**Processes**

- MIG (GMAW)
- Stick (SMAW)
- TIG (GTAW)
- Flux-cored (FCAW)
- Air carbon arc (CAC-A)
- cutting and gouging
- Submerged arc (SAW)

**Heavy Industrial Applications**

- Fabrication and construction
- Heavy manufacturing
- MRO — maintenance/repair
- Pressure tank/vessel fabrication
- Pipe welding
- Shipbuilding
- Refineries and foundries
- Railcar manufacturing
- Earth-moving equipment manufacturing

**Input Power**

- 3-phase power

**Rated Output**

- 452/562: 450 A at 38 VDC, 100% duty cycle
- 652/812: 650 A at 44 VDC, 100% duty cycle

**Net Weight**

- 452/562: 424 lb. (192 kg)
- 652/812: 545 lb. (247 kg)

**Quick Specs**

**DC multiprocess capability** provides versatility and outstanding arc performance in CV (MIG) and CC (stick, TIG, CAC-A).

**Built-in arc control** lets you get in tight without sticking the electrode. An electrode compensation circuit ensures consistent arc control performance regardless of the electrode size.

**Internal digital voltage control (DVC)** enables operator to preset weld voltage in the CV mode prior to welding.

**Line voltage compensation** ensures consistent weld performance by keeping output power constant even if primary input power varies by ±10 percent.

**Hot Start™** makes it easy to start difficult stick electrodes such as E-6010 and E-7018.

**Power efficient** for exceptional value and return on your investment.

**115-volt duplex receptacle** provides 15 amps of auxiliary power.

**Thermal overload protection** light indicates power shutdown. Helps prevent machine damage if the duty cycle is exceeded or airflow is blocked.

**Power cord strain relief** provided for your convenience at installation.

**Fan-On-Demand™** cooling system operates only when needed. Reduces contaminants drawn into the machine and excess noise in work areas.

**Digital voltmeter and ammeter** are easy to read, even at 30 feet (9.2 m).

**Simple control panel** features single range amperage/voltage adjustment. Provides easy and efficient operation.

**14-pin receptacle** provides quick, direct connection to Miller 14-pin wire feeders and accessories.

**Remote on/off capabilities** allow operator to turn power source on and off from a distance.

**Remote voltage control** allows operator to change voltage from feeder.

**Enclosed circuit boards** provide additional protection from contaminants resulting in longer service life.

**PC board protection** prevents the wire feeder power or other stray voltages (less than 115 VAC) from harming the power source PC board.
**Rated Output**

- 450 A at 38 VDC (36.5 VDC for CE model)
- 100% duty cycle

**Amperage/Voltage Range**

- 20–565 A in CC mode
- 10–38 V in CV mode

**Amps Input at Rated Output, 50/60 Hz**

<table>
<thead>
<tr>
<th>DC Volts</th>
<th>200 V</th>
<th>230 V</th>
<th>380 V</th>
<th>400 V</th>
<th>440 V</th>
<th>460 V</th>
<th>520 V</th>
<th>575 V</th>
<th>KVA</th>
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</thead>
<tbody>
<tr>
<td>20–565 A</td>
<td>91</td>
<td>79</td>
<td>48</td>
<td>46</td>
<td>41</td>
<td>39</td>
<td>34</td>
<td>31</td>
<td>31.4</td>
</tr>
<tr>
<td>10–38 V</td>
<td>104</td>
<td>90</td>
<td>52.5</td>
<td>51</td>
<td>46</td>
<td>45</td>
<td>38</td>
<td>36</td>
<td>35.3</td>
</tr>
</tbody>
</table>

**Max. Open-Circuit Voltage**

- 65 VDC
- 43 VDC

**Dimensions**

- H: 30 in. (762 mm) (including lift eye)
- W: 23 in. (585 mm)
- D: 38 in. (966 mm) (including strain relief)

**Net Weight**

- 424 lb. (192 kg)

---

*Open-circuit voltages in CV mode are factory set at values less than indicated for CC.

---

**Control Panel**

1. Arc Force (DIG) Control
2. Process Selector Switch
3. Remote Amperage/Voltage Control Switch
4. Output Switch (Contactor)
5. Hot Start Switch
6. Digital Meters
7. Amperage/Voltage Adjustment Control
8. High Temperature Shutdown Light
9. Power Switch with Indicator Light

---

**Performance Data**

**Volt/Amp Curve CV**

![Volt/Amp Curve CV](image)

**Volt/Amp Curve CC**

![Volt/Amp Curve CC](image)
### Control Panel

1. Arc Force (DIG) Control
2. Remote Amperage/Voltage Control Switch
3. Output Switch (Contactor)
4. Process Selector Switch
5. Digital Meters
6. Amperage/Voltage Adjustment Control
7. High Temperature Shutdown Light
8. Power Switch with Indicator Light

### Performance Data

#### Duty Cycle Chart

<table>
<thead>
<tr>
<th>Duty Cycle (%)</th>
<th>Welding Amps</th>
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</thead>
<tbody>
<tr>
<td>40</td>
<td>1000</td>
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<tr>
<td>50</td>
<td>900</td>
</tr>
<tr>
<td>60</td>
<td>800</td>
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<tr>
<td>70</td>
<td>700</td>
</tr>
<tr>
<td>80</td>
<td>600</td>
</tr>
<tr>
<td>90</td>
<td>500</td>
</tr>
<tr>
<td>100</td>
<td>400</td>
</tr>
</tbody>
</table>

#### Volt/Amp Curve CV

- **SMAW**: MIN, MED, MAX
- **FCAW**: MIN, MED, MAX

#### Volt/Amp Curve CC

- **SMAW**: MIN, MED, MAX
- **Arc Force**: MIN, MED, MAX
**Dimension™ Models/Packages**

**Dimension™ Power Source Only**

Purchase components separately.

- **Dimension 452**
  - 903254  (200-208/230/460 V, 60 Hz)
  - 903255  (230/460/575 V, 60 Hz)

- **Dimension 562**
  - 907360  (380/400/440 V, 50 Hz w/CE)

- **Dimension 652**
  - 903379  (230/460/575 V, 60 Hz)
  - 907361  (380/400/440 V, 50 Hz w/CE)

**Dimension™ Stationary Package**

Stationary display without running gear or cylinder rack.

- **Dimension 452 Stationary Package**
  - 951273  (230/460/575 V, 60 Hz)

- **Dimension 652 Stationary Package**
  - 951274  (230/460/575 V, 60 Hz)

Comes complete with:
- Dimension power source
- S-74D wire feeder
- Bernard® BTB Gun 400 A
- Industrial MIG 4/0 kit consisting of flowmeter regulator with 10 ft. (3 m) gas hose, 10 ft. (3 m) 4/0 feeder weld cable with lugs, and 15 ft. (4.6 m) work cable with 600-amp C-clamp
**Ground Current Sensor** 195048
Field
Disables power source if weld current is present on primary ground.

**Extension Cables for 14-Pin Plugs to 14-Pin Sockets**
- 242208025 25 ft. (7.6 m)
- 242208050 50 ft. (15.2 m)
- 242208080 80 ft. (24.4 m)
Extension cables make a direct connection between the power source and remote control or 24 VAC wire feeder. No messy splicing or adapting required.

**Industrial MIG 4/0 Kit** 300390
Consists of flowmeter regulator with 10-foot (3 m) gas hose, 10-foot (3 m) 4/0 feeder weld cable with lugs, and 15-foot (4.6 m) work cable with 600-amp C-clamp.

**Polarity Control** 042871
This dual-function control is designed for use with dual wire feeders or any application where electrical isolation and/or polarity reversing of weld current is required. Both functions can be used at the same time.

**Process Control Selector** 042872
Allows you to easily change weld processes without changing cables — from TIG to MIG or TIG to stick. Also includes features of Polarity Control. Can be used with any constant-current, constant-voltage or multiprocess CC/CV welding power source.

**Standard Running Gear** 042886
The large 10-inch (254 mm) rear wheels and 5-inch (127 mm) front casters on this running gear provide excellent mobility on the shop floor, making it easier to move the power source. Very easy to install. Handles double as weld cable holder.

**Standard Cylinder Rack** 042887
Holds two cylinders. Only installs on Standard Running Gear.

**Remote Controls and Switches**

**RML-14 129337**
Momentary- and maintained-contact rocker switch for contactor control. Push forward for maintained contact and backward for momentary contact. Includes 26.5-foot (8 m) cord and 14-pin plug.

**RCC-14 Remote Contactor and Current Control 151086**
East/west rotary-motion fingertip control attaches to TIG torch using two hook-and-loop fasteners. Allows complete current and contactor control at operator’s fingertips. Includes 26.5-foot (8 m) cord and 14-pin plug.

**RCCS-14 Remote Contactor and Current Control 043688**
North/south rotary-motion fingertip control attaches to TIG torch using two hook-and-loop fasteners. Great for applications that require a finer amperage control. Includes 26.5-foot (8 m) cord and 14-pin plug.

**RHC-14 Hand Control 242211020**
- 20 ft. (6 m) cord
- 242211100 100 ft. (30.5 m) cord
Miniature hand control for remote current and contactor control. Dimensions: 4 x 4 x 3.25 inches (102 x 102 x 83 mm). Includes cord and 14-pin plug.

**RFCS-14 HD Foot Control 194744**
Maximum flexibility is accomplished with a reconfigurable cord that can exit the front, back or either side of the pedal. Foot pedal provides remote current and contactor control. Includes 20-foot (6 m) cord and 14-pin plug.

**Coolant Systems**
For more information see literature AY/7.2.

**Coolmate™ 3** 043007 115 V
043008 230 V
For use with water-cooled torches rated up to 500 amps. Unique paddle-wheel indicator, external filter and easy-fill spout.

**Coolmate™ 4** 042288 115 V
For use with water-cooled torches rated up to 600 amps. Tough molded polyethylene case with carrying handle.

**Coolant** 043810
Sold in cases of four one-gallon recyclable plastic bottles. Miller coolants contain a base of ethylene glycol and deionized water to protect against freezing to -37 degrees Fahrenheit (-38°C) or boiling to 227 degrees Fahrenheit (108°C). Also contains a compound that resists algae growth.
## Wire Feeder Options

### Bench-Style Feeders

<table>
<thead>
<tr>
<th>Model</th>
<th>Series</th>
<th>Type</th>
<th>Model</th>
<th>Type</th>
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<td>20 Series Basic</td>
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<td>20 Series Digital</td>
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<td>S-74S</td>
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<tr>
<td>S-74D</td>
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<tr>
<td>S-74 MPa Plus</td>
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### Bench-Style Dual Feeders

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<td>D-74D</td>
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### Boom-Style Feeders

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### Boom-Style Dual Feeders

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### Portable Feeders

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<td>SuitCase® 12RC</td>
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### Portable Voltage-Sensing Feeders

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<td>ArcReach® SuitCase® 12</td>
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### Aluminum Push-Pull Feeders

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<tr>
<td>XR™-S Control</td>
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<td>Guns available:</td>
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<tr>
<td>XR-Aluma-Pro™</td>
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<tr>
<td>XR™-Pistol</td>
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<tr>
<td>XR™-Pistol-Pro</td>
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### Hard Automation

<table>
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<tbody>
<tr>
<td>70 Series Remote Configurations</td>
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### Ordering Information

<table>
<thead>
<tr>
<th>Equipment and Options</th>
<th>Stock No.</th>
<th>Description</th>
<th>Qty.</th>
<th>Price</th>
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</thead>
<tbody>
<tr>
<td>Dimension® 452</td>
<td>903254*</td>
<td>200-208/230/460 V, 60 Hz</td>
<td></td>
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<tr>
<td></td>
<td>903255*</td>
<td>230/460/575 V, 60 Hz</td>
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<tr>
<td>Dimension® 452 Stationary Package</td>
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<td>230/460/575 V, 60 Hz</td>
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<tr>
<td>Dimension® 562</td>
<td>907360**</td>
<td>380/400/440 V, 50 Hz w/CE</td>
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<tr>
<td>Dimension® 652</td>
<td>903379*</td>
<td>230/460/575 V, 60 Hz</td>
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<td>Dimension® 652 Stationary Package</td>
<td>951274*</td>
<td>230/460/575 V, 60 Hz</td>
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<td>Dimension® 812</td>
<td>907361**</td>
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### Wire Feeders

- **20 Series**: See literature M/11.0
- **70 Series**: See literature M/3.0
- **SuitCase® 12RC**: 951580 See literature M/6.5
- **ArcReach® SuitCase® BVS**: See literature M/6.55
- **ArcReach® SuitCase® 12VS**: See literature M/6.55
- **XR™-S Control**: 300601 See literature M/1.7

### Swingarc™ Boom Feeders

- See literature M/13.11

### Remote Controls

- **RMLS-14**: 129337 Rocker switch
- **RCC-14**: 151086 Fingertip control (side to side)
- **RCCS-14**: 043688 Fingertip control (up and down)
- **RHC-14**: 242211020 Hand control with 20 ft. (6 m) cord and 14-pin plug
- **242211100**: Hand control with 100 ft. (30.5 m) cord and 14-pin plug
- **RFCS-14 HD**: 194744 Foot control with 20 ft. (6 m) cord and 14-pin plug

### Options and Accessories

- **Ground Current Sensor**: 195048 Field
- **Extension Cables**: See page 5
- **Industrial MIG 4/0 Kit**: 300390 Includes flowmeter regulator with 10 ft. (3 m) gas hose, 10 ft. (3 m) 4/0 feeder weld cable with lugs, and 15 ft. (4.6 m) work cable with 600-amp C-clamp
- **Polarity Control**: 042871
- **Process Control Selector**: 042872
- **Standard Running Gear**: 042866
- **Standard Cylinder Rack**: 042867
- **Coolant Systems**: See page 5
- **Coolant**: 043810
- **Primary Power Cable**: See literature M/13.11
- **Secondary Welding Cables**: See literature M/13.11
- **Work Cable and Clamp**: See literature M/13.11

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

**50 Hz models with CE Specifications are manufactured according to the Standards IEC-974-1 and EN-60974-1.**

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