

# Spectrum® 375

Issued April 2008 • Index No. PC/9.1

**Air Plasma  
Cutting** 

## Quick Specs

### Industrial Applications

Maintenance  
Light Construction  
Prototyping  
Body Shops  
Fabrication  
HVAC Ductwork

### Process

Air Plasma Cutting

### Rated Output

27 A at 92 VDC,  
35% Duty Cycle

### Cutting Capability

Rated: 3/8 in (9.5 mm)  
Sever: 5/8 in (15.9 mm)

### Weight

With torch: 55 lb (25 kg)

### Required Input Pressure/Flow

4.5 SCFM (128 L/min) at  
90 PSI MIN (621 kPa)  
120 PSI MAX (828 kPa)

## The Power of Blue.®

**Dual input voltage** located in back of unit allows either 115 or 230 VAC input power and provides patented protection in case of incorrect switch position. Unit provides full cutting capacity when powered by most engine-driven welders with 240 VAC auxiliary receptacles.

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

**Pilot Arc Controller** increases cutting capabilities and speeds, and improves tip life.

**LVC™ line voltage compensation** provides peak performance power under variable conditions (power fluctuations up to  $\pm 15\%$ ) for steady cuts and cleaner ending cuts.

**Power factor correction** expands operator's work area via extension cords while minimizing nuisance trips caused by voltage drops.

**LED indicators for pressure, power, cup and temperature** allow faster troubleshooting, eliminating unnecessary downtime.

**Can be powered by any Miller engine drive** with generator power (e.g. Bobcat™) or equivalent competitive equipment. See page 3 for engine drive compatibility and recommended settings.



Spectrum Plasma Cutters offer reliability and performance that others can't match! See more at [MillerWelds.com/reliable](http://MillerWelds.com/reliable)

### Comes Complete With:

- ICE-27C hand-held torch with 20 ft (6.1 m) cable
- Heavy-duty work clamp with 20 ft (6.1 m) cable
- Extra consumables (3 electrodes, 3 tips and 1 air fitting)
- 10 ft (3 m) power cord with 115 VAC, 20 A plug
- Built-in gas/air filter and regulator

**Consumables storage compartment** provides convenient access to consumables and parts.

**Postflow cooling circuit** extends the life of the consumables and torch by cooling them with postflow air after the trigger is released.

Includes **heavy-duty clamp**.

**Ergonomic design ICE-27C torch** with increased comfort, safety trigger, and improved swirl ring and cup. Accepts consumables from prior ICE-25C model torch.

**Gas/air filter/regulator inside the power source** provides added protection during transportation. Standard air connection on back panel for easy gas or air hookup.

**TRUE BLUE**  
3YR WARRANTY

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

MADE IN **USA**  
APPLETON, WI **USA**



**Miller Electric Mfg. Co.**  
An Illinois Tool Works Company  
1635 West Spencer Street  
Appleton, WI 54914 USA

**International Headquarters**  
Phone: 920-735-4505  
USA FAX: 920-735-4134  
Canadian FAX: 920-735-4169  
International FAX: 920-735-4125

**Web Site**  
[www.MillerWelds.com](http://www.MillerWelds.com)



# Specifications (Subject to change without notice.)



Rated Output	Max. Open-Circuit Voltage	Amps Input at Rated Output, 60 Hz, 1-Phase				Plasma Gas	Dimensions	Weight with Torch
		115 V	230 V	KVA	KW			
27 A at 92 VDC, 35% duty cycle	288 VDC	28*	14	3.3	3.2	Air or Nitrogen only	H: 13-1/2 in (343 mm) W: 8-1/2 in (216 mm) D: 16 in (406 mm)	Net: 55 lb (25 kg) Ship: 61.5 lb (27.9 kg)

\*Recommended 30 A branch circuit for maximum performance. Performance on 20 A branch service may be limited due to breaker/line fuse. Reducing unit output amperage will minimize nuisance breaker/line fuse tripping.

## Mild Steel Cutting Capability (Thickness to scale.)



1/4 in (6.4 mm) at 27 IPM



3/8 in (9.5 mm) at 14 IPM

Rated cut capacity is based on traveling approximately 10 inches per minute to achieve a steady, precise cut. This is the key rating that should meet or exceed your typical cutting thickness requirements.

Note: Recommended maximum piercing capacity for hand-held applications is 3/16 in (4.8 mm).

Maximum Sever cut of 5/8 in (15.9 mm) at 5 IPM.

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

## Mild Steel Cutting Performance

Maximum Cutting Speeds at 27 Amps Output

Thickness	Approximate Travel Speeds*
16 ga (1.5 mm)	188 IPM (4775 mm/min)
3/16 in (4.8 mm)	40 IPM (1016 mm/min)
1/4 in (6.4 mm)	27 IPM (685 mm/min)
3/8 in (9.5 mm)	14 IPM (256 mm/min)
1/2 in (12.7 mm)	6 IPM (152 mm/min)

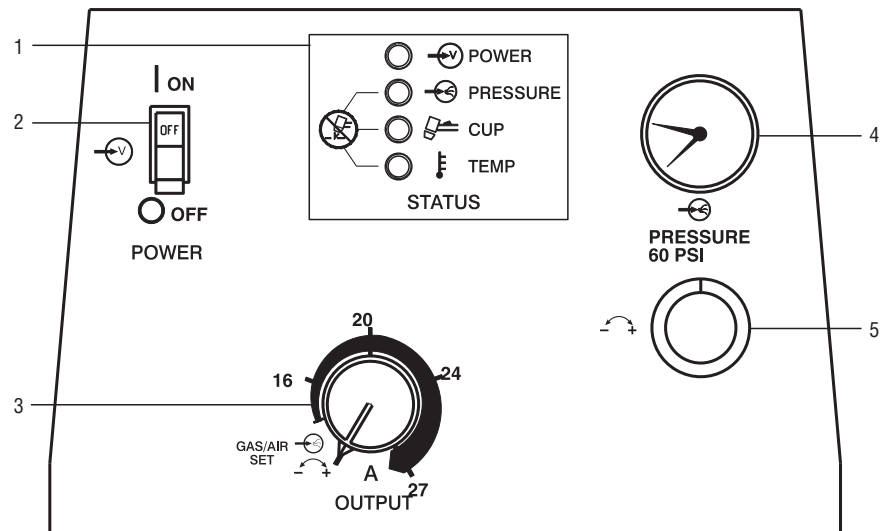
Maximum Cutting Speeds at 20 Amps Output

Thickness	Approximate Travel Speeds*
16 ga (1.5 mm)	162 IPM (4115 mm/min)
3/16 in (4.8 mm)	26 IPM (660 mm/min)
1/4 in (6.4 mm)	18 IPM (457 mm/min)
3/8 in (9.5 mm)	7 IPM (178 mm/min)

\* Travel speeds are approximately 80% of maximum.

## Control Panel

1. Status and Troubleshooting Lights
2. Power Switch
3. Output Control
4. Gas/Air Pressure Gauge
5. Gas/Air Pressure Adjustment Control



## Engine Drive Compatibility

Equipment	Generator Power	Steel Quality Cut (Approximate)	Spectrum Output Amp Setting
Bobcat™ 250, Trailblazer® 302 & 275 DC	11 kW	3/8 in	27 A, 240 V, full KVA plug
Bobcat™ 225	10.5 kW	3/8 in	27 A, 240 V, full KVA plug
Miller Legend® 302	5 KW	3/8 in	27 A, 240 V, full KVA plug
PipePro® 304, PRO 300	12 kW	3/8 in	27 A, 240 V, full KVA plug
Big 40® CC/CV	15 kW (optional)	3/8 in	27 A, 240 V, full KVA plug
Big Blue® 500 CC/CV	20 kW (optional)	3/8 in	27 A, 240 V, full KVA plug

## Genuine Miller Accessories



**No. 50HD Cart #300 026**  
This heavy-duty cart accommodates the Spectrum 125C, 375, 625, 2050, 1000 and 1251.



**No. 30A Economy Running Gear and Cord Wrap #195 093**  
Economical running gear with angle for easy front panel access provides storage for gloves and tools.



**Protective Cover #195 144**  
Mildew-resistant, odor-free, waterproof cover protects your machine's finish.



Female Receptacle 

**Adapter Cord, Full KVA #300 158**  
NEMA 14-50P to NEMA 6-50R. Adapts engine drive 120/240 V plug to Spectrum® 240 V plug.



**RTI Filter and Bracket #195 425**  
Dryer will remove water, dirt and oil as small as one micron with 99.9% 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 #212 771**



**ICE-27C Consumable Kit #222 939**  
Consumable kit includes 5 electrodes, 5 tips, 1 swirl ring, 1 retaining cup, 1 o-ring and silicone grease.



**Plasma Standoff Roller Guide #194 883**  
Helps maintain recommended standoff distance to maximize cutting performance and improve tip life.



**Plasma Circle-Cutting Guide #195 981**  
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.

**Full KVA Plug Kit #119 172** Field 240 VAC, 50 amp plug (NEMA 14-50P) to fit full KVA receptacle on Bobcat.™

**115 VAC, 20 A Receptacle #141 432** Field Receptacle matches 20 amp plug supplied with Spectrum 375 (#903 891/903 871).

**115 VAC, 15 A Plug Kit #073 690** Field Allows connection to 15 amp household receptacle.



**In-Line Air Filter Kit #228 926**  
Mounts to the back of the Spectrum® 375 X-TREME™, 375, 625, 2050, 1000, 1251. Includes male and female 1/4 in NPT quick disconnect fittings and hose for easy on/off connection. The replaceable filter element filters to .85 microns.

**In-Line Air Filter Replacement Element #228 928**  
Includes 1 replacement filter for in-line filter #228 926.

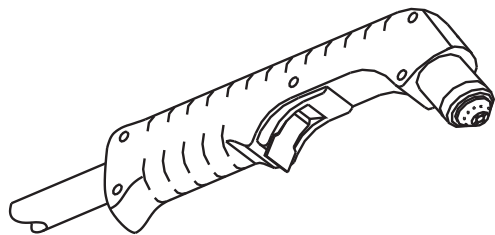


**MIG Gloves**  
#227 821 Small  
#227 822 Medium  
#227 823 Large  
#227 824 X-Large  
*For medium-duty MIG welding and metalworking tasks.*  
Combination of durable top grain cowhide palm and abrasion-resistant pig split back sewn with Kevlar® thread.

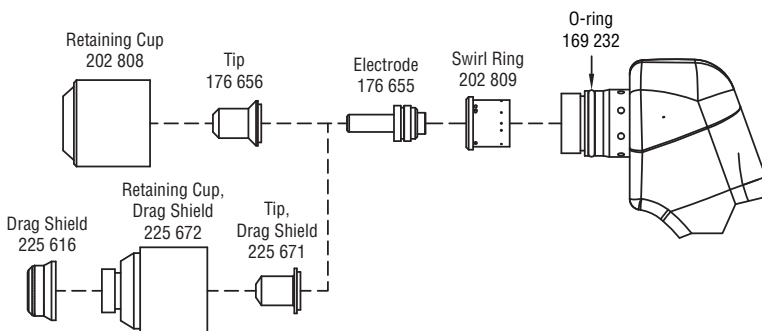


**Metalworker Gloves**  
#227 817 Small  
#227 818 Medium  
#227 819 Large  
#227 820 X-Large  
*Designed for the daily demands of the metalworker and material handler.* Padded, goatskin palm with textured G-Grip™ patch for excellent grip. Neoprene wrist with Velcro® closure for improved fit. NOT intended for use while welding.

# Replacement Torch and Consumables



ICE-27C Hand-Held 20 ft (6.1 m) Torch #195 014



## Ordering Information

Power Source	Stock No.	Description	Qty.	Price
Spectrum® 375	#903 891*	115/230 VAC, 60 Hz, with ICE-27C 20 ft (6.1 m) hand-held torch		
<b>Replacement Torch and Consumables</b>				
ICE-27C Hand-Held Torch	#195 014	20 ft (6.1 m). <i>Order from Miller Service Parts</i>		
Consumables		See above. <i>Order from Miller Service Parts</i>		
<b>Accessories</b>				
No. 50HD Cart	#300 026			
No. 30A Economy Running Gear and Cord Wrap	#195 093			
Protective Cover	#195 144			
Adapter Cord, Full KVA	#300 158	Adapts engine drive 120/240 V plug to Spectrum® 240 V plug		
RTI Filter and Bracket	#195 425			
RTI Filter Replacement Element	#212 771	For RTI filter #195 425. <i>Order from Miller Service Parts</i>		
ICE-27C Consumable Kit	#222 939	Includes 5 electrodes, 5 tips, 1 swirl ring, 1 retaining cup, 1 o-ring, and silicone grease. <i>Order from Miller Service Parts</i>		
Silicone Grease	#169 231	<i>Order from Miller Service Parts</i>		
Plasma Standoff Roller Guide	#194 883	<i>Order from Miller Service Parts</i>		
Plasma Circle-Cutting Guide	#195 981	<i>Order from Miller Service Parts</i>		
Suction/Magnetic Pivot Base	#195 979	<i>Order from Miller Service Parts</i>		
Full KVA Plug Kit	#119 172	Field. <i>Order from Miller Service Parts</i>		
115 VAC, 20 A Receptacle	#141 432	Field. <i>Order from Miller Service Parts</i>		
115 VAC, 15 A Plug Kit	#073 690	Field. <i>Order from Miller Service Parts</i>		
In-Line Air Filter Kit	#228 926	<i>Order from Miller Service Parts</i>		
In-Line Air Filter Replacement Element	#228 928	<i>Order from Miller Service Parts</i>		
MIG Gloves		See page 3. <i>Order from Miller Service Parts</i>		
Metalworker Gloves		See page 3. <i>Order from Miller Service Parts</i>		

Date:

Total Quoted Price:

\*  Certified by Canadian Standards Association to both Canadian and U.S. standards.



Distributed by: