Issued July 2024 • Index No. PC/9.8

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 Net 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).

Also available with an XT60M long body machine torch. Short body machine torch can only be ordered separately (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 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-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.

TRUE BLUE® 3 YR. WARRANTY

Power source is warranted for three years, parts and labor.
XT torch is warranted for one year, 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

ISO 9001 Quality

Specifications (Subject to change without notice.)

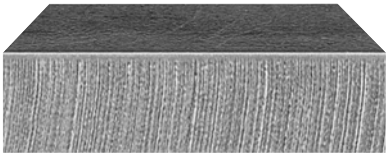
DC 1 Phase 3 Phase *Non-Auto-Line model is 1-phase only.*

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) **With machine torch**** 25 ft. (7.6 m): 51 lb. (23.1 kg)
875 Auto-Line™	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		**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				

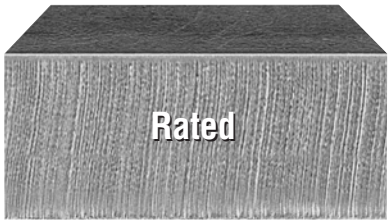
**Add 8.5 lb. (3.9 kg) for shipping weight.*
***Add 11.5 lb. (5.2 kg) for shipping weight.*

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 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%.

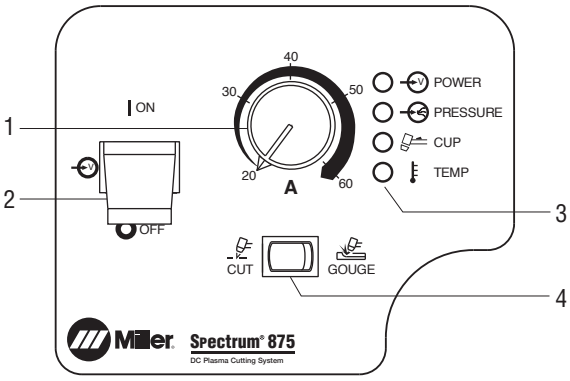
Mild Steel Recommended Cut Speed

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

Engine-Driven Welder/Generator	Continuous Generator Power	Steel Quality Cut (approximate)	Spectrum Output Amp Setting (240 V full KVA adapter cord)
Bobcat™ 230, 230 3 Phase, 265	9,500 watts	1/2 in.	45 A
Trailblazer® Series	10,500 watts	1/2 in.	45 A
Big Blue® 400 Series	10,000 watts	1/2 in.	45 A
Big Blue® 500 Pro, 600 Series and 800 Series	1-phase: 12,000 watts 3-phase: 20,000 watts	7/8 in.	50 A

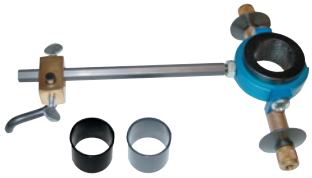
Genuine Miller® Accessories

Female Receptacle

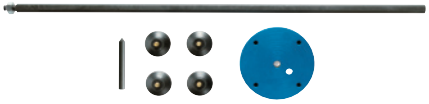
Full KVA Adapter Cord 300517 Field NEMA 14-50P to NEMA 6-50R. Adapts engine drive 120/240 V plug to Spectrum® 240 V plug.

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.

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.

RTI Replacement Filter Element 212771
For RTI filter 300491.

In-Line Air Filter Kit 228926
Mounts to the back of the Spectrum® 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 Covers
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.

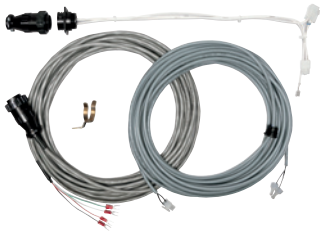
Safety Glasses
(shade 5 lenses, recommended)

235658 Black frame
235657 Blue frame
235659 Orange frame
272209 Slag™ white frame

Form-fitting orbital eye coverage with increased comfort and style. Meets ANSI Z87.1 standards.

Automation Accessories

For Spectrum 875 (single-phase)



Automation Kit 301156
Kit for single-phase Spectrum 875 works with both XT60M long and short body machine torches to provide automation capabilities. Includes voltage sensing signal wire assembly for torch height control. Also includes 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.
- **Shield Sense Tab 263310**

External Reed Switch 190602
Provides dry contact closure for ok-to-move signal.
(Not included with Automation Kit 301156.)

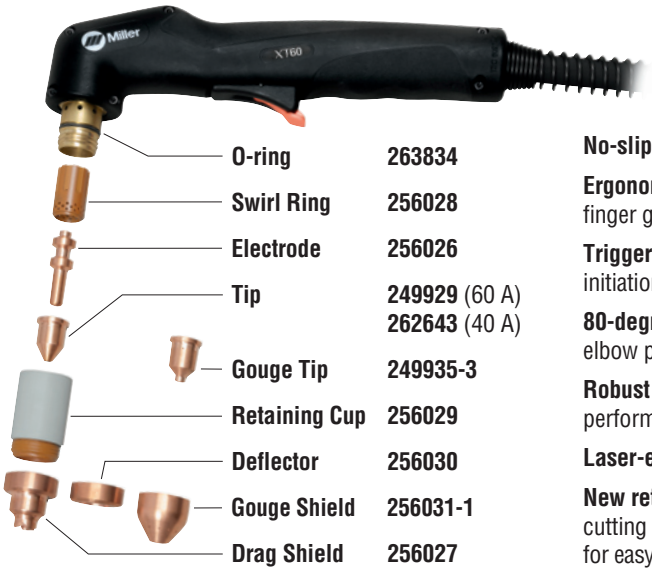
For Spectrum 875 Auto-Line

Automation Kit 301157
Kit for Spectrum 875 Auto-Line works with both XT60M long and short body machine torches to provide automation capabilities. Includes 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**

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



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.

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.

Ordering Information

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

Date: **Total Quoted Price:**

Distributed by:

Miller
The Power of Blue®

© 2024 Miller Electric Mfg. LLC