-Line™ 208–575 V, 1- or 3-phase	#907 584	With 20-ft. (6.1 m) XT60 hand-held torch		
	#907 584 001	With 50-ft. (15.2 m) XT60 hand-held torch		
	#907 584 002	With 25-ft. (7.6 m) XT60M long body machine torch		
	#907 584 003	With 25-ft. (7.6 m) XT60M short body machine torch		
	#907 584 004	With 50-ft. (15.2 m) XT60M long body machine torch		
	#907 584 005	With 50-ft. (15.2 m) XT60M short body machine torch		
Replacement Torches and Consumables	(See above)	Order from Miller Service Parts		
Accessories				
Automation Accessories	(See page 3)			
No. 30B Economy Cart	#300 511			
Protective Cover	#300 388			
Adapter Cord, Full KVA	#300 517	Adapts engine drive 120/240 V plug to Spectrum® 240 V plug		
RTI Filter and Bracket	#300 491			
RTI Filter Replacement Element	#212 771	For RTI filter #300 491. Order from Miller Service Parts		
XT60 Consumable Kit	#256 033	Order from Miller Service Parts		
Plasma Standoff Roller Guide	#253 054	Order from Miller Service Parts		
Plasma Circle-Cutting Guide	#253 055	Order from Miller Service Parts		
Suction/Magnetic Pivot Base	#195 979	Order from Miller Service Parts		
In-Line Air Filter Kit	#228 926	Order from Miller Service Parts		
In-Line Air Filter Replacement Element	#228 928	For in-line filter #228 926. Order from Miller Service Parts		
Torch Cable Cover Kits		See page 3. Order from Miller Service Parts		
Flexible Work Cable w/Heavy-Duty Clamp	#263 799	12-ft. (3.7 m) cable with quick connect. Order from Miller Service Parts		

Date: _____ Total Quoted Price: _____

Distributed by: _____

