

# Spectrum® 625 X-TREME™ Air Plasma Cutting and Gouging

## Quick Specs

### Industrial Applications

Maintenance  
Light construction  
Prototyping  
Body shops  
Fabrication

### Process

Air plasma cutting and gouging

### Rated Output

40 A at 140 VDC, 60% duty cycle  
27 A at 91 VDC, 35% duty cycle

### Cutting Capability

Rated: 5/8 in. (16 mm)

### Net Weight

With 12 ft. hand-held torch: 21 lb. (9.5 kg)  
With 20 ft. hand-held torch: 23 lb. (10.4 kg)

### Required Input Pressure/Flow

6.0 scfm (170 L/min.)  
at 90 psi minimum  
(621 kPa), 120 psi  
maximum (828 kPa)

**X-TREME versatility** — Auto-Line™ circuitry automatically connects to 120–240 V, single-phase power, 60 Hz, without making internal changes. (Output amperage is automatically reduced to 27 A for 120 V input.)

**X-TREME protection** — X-CASE™ provides ultimate protection and additional space for MVP adapters, consumable box, gloves, and eye protection, etc.

**X-TREME portability** — at just 21 pounds the shoulder strap allows the end user to easily move from location to location.

**Auto postflow** calculates the optimum length of postflow time to optimize consumable life and eliminate excessive air usage.

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

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

**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.



### Comes complete with:

- XT40 hand-held torch with 12 ft. (3.7 m) or 20 ft. (6.1 m) cable — torch includes a complete set of 40 A consumables
- Heavy-duty work clamp with flexible cable and quick connect
- 12 ft. (3.7 m) power cord with 240 V L6-30P twist lock plug for MVP™ adapters
- MVP™ adapters with 240 V, 50A (6-50P) plug and 120 V, 15 A (5-15P) plug
- X-CASE™ provides protection during transport and storage
- Shoulder strap
- Consumables box with 2 electrodes, 2 tips (40 A), one tip (30 A), drag shield (30 A), deflector and air fitting

**MVP™ adapters** allow connection to 120 or 240 V receptacles without tools — choose the adapter cord with the right plug that fits the receptacle and connect it to the power cord with the L6-30R twist lock.

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



**Ultra-Quick Connect™ XT40 torch** with an ergonomic handle to help prevent operator fatigue and a flexible cable that makes maneuvering easier (see page 4 for more detail).

**Compatible with engine-driven welders.** Complete cutting capability when powered by an engine-driven welder/generator with a 240 V receptacle of 4 kW or more.

**Automatic air regulation** compensates for input pressure variation to provide constant recommended torch pressure for optimum cutting performance.

**Automatic gouging consumable detection** adjusts gas pressure to optimize performance, eliminating the need for a manual regulator.



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



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# Specifications (Subject to change without notice.)



| Input Power  | Rated Output                    | Amps Input at Rated Output, 60 Hz, 1-Phase | KVA | KW  | Plasma Gas           | Dimensions  | Net Weight with Torch*  |
|--------------|---------------------------------|--|-----|-----|----------------------|---|---|
| 240 V        | 40 A at 140 VDC, 60% duty cycle | 27.6                                       | 6.6 | 6.5 | Air or nitrogen only | H: 9 in. (229 mm)<br>W: 5.5 in. (140 mm)<br>D: 13.25 in. (337 mm) | 12 ft. (3.7 m): 21 lb. (9.5 kg)<br>20 ft. (6.1 m): 23 lb. (10.5 kg) |
| 120 V (20 A) | 27 A at 91 VDC, 35% duty cycle  | 25.0                                       | 3.0 | 3.0 |                      |   |   |
| 120 V (15 A) | 20 A at 88 VDC, 60% duty cycle  | 17.7                                       | 2.1 | 2.1 |                      |   |   |

\*Add 18 lb. (8.2 kg) for shipping weight.



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

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

### Cutting at 40 Amps (240 V)



1/4 in. (6.4 mm) at 64 ipm



5/8 in. (15.9 mm) at 13 ipm

Note: Recommended maximum piercing capacity for hand-held applications is 5/16 inch (7.9 mm).  
Maximum sever cut of 7/8 inch (22.2 mm) at approximately 5 ipm.

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

### Mild Steel Recommended Cut Speeds at 40 Amps

| Thickness         | Approximate Travel Speeds* |
|-------------------|----------------------------|
| 1/8 in. (3.2 mm)  | 156 ipm (3,963 mm/min.)    |
| 1/4 in. (6.4 mm)  | 64 ipm (1,626 mm/min.)     |
| 3/8 in. (9.5 mm)  | 36 ipm (915 mm/min.)       |
| 1/2 in. (12.7 mm) | 22 ipm (559 mm/min.)       |
| 5/8 in. (15.9 mm) | 13 ipm (330 mm/min.)       |

\*Travel speeds are approximately 80% of maximum.

### Cutting at 27 Amps (120 V)

Output amperage is automatically reduced to 27 A for 120 V input.



1/8 in. (3.2 mm) at 88 ipm



3/8 in. (9.5 mm) at 15 ipm

Note: Recommended maximum piercing capacity for hand-held applications is 1/8 inch (3.2 mm).

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

### Mild Steel Recommended Cut Speeds at 27 Amps

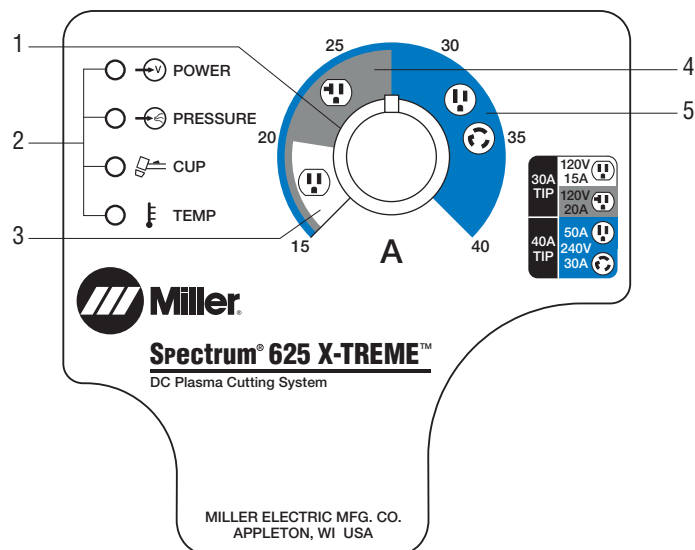
| Thickness         | Approximate Travel Speeds* |
|-------------------|----------------------------|
| 12 ga. (2.8 mm)   | 115 ipm (2,921 mm/min.)    |
| 1/8 in. (3.2 mm)  | 88 ipm (2,235 mm/min.)     |
| 3/16 in. (4.8 mm) | 50 ipm (1,280 mm/min.)     |
| 1/4 in. (6.4 mm)  | 28 ipm (711 mm/min.)       |
| 3/8 in. (9.5 mm)  | 15 ipm (386 mm/min.)       |
| 1/2 in. (12.7 mm) | 8 ipm (203 mm/min.)        |
| 5/8 in. (15.9 mm) | 5 ipm (126 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. Status and Troubleshooting Lights
3. Range for 30 A Tip, 120 V/15 A, 5-15P MVP™ Adapter
4. Range for 30 A Tip, 120 V/20 A, 5-20P MVP™ Adapter
5. Range for 40 A Tip, 240 V/30 A/50 A, 6-50P MVP™ Adapter

# Genuine Miller® Accessories



## X-CASE™ 300184

Sturdy case provides ultimate protection for transport and storage. Also features convenient top carrying handle and side recessed hand grips. Store the Spectrum 625 X-TREME, accessories and gear in this generous case to be ready to go at any time. Dimensions (H x W x D): 13 x 10.5 x 30.625 in. (330 x 267 x 778 mm).



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.



## XT40 Consumable Kit 253521

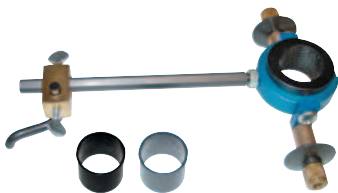
Consumable kit includes 5 electrodes, 5 tips (40 A), 3 tips (30 A), 1 drag shield (40 A), 2 drag shields (30 A),

1 deflector, 1 o-ring, 1 swirl ring, 1 retaining cup, 1 gouge tip (40 A), 1 gouge shield and silicone grease.



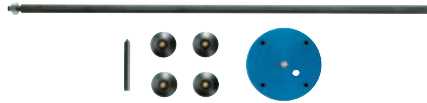
## Plasma Standoff Roller Guide 253054

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 625 X-TREME. 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)



## Flexible Work Cable

**263799** 12 ft. (3.7 m)

**263800** 20 ft. (6.1 m)

Work cable with quick connect and heavy-duty clamp.

## Safety Glasses (shade 5 lenses, recommended)



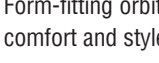
**235658** Black frame



**235657** Blue frame



**235659** Orange frame



**272205** Slag™ black frame



**272209** Slag™ white frame

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

## MVP™ Adapters



Female Receptacle

**254328** For connection to 6-50P receptacle (240 V/50 A). Included with machine.

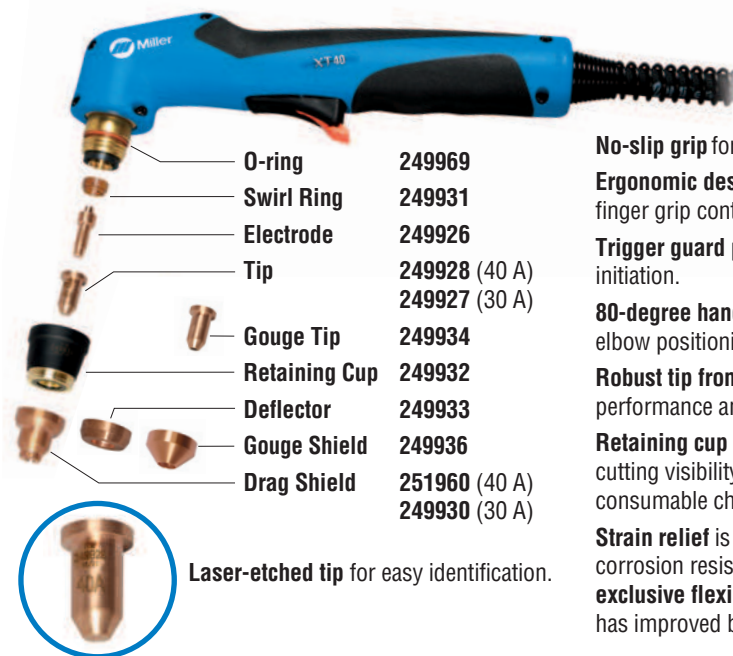


**254330** For connection to 5-15P receptacle (120 V/15 A). Included with machine.



**254331** For connection to 5-20P receptacle (120 V/20 A). Optional.

# XT40 Replacement Torches and Consumables



**XT40 Hand-Held Torch**  
**260633** 12 ft. (3.7 m)  
**260635** 20 ft. (6.1 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.

**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.

- O-ring** 249969
- Swirl Ring** 249931
- Electrode** 249926
- Tip** 249928 (40 A)  
249927 (30 A)
- Gouge Tip** 249934
- Retaining Cup** 249932
- Deflector** 249933
- Gouge Shield** 249936
- Drag Shield** 251960 (40 A)  
249930 (30 A)

**Laser-etched tip** for easy identification.

*Note: The XT40 can be configured for cutting at either 30 A or 40 A by installing the appropriate cutting tip and drag shield. 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 XT40 consumables are common.*

## Ordering Information

| Power Source  | Stock No.                      | Description  | Qty. | Price |
|---|--------------------------------|--|------|-------|
| <b>Spectrum® 625 X-TREME™ with X-CASE™</b><br>120–240 V, 60 Hz, 1-Phase | <b>907579</b>                  | With 12 ft. (3.7 m) XT40 hand-held torch and X-CASE                                |      |       |
|   | <b>907579001</b>               | With 20 ft. (6.1 m) XT40 hand-held torch and X-CASE                                |      |       |
| <b>Replacement Torches and Consumables</b>                              |                                |  |      |       |
| XT40 Hand-Held Torch  | <b>260633</b><br><b>260635</b> | 12 ft. (3.7 m)<br>20 ft. (6.1 m)   |      |       |
| Consumables   |                                | See above  |      |       |
| <b>Accessories</b>  |                                |  |      |       |
| X-CASE™ (only)  | <b>300184</b>                  | Carrying case for Spectrum 625 X-TREME   |      |       |
| Full KVA Adapter Cord   | <b>300517</b>                  | Adapts engine drive 120/240 V plug to Spectrum 240 V plug                          |      |       |
| XT40 Consumable Kit   | <b>253521</b>                  | See page 3 for contents  |      |       |
| Plasma Standoff Roller Guide  | <b>253054</b>                  |  |      |       |
| Plasma Circle-Cutting Guide   | <b>253055</b>                  |  |      |       |
| Suction/Magnetic Pivot Base   | <b>195979</b>                  |  |      |       |
| In-Line Air Filter Kit  | <b>228926</b>                  |  |      |       |
| In-Line Air Filter Replacement Element                                  | <b>228928</b>                  |  |      |       |
| Torch Cable Covers  | <b>239642</b><br><b>231867</b> | 20 ft. (6.1 m)<br>25 ft. (7.6 m)   |      |       |
| Flexible Work Cable w/Heavy-Duty Clamp                                  | <b>263799</b><br><b>263800</b> | 12 ft. (3.7 m) cable with quick connect<br>20 ft. (6.1 m) cable with quick connect |      |       |
| Safety Glasses  |                                | See page 3   |      |       |
| MVP™ Adapters   |                                | See page 3   |      |       |

Date:

Total Quoted Price:

Distributed by:

