

# 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 cfm  
(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 Miller engine drives with generator power.** See page 2 for engine drive compatibility and recommended settings.



**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).

**XT60M long body or short body machine torches** are available. See page 4 for more information.

### 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
- Machine torch packages include corresponding automation kit

**Auto-Retire™ 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 three years, parts and labor.  
XT torch is warranted for one year, parts only.



**Miller Electric Mfg. Co.**  
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**



# 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
<b>875</b>	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)	<b>With hand-held torch*</b> 20 ft. (6.1 m): 49 lb. (22.2 kg) 50 ft. (15.2 m): 58 lb. (26.3 kg)
<b>875 Auto-Line™</b>	1-phase: 60 A at 140 VDC, 208 V: 40% duty cycle 230 V: 40% 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		<b>With hand-held torch*</b> 20 ft. (6.1 m): 54 lb. (24.5 kg) 50 ft. (15.2 m): 63 lb. (28.6 kg) <b>With machine torch**</b> 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 460 V: 12.4 575 V: 9.8	208 V: 27.5 KVA: 9.9 230 V: 25 KW: 9.4 380 V: 15 460 V: 12.4 575 V: 9.8				

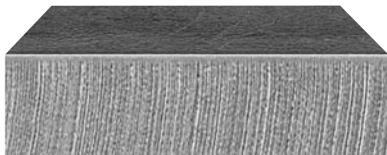
\*Add 8.5 lb. (3.9 kg) for shipping weight.

\*\*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 34 ipm



7/8 in. (22.2 mm) at 15 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%.

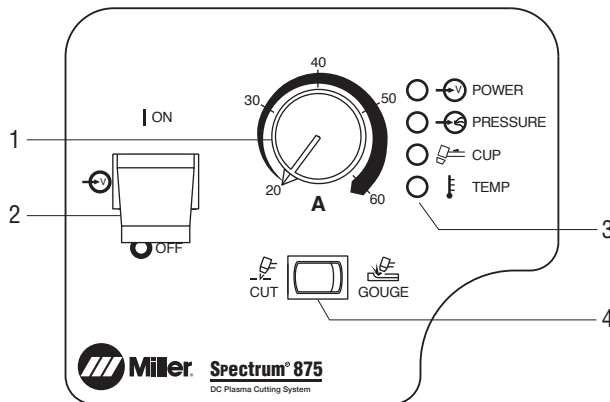
### Mild Steel Recommended Cut Speed

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)	15 ipm (381 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	Continuous Generator Power	Mild Steel Cut Capacity (Approximate)	Spectrum Output Amp Setting
Bobcat™ 225 and 250	9.5 kW	1/2 in.	45 A, 240 V, full KVA plug
Bobcat™ 250 with EFI, Trailblazer®	10.5 kW	1/2 in.	45 A, 240 V, full KVA plug
Big Blue® 400 Pro	10 kW	1/2 in.	45 A, 240 V, full KVA plug
Big Blue® 600 Pro, 800 Series	1-ph: 12 kW, 3-ph: 20 kW	7/8 in.	50 A, 240 V, full KVA plug

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

## Genuine Miller® Accessories



### Protective Cover 300388

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.



Female Receptacle 

**Full KVA Adapter Cord 300517** Field NEMA 14-50P to NEMA 6-50R. Adapts engine drive 120/240 V plug to Spectrum® 240 V plug.



### RTI Filter and Bracket 300491

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.

## Miller Service Parts Accessories

*The following accessories must be ordered from Miller Service Parts.*

### RTI Replacement Filter Element 212771

For RTI filter 300491.



### XT60 Consumable Kit 256033

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.



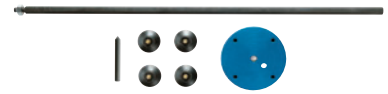
### Plasma Standoff Roller Guide 253054

Helps maintain recommended standoff distance to maximize cutting performance and improve tip life.



### Plasma Circle-Cutting Guide 253055

Cut straight lines or circles up to 12-inch diameter with ease.



### Suction/Magnetic Pivot Base 195979

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 228926

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 228928

For in-line filter 228926.



### Torch Cable Cover Kits

**239642** 20 ft. (6.1 m)  
**231867** 25 ft. (7.6 m)  
**231868** 50 ft. (15.2 m)

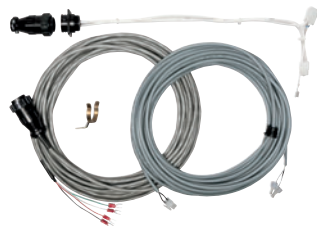


### Flexible Work Cable

**234838** 20 ft. (6.1 m)  
**234930** 50 ft. (15.2 m)  
Work cable with quick connect and heavy-duty clamp.

## Automation Accessories

### For Spectrum 875 (single-phase)



### Automation Kit 301156

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 256574**  
For changing back to hand-held torch after kit has been installed.
- **Internal Remote Harness 265527**  
For remote start only.
- **CNC Signal Cable 220240**  
For arc initiation and cutting sequence.
- **Voltage Sensing Signal Wire Assembly 300872**  
For torch height control.
- **Shield Sense Tab 263310**

### External Reed Switch 190602

Provides dry contact closure for ok-to-move signal. (Not included with Automation Kit 301156.)

*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.*

### For Spectrum 875 Auto-Line



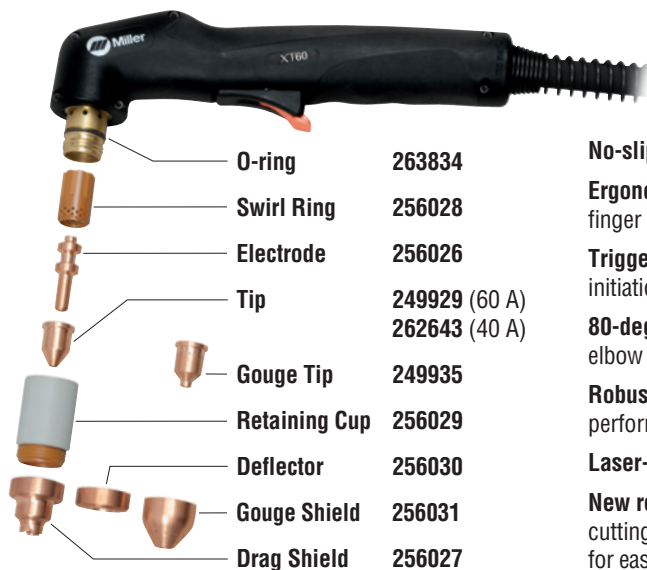
### Automation Kit 301157

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 265528**  
For remote start and ok-to-move signal.
- **CNC Signal Cable 220240**  
For arc initiation and cutting sequence.
- **Voltage Sensing Signal Wire Assembly 246285**  
For torch height control.
- **Remote Pendant Control 195513**  
For remote manual momentary on/off.
- **Shield Sense Tab 263310**



# XT60 and XT60M Replacement Torches and Consumables



## XT60 Hand-Held Torch

- 249953 20 ft. (6.1 m)
- 249954 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 **more flexible cable** has improved bend radius.



## XT60M Machine Torch

- 249955 25 ft. (7.6 m), long body
- 249956 50 ft. (15.2 m), long body
- 257464 25 ft. (7.6 m), short body
- 263952 50 ft. (15.2 m), short body



**Shield Sense Tab 263310**  
Included in Automation Kits, not included with torches.

**Machine Shield 265226**

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

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.

## Ordering Information

Power Source	Stock No.	Description	Qty.	Price
<b>Spectrum® 875</b> 208/230 V, 1-phase	907583	With 20 ft. (6.1 m) XT60 hand-held torch		
	907583001	With 50 ft. (15.2 m) XT60 hand-held torch		
	907583002	With 25 ft. (7.6 m) XT60M long body machine torch		
	907583003	With 25 ft. (7.6 m) XT60M short body machine torch		
<b>Spectrum® 875 Auto-Line™</b> 208–575 V, 1- or 3-phase	907584	With 20 ft. (6.1 m) XT60 hand-held torch		
	907584001	With 50 ft. (15.2 m) XT60 hand-held torch		
	907584002	With 25 ft. (7.6 m) XT60M long body machine torch		
	907584003	With 25 ft. (7.6 m) XT60M short body machine torch		
	907584004	With 50 ft. (15.2 m) XT60M long body machine torch		
	907584005	With 50 ft. (15.2 m) XT60M short body machine torch		
<b>Replacement Torches and Consumables</b>	(See above)	Order from Miller Service Parts		
<b>Accessories</b>				
Automation Accessories	(See page 3)			
Protective Cover	300388			
Full KVA Adapter Cord	300517	Adapts engine drive 120/240 V plug to Spectrum® 240 V plug		
RTI Filter and Bracket	300491			
RTI Filter Replacement Element	212771	For RTI filter 300491. Order from Miller Service Parts		
XT60 Consumable Kit	256033	Order from Miller Service Parts		
Plasma Standoff Roller Guide	253054	Order from Miller Service Parts		
Plasma Circle-Cutting Guide	253055	Order from Miller Service Parts		
Suction/Magnetic Pivot Base	195979	Order from Miller Service Parts		
In-Line Air Filter Kit	228926	Order from Miller Service Parts		
In-Line Air Filter Replacement Element	228928	For in-line filter 228926. Order from Miller Service Parts		
Torch Cable Cover Kits		See page 3. Order from Miller Service Parts		
Flexible Work Cable w/Heavy-Duty Clamp	234838	20 ft. (6.1 m) cable with quick connect. Order from Miller Service Parts		
	234930	50 ft. (15.2 m) cable with quick connect.		

Date:

Total Quoted Price:

Distributed by:

