**Processes**

Stick (SMAW)
DC TIG (GTAW) Lift-Arc™
Air Carbon Arc (CAC-A)

**Rated:** 3/16 in. (4.8 mm) carbons (paralleled)

**Output Range**
DC Stick/TIG 5–280 A (separate)
10–450 A (paralleled)

**Max. Open-Circuit Voltage** 77 V

**Generator Output Rated at 104° F (40° C)**
- 3-Phase 12,000 Watts continuous
- 1-Phase 10,000 Watts continuous

**Quick Specs**

**Industrial Applications**
Pipe Welding
Structural
General Fabrication
Maintenance and Repair
Rental Fleets

**Superior Stick arc performance**
even on the difficult-to-run electrodes like E6010.

**Adaptive Hot Start™ for Stick arc starts** automatically increases the output amperage at the start of a weld should the start require it. Prevents the electrode from sticking and creating an inclusion.

**Lift-Arc™ start** provides TIG arc starting without the use of high frequency.

**Remote amperage control** provided through 14-pin receptacle on front of the machine. This permits use of standard remote amperage control devices.

**Vandalism lockout kit.** Lockable hinged steel panel protects front control panels and ignition switch.

**The Big Blue 450 Duo CST** is a rugged, compact, fuel-efficient diesel welder/generator that provides two superior arcs in one economical package.

**Mitsubishi S4L2 diesel engine.**
Used in industrial applications around the world, the S4L2 is designed to run 10,000 hours before major overhaul.

**Meter maintenance displays.**
- Hour meter function
- Oil change interval
- High coolant temperature and low oil pressure shutdowns
- Low fuel shutdown—engine shuts down before system runs out of fuel, making restarts easy.

**Quiet operation.** At just 72.2 decibels at 23 feet (7 m), it’s quieter than most single-operator models, improving jobsite communication and safety.

**Thermal overload protection** prevents machine damage if the duty cycle is exceeded or airflow is blocked.

**High efficiency.** Three-phase, rotating-field generator requires less fuel and horsepower to operate.

See page 3 for more machine features/benefits.

**Welder/generator is warranted by Miller for 3 years, parts and labor.**
Engine is warranted separately by engine manufacturer.
Specifications (Subject to change without notice.)

<table>
<thead>
<tr>
<th>Weld Mode/Process</th>
<th>Output Mode</th>
<th>Weld Output Range</th>
<th>Weld Output Rated at 122° F (50° C)</th>
<th>Max. Open-Circuit Voltage</th>
<th>Generator Power Output Rated at 122 F (50° C)</th>
<th>Sound Levels at Rated Output, 23 ft. (7 m)</th>
<th>Dimensions</th>
<th>Weight (without fuel)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC/DC (Stick/TIG) Separate (dual outputs)</td>
<td>5–225 A (each side) 5–280 A (one side only)</td>
<td>USA Model 175 A, 27 VDC, 100% duty cycle International Model 200 A, 28 VDC, 100% duty cycle</td>
<td>77</td>
<td>3-phase: 12,000 watts, 240 VAC, 60 Hz continuous 1-Phase: 10,000 watts, 120/240 VAC, 60 Hz continuous</td>
<td>72.2 dB (97 Lwa)</td>
<td>H: 32 in. (813 mm) W: 26.25 in. (667 mm) D: 56 in. (1422 mm)</td>
<td></td>
<td>Net: 1064 lb. (483 kg) Ship: 1114 lb. (505 kg)</td>
</tr>
<tr>
<td></td>
<td>Paralleled (combined)</td>
<td>10–450 A</td>
<td>USA Model 350 A, 27 VDC, 100% duty cycle International Model 400 A, 28 VDC, 100% duty cycle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Additional 95 lb. (43 kg) when fuel tank is full.

Certified by Canadian Standards Association to both the Canadian and U.S. Standards. Meets NEMA and IEC output ratings.

Engine Specifications (Engines warranted separately by the engine manufacturer.)

<table>
<thead>
<tr>
<th>Engine Brand</th>
<th>Features</th>
<th>HP</th>
<th>Type</th>
<th>Engine Speeds</th>
<th>Capacities</th>
<th>Automatic Engine Shutdown</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mitsubishi S4L2</td>
<td>EPA Tier 4 Final compliant</td>
<td>24.7</td>
<td>Four-cylinder, liquid-cooled industrial diesel</td>
<td>Weld: 1800 RPM</td>
<td>Fuel: 11.5 gal. (43.5 L) Oil: 6.3 qt. (6 L) Coolant: 10 qt. (9.5 L)</td>
<td>Low oil pressure, high coolant temperature, low fuel level</td>
</tr>
</tbody>
</table>

Performance Data

![FUEL CONSUMPTION CURVE](image)

![SIMULTANEOUS WELDING AND POWER](image)
1. Output Light
2. On/Off Switch
3. Weld Process Selector Switch
4. Overtemp Light
5. Amperage Adjustment Control (5–280 Amps)
7. Negative (–) Weld Output Terminal
8. Glow Plugs assist in cold weather starting.
9. Meter Maintenance Displays show fuel level, engine hours, oil change interval and high temp/low pressure/low fuel shutdown information.
10. Engine Control Switch is used to start and stop the engine and select power range.

**USA Model**

**Receptacles and Circuit Breakers**

11. 120/240 V, 50 A, AC Receptacle
   *Note: For matching plug, order #119 172.*
12. 120 and 240 V Circuit Breakers
13. 120 V, 20 A, AC Receptacles with Ground Fault

**International Model**

**Receptacles and Circuit Breakers**

14. 120 V, 20 A, AC Receptacles with Ground Fault
15. 240 V Earth Leakage Circuit Breaker
16. 120 V Circuit Breakers
17. 120 V/16 A and 240 V/16 A, AC Receptacles
Genuine Miller® Accessories

USA Model Full KVA Plug Kit  #119 172  Field 1-phase, 120/240 VAC, 50 A plug (NEMA 14-50P) to fit full KVA receptacle.

International Plugs  #255 419 1-Phase, 120 VAC, 16 A plug  #255 416 1-Phase, 240 VAC, 16 A plug

Cold Weather Starting Kit  #300 664  Field 120 V block heater.  
Note: All models come standard with preheaters (glow plugs).

Engine Filter Kit  #252 782  Field Includes all filters required for proper engine maintenance. Oil filter, primary and secondary fuel filter, and primary air filter.

Spark Arrestor (Muffler) Kit  #300 585  Field Prevents particles from leaving the muffler that could potentially start a fire.

FA-1D Lockable Flame Arrestor Fuel Cap  #043 947  Field Fuel cap can be padlocked to prevent vandalism. A built-in flame arrestor prevents flames or sparks from entering the fuel tank.

Chalwyn Safety Valve  #300 576  Field Shuts off air flow to the engine to prevent over-speed condition. Required on many petroleum jobsites, this valve provides both manual and automatic operation giving you two methods of operation to meet jobsite compliance standards.

Protective Cover  #195 301  Field Blue water-resistant cover with Miller logo resists stains and mildew, and protects the finish of your welder.

Stick (SMAW) Welding

Weld Leads
No. 2 Stick Cable Set, 15 ft. (4.6 m)  #195 196  Consists of 15-foot (4.6 m) No. 2 electrode cable with holder, and 15-foot (4.6 m) work cable with clamp. 200 A, 100% duty cycle.
No. 2 Stick Cable Set, 50 ft. (15 m)  #300 836  Consists of 50-foot (15 m) No. 2 electrode cable with holder, and 50-foot (15 m) work cable with clamp. 200 A, 100% duty cycle.
2/0 Stick Cable Set, 50 ft. (15 m)  #173 851  Consists of 50-foot (15 m) 2/0 electrode cable with holder, and 50-foot (15 m) work cable with clamp. 350 A, 100% duty cycle.
2/0 Stick Cable Set, 100/50 ft. (30.5/15 m)  #043 952  Consists of 100-foot (30.5 m) 2/0 electrode cable with holder, and 50-foot (15 m) work cable with clamp. 300 A, 100% duty cycle.

TIG (GTAW) Torches

Weldcraft® TIG Torches  
The Weldcraft line of TIG torches complements the most popular TIG power source line available today. The Weldcraft torch line includes both air-cooled and water-cooled models. Available with genuine Weldcraft parts.  
#WP-17V-12-2  150 A, 12 ft. (3.7 m) air-cooled torch with valve, two-piece cable.  
#WP-17V-25-2  150 A, 25 ft. (7.6 m) torch with valve, two-piece cable.  
#WP-26V-25-2  200 A, 25 ft. (7.6 m) air-cooled torch with valve.  
These two-cable TIG torches require the installation of a Dinse-Style Connector (#042 418) or Tweco-Style Connector (#195 115) depending on the CST model connector type.

Plasma Cutting

Spectrum® 375 X-TREME™  #907 529  See Lit. Index No. PC/9.2.  
Spectrum® 625 X-TREME™  #907 579  with 12-foot (3.7 m) torch  #907 579 001  with 20-foot (6 m) torch  See Lit. Index No. PC/9.6.  
The Spectrum 375 X-TREME and 625 X-TREME come complete with protective X-CASE™ (not shown).
Remote Controls

Wireless Remote Hand Control* #300 430
For remote current control. Receiver plugs directly into the 14-pin receptacle of Miller machine. 300-foot (91.4 m) operating range. Requires Wireless Antenna Kit #300 749.

Wireless Remote Foot Control* #300 429
For remote current control. Receiver plugs directly into the 14-pin receptacle of Miller machine. 90-foot (27.4 m) operating range. Requires Wireless Antenna Kit #300 749.

Wireless Antenna Kit #300 749
Required for Pro Series engine drives. Optional on other compatible Miller products where improved reception is desired.

PRHC-14 Hand Control* #195 511
Complete current control brings 120 volts GFCI power to work area in a single cord. Housed in a durable light aluminum case and includes 125-foot (38 m) cord with plugs.

RHC-14 Hand Control* #242 211 020
Miniature hand current control. Dimensions: 4 x 4 x 3.25 inches (102 x 102 x 82 mm). Includes 20-foot (6 m) cord and 14-pin plug.

RCC-14 Remote Current Control* #151 086
East/west rotary-motion fingertip control attaches to TIG torch using two hook-and-loop fasteners. Includes 26.5-foot (8 m) cord and 14-pin plug.

RCCS-14 Remote Current Control* #043 688
North/south rotary-motion fingertip control attaches to TIG torch using two hook-and-loop fasteners. Includes 26.5-foot (8 m) cord and 14-pin plug.

RFCS-14 HD Foot Control* #194 744
Heavy-duty foot current control. Includes 20-foot (6 m) cord and 14-pin plug.

Extension Cables for 14-Pin Remote Controls
#242 208 025 25 ft. (7.6 m)
#242 208 050 50 ft. (15.2 m)
#242 208 080 80 ft. (24.4 m)

*Cables only amperage on the Big Blue 450 Duo CST — electrode always hot.

Cable Connectors and Adapters

Dinse-Style Connector #042 418
Accepts #4 to #1/0 AWG cable size. Required if male plugs shipped with power source must be replaced or if additional plugs are needed. Kit includes one Dinse-style male plug which attaches to the work and/or weld cables and plugs into the Dinse-style receptacles on the power source.

Extension Kit for Dinse-Style Cable Connectors #042 419
Accepts #4 to #1/0 AWG cable size. Used to adapt or extend weld and/or work cables. Kit includes one male Dinse-style plug and one in-line female Dinse-style receptacle.

Dinse/Tweco® Adapter #042 465
A one-piece adapter which has a Dinse-style male plug (to power source) on one end and a female Tweco receptacle (for weld cable connection) on other end.

Dinse/Cam-Lok Adapter #042 466
A one-piece adapter which has a Dinse-style male plug (to power source) on one end and a Cam-Lok receptacle (for weld cable connection) on other end.

Tweco-Style Connector #191 981
Accepts #1/0 to #2/0 AWG cable size. Kit includes one Tweco-style male plug which attaches to the work and/or weld cables and plugs into the receptacle on the power source.

Tweco/Dinse Adapter #210 061
A one-piece adapter which has a Tweco-style male plug (to power source) on one end and a female Dinse-style receptacle (for weld cable connection) on other end.
**Trailers and Hitches (Note: Trailers are shipped unassembled.)**

**HWY-224 Trailer  #043 805**
A 2650-pound (1202 kg) capacity trailer for highway use. Welded steel tubing frame, heavy-duty axle with roller bearing hubs and leaf-spring suspension. Includes jack stand, 2-inch (50 mm) ball hitch, fenders and lights.

**Dual Hitch  #300 831**
2-inch (50 mm) ball hitch and 3-inch (76 mm) lunette eye in one reversible assembly.

**Cable Tree  #043 826**
Provides an area to conveniently wrap weld cables and extension cords.

---

**Mounting Specifications**

![Front Panel Diagram]

- A. 27.75 in. (705 mm)
- B. 26.25 in. (667 mm)
- C. 52 in. (1321 mm)
- D. 2 in. (51 mm)
- E. 56 in. (1422 mm)
- F. .562 in. (14 mm) diameter

- Height: 32 in. (813 mm)
- Width: 26.25 in (667 mm)
- Depth: 56 in. (1422 mm)

---

**Trailer Specifications (Subject to change without notice.)**

<table>
<thead>
<tr>
<th>Model</th>
<th>Gross Axle Weight Rating</th>
<th>Gross Vehicle Weight Rating</th>
<th>Net Payload</th>
<th>Height of Bed</th>
<th>Road Clearance</th>
<th>Track (Center to center of tires)</th>
<th>Standard Tires (Standard rating or P-size rating)</th>
<th>Dimensions</th>
<th>Net Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>HWY-224</td>
<td>3500 lb. (1588 kg)</td>
<td>2960 lb. (1343 kg)</td>
<td>2650 lb. (1202 kg)</td>
<td>18.5 in. (470 mm)</td>
<td>7.25 in. (184 mm)</td>
<td>52 in. (1321 mm)</td>
<td>B78-13</td>
<td>Length: 105 in. (2667 mm)</td>
<td>Width: 59.5 in. (1511 mm)*</td>
</tr>
</tbody>
</table>

*Width at outside of fenders.
Rigorous Testing for Tough, Real-World Conditions

To prove our machines go to the limit, Miller industrial engine drives are put to the test in very extreme environmental conditions.

- **Airborne dust and sand.** Critical components are exposed to abusive airborne particles in a special testing chamber for weeks, helping make sure they’ll operate while facing extreme levels of dirt, dust or sand on the jobsite.

- **Humidity and corrosion.** Inside our Houston testing room, critical components are subjected to extended moisture and corrosive salt exposure to ensure they’ll run even when exposed to humid climates, corrosive coastal environments, and driving rain.

- **Temperature extremes.** Miller industrial engine drives are tested to ensure performance in scorching heat. All Miller engine-driven machines are weld rated at 104 degrees Fahrenheit, but actual tests are conducted up to 122 degrees Fahrenheit to assure peak performance.

- **Jobsite/over-the-road abuse.** Miller industrial engine drives are shaken for hours on transportation bed simulators, subjected to severe vibration, and test-dropped and jerked to ensure they’ll withstand the stresses that can shut down competitive machines.

- **Continuous operation.** Miller industrial engine drives run day and night, in all weather conditions, to assure they’ll perform without interruption in the field.

Why Industrial Engine Drive Customers Choose Miller

The ultimate test of Miller reliability is how it performs in the field. Read stories demonstrating our superior reliability at MillerWelds.com.

Typical Installations

Electrode Hot

**Stick (SMAW) Basic Equipment**

PRHC-14 #195 511

Wireless Remote Hand Control #300 430

Note: Illustration at right shows single arc installation. For dual arc installations, two sets of cables, two remote controls and two electrode holders are needed.

**Lift-Arc TIG (GTAW) Basic Equipment**

Note: Illustration at right shows single arc installation. For dual arc installations, two sets of cables and two TIG torches are needed.
## Equipment and Options

<table>
<thead>
<tr>
<th>Stock No.</th>
<th>Description</th>
<th>Qty.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>#907 477</td>
<td>Big Blue® 450 Duo CST™ USA model with Tweco®-style connectors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#907 473</td>
<td>Big Blue® 450X Duo CST™ International model with Dinse-style connectors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#907 473 001</td>
<td>Big Blue® 450X Duo CST™ International model with Dinse-style connectors and VRD</td>
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</tr>
</tbody>
</table>

### Field Accessories

<table>
<thead>
<tr>
<th>Stock No.</th>
<th>Description</th>
<th>Qty.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>#119 172</td>
<td>USA Model Full KVA Plug Kit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#255 419</td>
<td>International Plugs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#255 416</td>
<td>1-phase, 120 V, 16 A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#300 664</td>
<td>Cold Weather Starting Kit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#252 782</td>
<td>Engine Filter Kit</td>
<td></td>
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<tr>
<td>#300 585</td>
<td>Spark Arrestor Kit</td>
<td></td>
<td></td>
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<tr>
<td>#043 947</td>
<td>FA-1D Lockable Flame Arrester Cap</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#300 576</td>
<td>Chalwyn Safety Valve</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#195 301</td>
<td>Protective Cover</td>
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</tbody>
</table>

### Stick Welding Leads

See page 4

### Weldcraft® TIG Torches

See page 4

### Plasma Cutting

<table>
<thead>
<tr>
<th>Stock No.</th>
<th>Description</th>
<th>Qty.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>#907 529</td>
<td>Spectrum® 375 X-TREME™</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#907 579</td>
<td>Spectrum® 625 X-TREME™</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#907 579 001</td>
<td>With 12-ft. (3.7 m) torch and X-CASE™</td>
<td></td>
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</tbody>
</table>

### Remote Controls

<table>
<thead>
<tr>
<th>Stock No.</th>
<th>Description</th>
<th>Qty.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>#300 430</td>
<td>Wireless Remote Hand Control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#300 429</td>
<td>Wireless Remote Foot Control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#300 749</td>
<td>Wireless Antenna Kit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#195 511</td>
<td>PRHC-14 Hand Control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#242 211 020</td>
<td>RHC-14 Hand Control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#151 086</td>
<td>RCC-14 Remote Current Control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#043 688</td>
<td>RCCS-14 Remote Current Control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#194 744</td>
<td>RFCS-14 HD Foot Control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#242 208 025</td>
<td>Extension Cables</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#242 208 050</td>
<td>25 ft. (7.6 m)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#242 208 080</td>
<td>50 ft. (15.2 m)</td>
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</tbody>
</table>

### Cable Connectors and Adapters

<table>
<thead>
<tr>
<th>Stock No.</th>
<th>Description</th>
<th>Qty.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>#042 418</td>
<td>Dinse-Style Connector</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#042 419</td>
<td>Extension Kit for Dinse-Style Connector</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#042 465</td>
<td>Dinse/Tweco® Adapter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#042 466</td>
<td>Dinse/Cam-Lok Adapter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#191 981</td>
<td>Tweco®-Style Connector</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#210 061</td>
<td>Tweco®/Dinse Adapter</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Trailers and Hitches

<table>
<thead>
<tr>
<th>Stock No.</th>
<th>Description</th>
<th>Qty.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>#043 805</td>
<td>HWY-224 Trailer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#043 826</td>
<td>Cable Tree</td>
<td></td>
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</tr>
<tr>
<td>#300 831</td>
<td>Dual Hitch</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Date:

Date: Total Quoted Price:

Distributed by: