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

Process
Air plasma cutting and gouging

Cutting Capability
Rated: 5/8 in. (16 mm)

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

Quick Specs
Industrial Applications
Maintenance
Light construction
Prototyping
Body shops
Fabrication

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

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).

Also available with an XT40M long body machine torch. Short body machine torch can only be ordered separately (see page 4).

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.

Can be powered by Miller engine drives with generator power. See page 3 for engine drive compatibility and recommended settings.

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Specifications (Subject to change without notice.)

<table>
<thead>
<tr>
<th>Input Power</th>
<th>Rated Output</th>
<th>Amps Input at Rated Output, 60 Hz, 1-Phase</th>
<th>KVA</th>
<th>KW</th>
<th>Plasma Gas</th>
<th>Dimensions</th>
<th>Net Weight*</th>
</tr>
</thead>
<tbody>
<tr>
<td>240 V</td>
<td>40 A at 140 VDC, 50% duty cycle</td>
<td>26.7</td>
<td>6.4</td>
<td>6.3</td>
<td>Air or nitrogen only</td>
<td>H: 9 in. (229 mm)</td>
<td>With hand-held torch</td>
</tr>
<tr>
<td></td>
<td>120 V (20 A)</td>
<td>27 A at 91 VDC, 20% duty cycle</td>
<td>25.1</td>
<td>3.0</td>
<td>2.9</td>
<td>W: 5.5 in. (140 mm)</td>
<td>20 ft. (6.1 m): 23 lb. (10.5 kg)</td>
</tr>
<tr>
<td></td>
<td>120 V (15 A)</td>
<td>20 A at 88 VDC, 35% duty cycle</td>
<td>18.1</td>
<td>2.2</td>
<td>2.1</td>
<td>D: 13.25 in. (337 mm)</td>
<td>With machine torch</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>25 ft. (7.6 m): 24 lb. (10.7 kg)</td>
<td></td>
</tr>
</tbody>
</table>

*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%.

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%.

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.

Mild Steel Recommended Cut Speeds at 40 Amps

<table>
<thead>
<tr>
<th>Thickness</th>
<th>Approximate Travel Speeds*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8 in. (3.2 mm)</td>
<td>156 ipm (3963 mm/min.)</td>
</tr>
<tr>
<td>1/4 in. (6.4 mm)</td>
<td>64 ipm (1626 mm/min.)</td>
</tr>
<tr>
<td>3/8 in. (9.5 mm)</td>
<td>36 ipm (915 mm/min.)</td>
</tr>
<tr>
<td>1/2 in. (12.7 mm)</td>
<td>22 ipm (559 mm/min.)</td>
</tr>
<tr>
<td>5/8 in. (15.9 mm)</td>
<td>13 ipm (330 mm/min.)</td>
</tr>
</tbody>
</table>

*Mild Steel Recommended Cut Speeds at 27 Amps

<table>
<thead>
<tr>
<th>Thickness</th>
<th>Approximate Travel Speeds*</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 ga. (2.8 mm)</td>
<td>115 ipm (2921 mm/min.)</td>
</tr>
<tr>
<td>1/8 in. (3.2 mm)</td>
<td>88 ipm (2235 mm/min.)</td>
</tr>
<tr>
<td>3/16 in. (4.8 mm)</td>
<td>50 ipm (1280 mm/min.)</td>
</tr>
<tr>
<td>1/4 in. (6.4 mm)</td>
<td>28 ipm (711 mm/min.)</td>
</tr>
<tr>
<td>3/8 in. (9.5 mm)</td>
<td>15 ipm (386 mm/min.)</td>
</tr>
<tr>
<td>1/2 in. (12.7 mm)</td>
<td>8 ipm (203 mm/min.)</td>
</tr>
<tr>
<td>5/8 in. (15.9 mm)</td>
<td>5 ipm (126 mm/min.)</td>
</tr>
</tbody>
</table>

*Travel speeds are approximately 80% of maximum.

Mild Steel Cutting Capability (Thickness to scale.)

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
- 6. CNC Automation Receptacle. This receptacle is installed on panel in optional Automation Kit (page 3) or is factory-installed in machine torch package (page 4).
### Engine Drive Compatibility

<table>
<thead>
<tr>
<th>Engine-Driven Welder/Generator</th>
<th>Continuous Generator Power</th>
<th>Steel Quality Cut (approximate)</th>
<th>Spectrum Output Amp Setting (240 V full KVA adapter cord)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bobcat® 225 and 250, 3 Phase and Trailblazer® Series</td>
<td>9,500 watts/10,500 watts</td>
<td>5/8 in.</td>
<td>40 A</td>
</tr>
<tr>
<td>Big Blue® 400 Pro, 400 PipePro®, and 450 Duo CST™</td>
<td>10,000 watts</td>
<td>5/8 in.</td>
<td>40 A</td>
</tr>
<tr>
<td>Big Blue® 500 Pro, 600 Series and 800 Series</td>
<td>1-phase: 12,000 watts 3-phase: 20,000 watts</td>
<td>5/8 in.</td>
<td>40 A</td>
</tr>
</tbody>
</table>

### Genuine Miller® Accessories

#### Automation Kit  301158
Includes front panel, remote control cable and shield sense tab. Panel has built-in remote control cable receptacle for remote trigger, ok-to-move signal, and voltage sensing. Only available for Spectrum® 625 X-TREME™ models with Ultra-Quick Connect™ torch feature.

#### 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).

#### 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 Circle-Cutting Guide  253055
Cut straight lines or circles up to 12-inch diameter with ease.

#### Plasma Standoff Roller Guide  253054
Helps maintain recommended standoff distance to maximize cutting performance and improve tip life.

#### 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

**Order from Miller Service Parts.**

- **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 and XT40M Replacement Torches and Consumables

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

XT40M Machine Torch
- 259305 25 ft. (7.6 m), long body
- 257462 25 ft. (7.6 m), short body

Accessories
- Automation Kit 301158
- X-CASE™ (only) 300184
- Full KVA Adapter Cord 300517
- XT40 Consumable Kit 253521
- Plasma Standoff Roller Guide 253054
- Plasma Circle-Cutting Guide 253055
- Suction/Magnetic Pivot Base 195979
- In-Line Air Filter Kit 228926
- In-Line Air Filter Replacement Element 228928
- Torch Cable Covers 239642
- 231867
- 263799
- 263800
- 263310
- 249937

Ordering Information

<table>
<thead>
<tr>
<th>Power Source</th>
<th>Stock No.</th>
<th>Description</th>
<th>Qty.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spectrum® 625 X-TREME™ with X-CASE™ 120–240 V, 60 Hz, 1-Phase</td>
<td>907579</td>
<td>With 12 ft. (3.7 m) XT40 hand-held torch and X-CASE™</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>907579001</td>
<td>With 20 ft. (6.1 m) XT40 hand-held torch and X-CASE™</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>907579002</td>
<td>With 25 ft. (7.6 m) XT40M long body machine torch and X-CASE™</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Replacement Torches and Consumables
(See above) Order from Miller Service Parts

- 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)

Note: The XT40M consumables are the same as the XT40 consumables, except for the machine shield.

Date: Total Quoted Price:


Distributed by:

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