# Invision™ MPa Plus System

## Synergic Welding System

### Quick Specs

<table>
<thead>
<tr>
<th>Heavy Industrial Applications</th>
<th>Processes</th>
<th>Input Power</th>
<th>Rated Output</th>
<th>Net Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Railroad</td>
<td>MIG (GMAW)</td>
<td>352: Requires 3- or 1-phase power, 208–575 V, 50/60 Hz</td>
<td>352: 10–38 V, 5–425 A</td>
<td>352: 80 lb. (36.3 kg)</td>
</tr>
<tr>
<td>Truck/trailer manufacturing</td>
<td>Pulsed MIG (GMAW-P)</td>
<td>450: Requires 3-phase power, 230/460 V or 575 V, 60 Hz</td>
<td>450: 10–38 V, 15–600 A</td>
<td>450: 122 lb. (55.3 kg)</td>
</tr>
<tr>
<td>Light gauge and tube</td>
<td>Flux-cored (FCAW)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lawn and garden equipment</td>
<td>Air carbon arc cutting and gouging (CAC-A)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recreational vehicles</td>
<td>352: 1/4 in. carbons max.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>450: 5/16 in. carbons max.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Synchronized, true push-pull wire feed system

Allows use of extended reach push-pull gun for consistent, versatile and dependable aluminum wire feeding.

### Synergic pulsed MIG

“one-knob” control makes pulsed MIG adjustments easy. Set the wire feed speed control and the system handles the rest (when optimized with an MPa Plus feeder).

**MPa:** M (MIG), P (Pulse), a (Advanced Arc Control). Advanced arc control enables an improved pulse welding arc. The operator has more control over puddle and bead characteristics using SharpArc. In addition, the unit provides a more robust and stable arc at very low arc length, reducing heat input, and providing the ability to weld on a wider range of material thickness.

### Invision 352 MPa Model Only

**Auto-Line™** power management technology allows for any input voltage hook-up (208–575 V) with no manual linking required, providing convenience in any job setting. Ideal solution for dirty or unreliable input power. (450 model is 230/460 V or 575 V manual link.)

**Dinse-style weld disconnects** provide high-quality weld cable connections. (450 model utilizes studs.)

### Invision 352 MPa

**Easy to set up.** Select wire diameter, wire type and gas being used, set your wire speed and strike an arc.

**Standard Miller® inverter features** (see page 2).

- Wind Tunnel Technology™
- Fan-On-Demand™

**Standard built-in pulsed MIG programs with syneric capability for the following metals** (see page 3).

- Steel
- Metal core
- Aluminum
- Stainless steel
- Nickel
- Silicon bronze
- Copper nickel

### Power Source/wire feeder are warrantied for three years, parts and labor.

Original main power rectifier parts are warrantied for five years.

**XR™** push-pull guns warrantied for one year, parts and labor.

**Bernard®** push-only gun warrantied for 90 days, parts and labor.

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**Miller Electric Mfg. LLC**

An ITW Welding Company

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**Equipment Sales US and Canada**

Phone: 866-931-9730

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International Phone: 920-735-4554

International FAX: 920-735-4125

**MillerWelds.com**
Additional Features

Invision™ 352/450 MPa

**Wind Tunnel Technology™** protects electrical components and PC boards from contamination.

**Fan-On-Demand™** cooling system operates only when needed, reducing noise, energy use and the amount of contaminants pulled through machine.

Invision 352 provides 350 amps of welding output at 60 percent duty cycle with superior low-end performance. Invision 450 provides 450 amps at 100 percent duty cycle.

**Dual-wire feeder capable** so you can always have two wires ready as particular jobs change, saving time and money with less set up.

**Line voltage compensation** keeps welding output constant even if input power varies by +/- 10 percent. 352 models further expand line voltage compensation to an amazing +37/-59 percent on 460 V.

**SharpArc®** changes welding arc characteristics in pulsed MIG (GMAW-P) welding mode. If a gas is used other than what is listed on the pulsed MIG welding program chart (page 3), SharpArc can be adjusted to help customize your arc to the gas being used.

**Auto Remote Sense™** enables unit to automatically use remote control if connected to remote control receptacle.

**Large, dual digital meters** are easy to view and are presettable to ease setting weld output.

**Ultra-tough, polycarbonate-blended cover for control panel** protects front controls from damage.

**Lightweight, aerospace-grade aluminum case** offers protection with the benefit of reduced weight.

**115 V auxiliary power** provides 10 amps of circuit-breaker-protected power for water circulators, etc.

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

### Specifications (Subject to change without notice.)

<table>
<thead>
<tr>
<th>Model</th>
<th>Input Power</th>
<th>Amp/Volt Ranges</th>
<th>Rated Output</th>
<th>Amps Input at Rated Load Output, 60 Hz</th>
<th>KVA</th>
<th>KW</th>
<th>Max. Open-Circuit Voltage</th>
<th>Dimensions</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invision</td>
<td>Three-phase</td>
<td>CC mode: 5–425 A, CV mode: 10–38 V</td>
<td>350 A at 34 VDC, 60% duty cycle</td>
<td>40.4  36.1  20.6  17.8  14.1</td>
<td>14.2</td>
<td>13.6</td>
<td>75 VDC</td>
<td>H: 17 in. (432 mm) W: 12.5 in. (318 mm) D: 24 in. (610 mm)</td>
<td>80 lb. (36.3 kg)</td>
</tr>
<tr>
<td>Invision 352</td>
<td>Single-phase</td>
<td>CC mode: 5–425 A, CV mode: 10–38 V</td>
<td>300 A at 32 VDC, 60% duty cycle</td>
<td>60.8  54.6  29.7  24.5  19.9</td>
<td>11.7</td>
<td>11.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Invision 450</td>
<td>Three-phase</td>
<td>CC mode: 15–600 A, CV mode: 10–38 V</td>
<td>450 A at 36.5 VDC, 100% duty cycle</td>
<td>—  49.4  —  27.2  23.6</td>
<td>21.6</td>
<td>18.3</td>
<td>90 VDC</td>
<td>H: 17.25 in. (438 mm) W: 14.5 in. (368 mm) D: 27.125 in. (689 mm)</td>
<td>122 lb. (55.3 kg)</td>
</tr>
</tbody>
</table>

Note: Invision 450 MPa is 3-Phase only.

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Certified by Canadian Standards Association to both the Canadian and U.S. Standards.
The Invision® 352 or 450 MPa model and a 74 MPa Plus single- or dual-wire feeder combine for a synergic system that simplifies and improves MIG and pulsed MIG welding applications for industrial manufacturing.

**Control Panel**

1. Output ON Indicator Light
2. Left Display
3. Voltage Indicator
4. Arc Length Indicator
5. Wire Feeder Receptacle
6. Adjustment Control
7. Right Display
8. Setup Indicator
9. Amperage Indicator
10. Setup Indicator Lights
   - Arc Control Indicator
   - Process Indicator
   - Wire/Gas Type Indicator
   - Setup Button

**Performance Data**

**Invision 352 MPa Duty Cycle Chart**

- 500 Welding Amperes
- 450 Welding Amperes
- 400 Welding Amperes
- 350 Welding Amperes
- 300 Welding Amperes
- 250 Welding Amperes
- 200 Welding Amperes
- 150 Welding Amperes
- 100 Welding Amperes

**Invision 450 MPa Duty Cycle Chart**

- 700 Welding Amperes
- 600 Welding Amperes
- 500 Welding Amperes
- 400 Welding Amperes
- 300 Welding Amperes
- 200 Welding Amperes
- 150 Welding Amperes
- 100 Welding Amperes

**Built-In Pulsed MIG Programs**

The Invision MPa models have built-in pulsed MIG programs. See the table below for the wide range of pulsed MIG (GMAW-P) welding applications the Invision MPa models can handle.

<table>
<thead>
<tr>
<th>Wire Types</th>
<th>Gas Types</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Steel</strong></td>
<td></td>
</tr>
<tr>
<td>.035 STL, .045 STL</td>
<td>90% ARGON / 10% CO₂ (argon/carbon dioxide)</td>
</tr>
<tr>
<td>.052 STL</td>
<td></td>
</tr>
<tr>
<td>1/16 STL</td>
<td>100% ARGON / 5% OXY (argon/oxygen)</td>
</tr>
<tr>
<td>(450 model only)</td>
<td></td>
</tr>
<tr>
<td>1/4 COR, 1/8 COR</td>
<td>90% ARGON / 10% CO₂ (argon/carbon dioxide)</td>
</tr>
<tr>
<td>.035 COR, .045 COR,</td>
<td></td>
</tr>
<tr>
<td>.052 COR, 1/16 COR</td>
<td>90% ARGON / 10% CO₂ (argon/carbon dioxide)</td>
</tr>
<tr>
<td>(450 model only)</td>
<td></td>
</tr>
<tr>
<td><strong>Metal Core</strong></td>
<td></td>
</tr>
<tr>
<td>.035 MCOR, .045 MCOR, .052 MCOR</td>
<td>90% ARGON / 10% CO₂ (argon/carbon dioxide)</td>
</tr>
<tr>
<td>.045 MCOR, .052 MCOR</td>
<td></td>
</tr>
<tr>
<td>.045 MCOR, 1/16 MCOR (450 model only)</td>
<td>90% ARGON / 10% CO₂ (argon/carbon dioxide)</td>
</tr>
<tr>
<td><strong>Stainless Steel</strong></td>
<td></td>
</tr>
<tr>
<td>.035 SSTL, .045 SSTL</td>
<td>TRI MIX, Tri-gas mixture:</td>
</tr>
<tr>
<td>.035 SSTL, .045 SSTL</td>
<td>81% ARGON / 18% HE / 1% CO₂</td>
</tr>
<tr>
<td>.035 SSTL, .045 SSTL</td>
<td>(argron/helium/carbon dioxide)</td>
</tr>
<tr>
<td>.035 SSTL, .045 SSTL</td>
<td>98% ARGON / 2% OXY (argon/oxygen)</td>
</tr>
<tr>
<td>.035 SSTL, .045 SSTL</td>
<td>98% ARGON / 2% CO₂ (argon/carbon dioxide)</td>
</tr>
<tr>
<td>1/16 SSTL (450 model only)</td>
<td>98% ARGON / 2% CO₂ (argon/carbon dioxide)</td>
</tr>
<tr>
<td><strong>Aluminum</strong></td>
<td></td>
</tr>
<tr>
<td>.035 AL4X (4000 series)</td>
<td>100% ARGON (argon)</td>
</tr>
<tr>
<td>.040 AL4X (4000 series)</td>
<td></td>
</tr>
<tr>
<td>.3/34 AL4X (4000 series)</td>
<td></td>
</tr>
<tr>
<td>.1/16 AL4X (4000 series)</td>
<td></td>
</tr>
<tr>
<td>.035 AL5X (5000 series)</td>
<td>100% ARGON (argon)</td>
</tr>
<tr>
<td>.040 AL5X (5000 series)</td>
<td></td>
</tr>
<tr>
<td>.3/34 AL5X (5000 series)</td>
<td></td>
</tr>
<tr>
<td>.1/16 AL5X (5000 series)</td>
<td></td>
</tr>
<tr>
<td>.035 AL49, .040 AL49, .1/16 AL49</td>
<td>100% ARGON (argon)</td>
</tr>
<tr>
<td>.035 AL49, .040 AL49, .1/16 AL49</td>
<td></td>
</tr>
<tr>
<td><strong>Nickel</strong></td>
<td></td>
</tr>
<tr>
<td>.035 NI, .045 NI</td>
<td>75% ARGON / 25% HE (argon/helium)</td>
</tr>
<tr>
<td>1/16 NI (450 model only)</td>
<td>100% ARGON (argon)</td>
</tr>
<tr>
<td><strong>Silicon Bronze</strong></td>
<td></td>
</tr>
<tr>
<td>.035 SIBR</td>
<td>100% ARGON (argon)</td>
</tr>
<tr>
<td><strong>Copper Nickel</strong></td>
<td></td>
</tr>
<tr>
<td>.045 CUNI</td>
<td>75% HE / 25% ARGON (helium/argon)</td>
</tr>
</tbody>
</table>
Optimized Wire Feeder Options

Bench-Style Feeders

S-74 MPa Plus Single-Wire Feeder

D-74 MPa Plus Dual-Wire Feeder*

*Only left side of dual-wire model is capable of using push-pull gun.

Swingarc™ Boom-Mounted Feeders

Swingarc single-wire model shown.

Available in 12- or 16-foot lengths to maximize output. The unique counterbalance design makes it easy and convenient to position the boom exactly where it is needed. This allows you extended reach and the ability to get cables off the ground.

360-degree rotation and 60-degree lift angle maximizes work area (24- or 32-foot diameter work area).

Remote Configurations

S-74 MPa Plus Single-Wire Control Box

D-74 MPa Plus Dual-Wire Control Box*

MPa Plus Wire Drive Motor Assembly

*Only left side of dual-wire model is capable of using push-pull gun.

Power Source Compatibility for MPa Plus Wire Feeders

<table>
<thead>
<tr>
<th>Power Source</th>
<th>Pulse Capable</th>
<th>Synergic Pulsed MIG</th>
<th>System Communication Enhanced Arc Control</th>
<th>Electronic Inductance/SharpArc</th>
<th>Compatibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invision™ 352 and 450 MPa</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Optimized</td>
</tr>
<tr>
<td>XMT™ 350 and 450 MPa</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Best</td>
</tr>
<tr>
<td>AlumaPower™ 350 and 450 MPa</td>
<td>Yes (aluminum only)</td>
<td>Yes (aluminum only)</td>
<td>Yes</td>
<td>Yes</td>
<td>Best</td>
</tr>
<tr>
<td>XMT™ 350 and 450 CC/CV</td>
<td>Yes (with Optima)</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Better</td>
</tr>
<tr>
<td>Invision™ 456P</td>
<td>Yes (with Optima)</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Better</td>
</tr>
<tr>
<td>Invision™ 456MP</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Better</td>
</tr>
<tr>
<td>Invision™ 354P</td>
<td>Yes (with Optima)</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Better</td>
</tr>
<tr>
<td>Invision™ 354MP</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Better</td>
</tr>
<tr>
<td>Deltaweld® (after KF790532)</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Good</td>
</tr>
<tr>
<td>Dimension® 650</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Good</td>
</tr>
<tr>
<td>Dimension® (after KE614131)</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Good</td>
</tr>
</tbody>
</table>

Synergic pulsed MIG — The MPa Plus feeders give you the benefit of a synergic pulsed MIG system. As you increase/decrease the wire feed speed, the pulse parameters increase/decrease, matching the right amount of power output to match the wire speed. Feeders only operate synergically with an MPa power source.

Push-pull capability provides consistent, versatile and dependable aluminum wire feeding over greater distances.

Trigger schedule select allows the operator to select the alternative schedule by quickly tapping the gun trigger when not welding. When optimized with an MPa power source the operator can also switch from MIG to pulsed MIG.

Available as either single- or dual-wire models. Provides trouble-free feeding performance.

Dual-wire models allow you to set up one side for soft wires (aluminum) while maintaining the ability to push a variety of hard wires on the other, saving time and money.

Trigger hold reduces fatigue by allowing the operator to weld without holding the trigger.

Program locks and limits allow you to maintain proper weld parameters.

Profile Pulse™ gives you the cosmetic bead appearance for the welds you want to show off.

*Only left side of dual-wire model is capable of using push-pull gun.

Note: Power sources not included in this list are not recommended. For specific information, please contact your local Miller® distributor.
## Wire Feeder Specifications

(Subject to change without notice.)

<table>
<thead>
<tr>
<th>Model</th>
<th>Input Power</th>
<th>Wire Feed Speed</th>
<th>Wire Type and Diameter Capacity</th>
<th>Dimensions (Single-Wire)</th>
<th>(Dual-Wire)</th>
<th>Net Weight (Single-Wire)</th>
<th>(Dual-Wire)</th>
</tr>
</thead>
<tbody>
<tr>
<td>74 MPa Plus feeder</td>
<td>24 VAC, 10 A, 50/60 Hz</td>
<td>50–780 ipm</td>
<td>.023–5/64 in. (0.6–2.0 mm)</td>
<td>H: 14 in. (356 mm)</td>
<td>W: 12.5 in. (318 mm)</td>
<td>D: 28 in. (711 mm)</td>
<td>48 lb. (21.2 kg)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>.035–1/16 in (0.9–1.6 mm) aluminum</td>
<td>H: 14 in. (356 mm)</td>
<td>W: 21 in. (533 mm)</td>
<td>D: 35 in. (889 mm)</td>
<td>87 lb. (35.5 kg)</td>
</tr>
<tr>
<td>74 MPa Plus control box with wire drive assembly</td>
<td>24 VAC, 10 A, 50/60 Hz</td>
<td>50–780 ipm</td>
<td>.023–5/64 in. (0.6–2.0 mm)</td>
<td>H: 11 in. (279 mm)</td>
<td>W: 11 in. (279 mm)</td>
<td>D: 16 in. (406 mm)</td>
<td>17 lb. (7.7 kg)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>.035–1/16 in (0.9–1.6 mm) aluminum</td>
<td>H: 12 in. (305 mm)</td>
<td>W: 14 in. (356 mm)</td>
<td>D: 23 in. (584 mm)</td>
<td>30 lb. (13.6 kg)</td>
</tr>
</tbody>
</table>

Input Power: 24 VAC, 10 A, 50/60 Hz
Wire Feed Speed: 50–780 ipm (1.3–19.8 m/min.)
Wire Type and Diameter Capacity: .023–5/64 in. (0.6–2.0 mm)
Dimensions: (Single-Wire) H: 14 in. (356 mm) W: 12.5 in. (318 mm) D: 28 in. (711 mm)
Diameter: (Dual-Wire) H: 14 in. (356 mm) W: 21 in. (533 mm) D: 35 in. (889 mm)
Net Weight: (Single-Wire) 48 lb. (21.2 kg)
Diameter: (Dual-Wire) 87 lb. (35.5 kg)

Wire drive assembly: H x W x D
12 x 13 x 16 in. (305 x 330 x 406 mm)

## Control Panel

**D-74 MPa Plus Dual-Wire Feeder**

**Control Panel Shown**
1. Voltage/Arc Length Display Meter
2. Voltage/Arc Length Adjust
3. Amperage/Wire Speed Adjust
4. Setup Button
5. Start Button
6. Amperage/Wire Speed Display Meter
7. Program Indicators
8. Program Button
9. Left/Right Select Button
10. Crater Button
11. Jog/Purge

## Drive Roll Kits and Guides

Select drive roll kits from chart below according to type and wire size being used. Drive roll kits include four drive rolls, necessary guides and feature an anti-wear sleeve for inlet guide.

<table>
<thead>
<tr>
<th>Wire Size</th>
<th>“V” groove for hard wire</th>
<th>“V” groove for soft wire or soft-shelled cored wires</th>
<th>“V” knurled for hard-shelled cored wires</th>
<th>“U” coggled for extremely soft wire or soft-shelled cored wires (i.e., hard facing types)</th>
<th>Polished stainless steel “U” groove for aluminum wires contains nylon guides</th>
</tr>
</thead>
<tbody>
<tr>
<td>.035 in. (0.9 mm)</td>
<td>151025</td>
<td>—</td>
<td>151052</td>
<td>—</td>
<td>265255</td>
</tr>
<tr>
<td>.040 in. (1.0 mm)</td>
<td>161190</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>.045 in. (1.1/1.2 mm)</td>
<td>151027</td>
<td>151037*</td>
<td>151053</td>
<td>151070</td>
<td>265266*</td>
</tr>
<tr>
<td>.052 in. (1.3/1.4 mm)</td>
<td>151028</td>
<td>—</td>
<td>151054</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>1/16 in. (1.6 mm)</td>
<td>151029</td>
<td>151039</td>
<td>151055</td>
<td>151072</td>
<td>265257</td>
</tr>
<tr>
<td>.068/072 in. (1.8 mm)</td>
<td>—</td>
<td>—</td>
<td>151056</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>5/64 in. (2.0 mm)</td>
<td>—</td>
<td>—</td>
<td>151057</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

*Accommodates .045- and .047-inch (3/64-inch) wire.

## Nylon Wire Guides for Feeding Aluminum Wire

<table>
<thead>
<tr>
<th>Wire Size</th>
<th>Inlet Guide</th>
<th>Intermediate Guide</th>
</tr>
</thead>
<tbody>
<tr>
<td>.035 in. (0.9 mm)</td>
<td>221912</td>
<td>242417</td>
</tr>
<tr>
<td>.047 in. (1.2 mm)</td>
<td>221912</td>
<td>205936</td>
</tr>
<tr>
<td>1/16 in. (1.6 mm)</td>
<td>221912</td>
<td>205937</td>
</tr>
</tbody>
</table>

**Note:** “U” groove drive rolls are recommended when feeding aluminum wire.

## Wire Guides

<table>
<thead>
<tr>
<th>Wire Size</th>
<th>Inlet Guide</th>
<th>Intermediate Guide</th>
</tr>
</thead>
<tbody>
<tr>
<td>.023–.040 in. (0.6–1.0 mm)</td>
<td>221030</td>
<td>149518</td>
</tr>
<tr>
<td>.045–.052 in. (1.1–1.4 mm)</td>
<td>221030</td>
<td>149519</td>
</tr>
<tr>
<td>1/16–5/64 in. (1.6–2.0 mm)</td>
<td>221030</td>
<td>149520</td>
</tr>
</tbody>
</table>
Push-Pull Welding Gun Options

Gooseneck-Style Gun

Pistol Grip Gun

Synchronized, true push-pull wire feed system with any of the MPa Plus feeder options shown on page 4.

Available in 15- and 25-foot lengths for extended reach with trouble-free, reliable feeding. Guns are available in either air- or water-cooled versions.

Aluminum-series-specific tension setting ensures smooth wire feeding performance with 4000 or 5000 series aluminum wires.

Replaceable feed cable liner is designed to provide consistent arc performance. It also reduces parts cost and service time by allowing a simple means of removing and replacing liner and not the complete feed cable.

Easy-to-rotate self-seating head tube allows for better access into tight spots, providing excellent current transfer.

Isolated, common, knurled drive roll helps reduce wear, reducing down time and cost.

Serviceability. These guns feature a cable cover with full-length hook-and-loop closure and integrated strain reliefs for easy cable maintenance and protection. Additionally, the Aluma-Pro Plus guns feature quick connections between the control cable and electrical components (trigger, motor, potentiometer).

Gun Specifications (Subject to change without notice.)

<table>
<thead>
<tr>
<th>Model</th>
<th>Welding Current Rating</th>
<th>Wire Feed Speed</th>
<th>Wire Type and Diameter Capacity</th>
<th>Dimensions</th>
<th>Net Weight (Gun only)</th>
</tr>
</thead>
<tbody>
<tr>
<td>XR-Aluma-Pro Plus (air-cooled)</td>
<td>300 A at 100% duty cycle</td>
<td>50–780 ipm (1.3–19.8 m/min.)</td>
<td>.030–1/16 in. (0.8–1.6 mm) aluminum wire Wire kit 230708 required to run 1/16 in. (1.6 mm) wire</td>
<td>H: 5 in. (127 mm)</td>
<td>2.5 lb. (1.1 kg)</td>
</tr>
<tr>
<td>XR-Aluma-Pro Plus (water-cooled)</td>
<td>400 A at 100% duty cycle</td>
<td>50–780 ipm (1.3–19.8 m/min.)</td>
<td>.030–1/16 in. (0.8–1.6 mm) aluminum wire Wire kit 230708 required to run 1/16 in. (1.6 mm) wire</td>
<td>H: 5 in. (127 mm)</td>
<td>2.9 lb. (1.3 kg)</td>
</tr>
<tr>
<td>XR-Pistol Plus (air-cooled)</td>
<td>200 A at 100% duty cycle 250 A at 60% duty cycle</td>
<td>50–780 ipm (1.3–19.8 m/min.)</td>
<td>.030–1/16 in. (0.8–1.6 mm) aluminum wire Wire kit 230708 required to run 1/16 in. (1.6 mm) wire</td>
<td>H: 7.375 in. (187 mm)</td>
<td>2.2 lb. (1 kg)</td>
</tr>
<tr>
<td>XR-Pistol Plus (water-cooled)</td>
<td>400 A at 100% duty cycle</td>
<td>50–780 ipm (1.3–19.8 m/min.)</td>
<td>.030–1/16 in. (0.8–1.6 mm) aluminum wire Wire kit 230708 required to run 1/16 in. (1.6 mm) wire</td>
<td>H: 7.375 in. (187 mm)</td>
<td>2.4 lb. (1.1 kg)</td>
</tr>
</tbody>
</table>

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

Note: XR-Aluma-Pro Plus and XR-Pistol Plus guns are only compatible with MPa Plus feeders.
Standard Consumables

XR-Aluma-Pro™ Plus Gun

Centerfire Nozzles
N-5818C
N-3414 and N-HDC (2-pc)

Centerfire Contact Tips
T-035AL
T-047AL
T-062AL

Centerfire Diffusers
D-1AP

Insulators
Inner Rear 227416

Head Tubes (6-inch)
Air (Long) 245979
Water 245981

Collared Insulator 232284

Warning: Many other Centerfire™ options are available. Visit BernardWelds.com for more information.

XR™-Pistol Plus Gun

Centerfire Nozzles
N-5818C
N-3414 and N-HDC (2-pc)

Centerfire Contact Tips
T-035AL
T-047AL
T-062AL

Centerfire Diffusers
D-1AP

Insulators
Air Outer 180° M1366
Water Outer 180° M1369

Head Tubes
Air 180° Straight 258474
Water 180° Straight 258475

Collared Insulator 232284
Invision™ MPa Plus MIGRunner™ Packages

Push-Pull Packages
MIGRunner system with running gear/cylinder rack.

951843 Invision 352 MPa air-cooled package with single-wire feeder
951844 Invision 352 MPa air-cooled package with dual-wire feeder

Packages include:
- Invision 352 MPa (without auxiliary power) power source
- Single- or dual-wire 74 MPa Plus wire feeder with drive rolls (.035/.047 in. U-groove and .035/.045 in. V-groove)
- 25 ft. XR-Aluma-Pro™ Plus push-pull gun for aluminum
- 15 ft. Bernard® BTB Gun 400 A (two with dual-wire feeders)
- Industrial MIG 4/0 kit w/Dinse-style connectors
  (see page 10 for contents)
- Running gear/cylinder rack (MIGRunner cart for single-wire feeders OR running gear cylinder rack for dual-wire feeders)

Push-Only Packages
Provides the same great Invision arc characteristics and syneric MIG capabilities as packages above, but comes with BTB Gun 400 A only (no XR-Aluma-Pro™ push-pull gun)

951411 Invision 352 MPa air-cooled package with single-wire feeder
951500 Invision 352 MPa air-cooled package with dual-wire feeder
951499 Invision 450 MPa air-cooled package with single-wire feeder
951457 Invision 450 MPa air-cooled package with dual-wire feeder

Packages include:
- Invision 352 MPa (without auxiliary power) OR Invision 450 MPa (with 115-volt auxiliary power) power source
- Single- or dual-wire 74 MPa Plus wire feeder with drive rolls (.035/.045 in. V-groove)
- 15 ft. Bernard® BTB Gun 400 A (two with dual-wire feeders)
- Industrial MIG 4/0 kit w/Dinse-style connectors for Invision 352 MPa OR with lug connectors for Invision 450 MPa (see page 10 for contents)
- Running gear/cylinder rack (MIGRunner cart for single-wire feeders OR running gear cylinder rack for dual-wire feeders)
**70 Series MPa Plus Control Box/Swingarc™ Boom-Mounted Feeders**

**Single-Wire Models**
- 951438 12 ft. (3.7 m)
- 951439 16 ft. (4.9 m)

**Dual-Wire Models**
- 951441 12 ft. (3.7 m)
- 951442 16 ft. (4.9 m)

*Note: Models include* 10-foot 14-pin interconnecting cord, Bernard® BTB Gun 400 A (two with dual-wire models) with Centerfire™ contact tips, and .035/.045-inch drive rolls.

Pipe Post (required, order separately)
- 149838 4-foot pipe post with 18-inch base
- 149839 6-foot pipe post with 18-inch base

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**70 Series MPa Plus Control Box, Cables and Wire Drive Motor Assemblies**

**Single-Remote Configuration**

MPa Plus Control Box 300738 S-74 MPa Plus

MPa Plus Motor Control Cable (14 conductor)
- 254864010 10 ft. (3 m)
- 254864025 25 ft. (7.6 m)
- 254864050 50 ft. (15.2 m)

MPa Plus Wire Drive Motor Assembly 300740 Left-hand drive (for use with push-only guns, or XR-Aluma-Pro™ Plus and XR™-Pistol Plus push-pull guns)

**Dual-Remote Configuration**

MPa Plus Control Box 300739 D-74 MPa Plus

Right Side Motor Control Cable (11 conductor)
- 254935010 10 ft. (3 m)
- 254935025 25 ft. (7.6 m)

Wire Drive Motor Assembly 300741 Right-hand drive (for use with push-only guns)

MPa Plus Motor Control Cable (14 conductor)
- 254864010 10 ft. (3 m)
- 254864025 25 ft. (7.6 m)
- 254864050 50 ft. (15.2 m)

MPa Plus Wire Drive Motor Assembly 300740 Left-hand drive (for use with push-only guns, or XR-Aluma-Pro™ Plus and XR™-Pistol Plus push-pull guns)

*Flexible mounting options for wire drive assembly*

Fixed automation, boom applications, or other applications that benefit from having the drive assembly located away from the control box.

If using spooled wire you will need to order Feeder Base 195369.

**Gun NOT included. Must be ordered separately.**

**Guns NOT included. Must be ordered separately.**
Genuine Miller® Accessories

Wire Feeders and Guns

70 Series Wire Feeders

S-74 MPa Plus 951291 Single-wire feeder
D-74 MPa Plus 951292 Dual-wire feeder

Order XR-Aluma-Pro Plus gun and U-groove drive rolls separately to match your aluminum needs. Above models are optimized for Invision 352 MPa and 450 MPa, with push-pull capability.

S-74S 951196 Single-wire feeder
S-74D 951198 Single-wire feeder
D-74S 951203 Dual-wire feeder
D-74D 951204 Dual-wire feeder

70 Series feeders feature Posifeed™ wire drive assembly and handle a variety of wires. Each includes a 15-foot Bernard® BTB Gun 400 A (two with dual-wire feeders) and .035/.045-inch V-groove drive rolls. See literature M/3.0.

Extension Cables

247831025 25 ft. (7.6 m)
247831050 50 ft. (15.2 m)
247831080 80 ft. (24.4 m)

Eleven conductors to support contactor control and remote voltage control on all Miller® electronic constant-voltage (CV) 14-pin power sources. Additional functions supported when using the Invision 352 MPa or 450 MPa power source include synergic pulsed MIG, and remote process select and side select capabilities.

XR-Aluma-Pro™ Plus Guns

301575 15 ft. (4.6 m), air-cooled
301574 25 ft. (7.6 m), air-cooled
301576 15 ft. (4.6 m), water-cooled
301577 25 ft. (7.6 m), water-cooled

Above gun models are specific to the 74 MPa Plus wire feeders.

This easy-to-use and easy-to-maintain gooseneck-style MIG gun is designed for push-pull wire feed systems. Available in air- or water-cooled versions. Gun design allows for better access into tight spots.

XR™-Pistol Plus Guns

300753 15 ft. (4.6 m), air-cooled
300754 25 ft. (7.6 m), air-cooled
300757 25 ft. (7.6 m), water-cooled

Above gun models are specific to the 74 MPa Plus wire feeders.

This easy-to-use and easy-to-maintain pistol-grip MIG gun is designed for push-pull wire feed systems. Available in air- or water-cooled versions.

1/16-inch (1.6 mm) Wire Kit 230708

Specially designed for 1/16-inch wire. Includes idler roll, head tube liner and inlet guide. Required when running 1/16-inch wires. Not included with standard XR-Alumia-Pro Plus or XR-Pistol Plus guns.

Hardwire Liner Kit for Steel and Stainless 198377

For 15-, 25-, or 35-foot (4.6, 7.6 or 10.6 m) guns. Kit consists of gun head tube liner and feed cable liner. Recommend using .030-.045 inch mild steel or stainless steel electrode wire (.052- and 1/16-inch wire not recommended).

Phosphorous Bronze Liner (Optional)

233999 Long head tube (air or water)
233998 Short head tube (air only)

Spool Covers

057607 For S-74 and left side of D-74 models
090389 For right side of D-74 models

Note: Spool covers cannot be installed if the wire drive assembly is in a rotated position.

Wire Reel Assembly 108008

For 60-pound (27 kg) coil of wire.

Industrial MIG 4/0 Kit with Dinse Connectors 300405

For Invision 352 MPa power source. Includes flowmeter regulator with 10-foot (3 m) gas hose, 10-foot (3 m) 4/0 feeder weld cable with Dinse-style connector on one end and a lug on the other, 15-foot (4.6 m) work cable with Dinse-style connector on one end and 600-amp C-clamp on the other.

Industrial MIG 4/0 Kit 300390

For Invision 450 MPa power source. Includes the same as the kit above, except weld and work cables have lugs instead of Dinse-style connectors.
### Running Gear

**MIGRunner™ Cart** 195445
For single-wire feeders. Small footprint and easily maneuverable, with cylinder rack low enough that you do not have to lift bottles.

**Running Gear Cylinder Rack** 300408
Holds two large gas cylinders and has gun cable hangers and a consumable drawer in front for easy access. A convenient handle allows the cart to be pulled easily through doorways. System components including power source and single- or dual-wire feeders can be mounted to the cart and secured.

### Coolant Systems

**Coolmate™ 3** 043007 115 V
For use with water-cooled torches rated up to 600 amps. Unique paddle-wheel indicator, external filter and easy-fill spout.

**Coolmate™ 3.5** 300245 115 V
Industrial, 3.5-gallon cooler designed for water-cooled torches rated up to 600 amps.

**Coolant** 043809
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.

### Cable Connectors and Adapters

**Dinse/Tweco® Adapter** 042465
One-piece adapter with Dinse-style male plug (to power source) on one end and female receptacle (Tweco or Cam-Lok for weld cable connection) on other end.

**Dinse/Cam-Lok Adapter** 042466

**Dinse-Style Connector Kit** 042418
 Accepts #4 to #1/0 AWG cable size.
042533 Accepts #1/0 to #2/0 AWG cable size.
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** 042419
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.
## Ordering Information

<table>
<thead>
<tr>
<th>Power Source and Options</th>
<th>Stock No.</th>
<th>Description</th>
<th>Qty.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invision™ 352 MPa</td>
<td>907431</td>
<td>Power source only. 208–575 V with Auto-Line™</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>907431001</td>
<td>Power source only. 208–575 V with Auto-Line™ and auxiliary power</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Invision™ 352 MPa Plus</td>
<td>951843</td>
<td>With single-wire feeder and MIGRunner cart (see page 8 for package details)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air-Cooled MIGRunner™ Packages</td>
<td>951844</td>
<td>With dual-wire feeder and running gear cylinder rack (see page 8 for package details)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Invision™ 352 MPa Plus</td>
<td>951411</td>
<td>With single-wire feeder and MIGRunner cart (see page 8 for package details)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air-Cooled MIGRunner™ Packages (push-only package w/BTB Gun 400 A)</td>
<td>951500</td>
<td>With dual-wire feeder and running gear cylinder rack (see page 8 for package details)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Invision™ 450 MPa</td>
<td>907485</td>
<td>Power source only. 230/460 V with auxiliary power</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>907486</td>
<td>Power source only. 575 V with auxiliary power</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Invision™ 450 MPa Plus</td>
<td>951499</td>
<td>With single-wire feeder and MIGRunner cart (see page 8 for package details)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air-Cooled MIGRunner™ Packages (push-only package w/BTB Gun 400 A)</td>
<td>951457</td>
<td>With dual-wire feeder and running gear cylinder rack (see page 8 for package details)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Wire Feeders

<table>
<thead>
<tr>
<th>70 Series MPa Plus Feeder (Order XR-Aluma-Pro Plus and U-groove drive rolls separately)</th>
<th>Stock No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-74 MPa Plus. Dual-wire feeder optimized for Invision MPa with push-pull capability. Include two Bernard® BTB Gun 400 A and .035/.045 in. V-groove drive rolls</td>
<td>951292</td>
<td></td>
</tr>
</tbody>
</table>

70 Series Feeder

- See page 10

Extension Cables

- See page 10

Spool Covers

- 057607 12 in. (.305 mm) spool for single-wire feeders or left side of dual-wire feeders
- 090389 12 in. (.305 mm) spool for right side of dual-wire feeders

Wire Roll Assembly

- 108008 For 60 lb. (.27 kg) coil

Swingarc Boom-Mounted Feeders with 70 Series MPa Plus Control Box

- 951438 12 ft. single-wire model with Bernard BTB Gun 400 A and .035/.045 in. V-groove drive rolls
- 951439 16 ft. single-wire model with Bernard BTB Gun 400 A and .035/.045 in. V-groove drive rolls
- 951441 12 ft. dual-wire model with two Bernard BTB Gun 400 A and .035/.045 in. V-groove drive rolls
- 951442 16 ft. dual-wire model with two Bernard BTB Gun 400 A and .035/.045 in. V-groove drive rolls

70 Series MPa Plus Control Box

- 300738 Single-wire control box for remote configurations
- 300739 Dual-wire control box for remote configurations

Wire Drive Motor Assemblies

- 300740 MPa Plus for single-wire remote configurations or left side of dual-wire remote configurations
- 300741 Push-only drive for right side of dual-wire remote configurations

Motor Control Cables

- See page 9

Guns and Gun Accessories

- XR-Aluma-Pro™ Plus Guns
  - See page 10
- XR™-Pistol Plus Guns
  - See page 10
- XR-Aluma-Pro™ 1/16-inch (1.6 mm) Wire Kit
  - 230708 Required with 1/16-inch drive roll kit below to run 1/16-inch wire

Accessories

- Industrial MIG 4/0 Kit
  - 300405 With Dinse-style connectors for Invision 352. See page 10
  - 300390 With lugs for Invision 450. See page 10

Running Gear

- MIGRunner™ Cart
  - 195445 For single-wire feeders
- Running Gear Cylinder Rack
  - 300408 For dual-wire feeders

Coolant Systems

- See page 11. See literature AY/7.2

Cable Connectors and Adapters

- See page 11

Date: Total Quoted Price:

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