

# PipePro® Welding System

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Multiprocess Pipe Welding Systems 

## Quick Specs



### Pipe Welding Applications

Onshore Transmission Piping  
Field Construction  
Process Piping

### Processes

Stick (SMAW)  
TIG (GTAW)  
MIG (GMAW)  
RMD™ (Modified Short Circuit)  
Pro-Pulse™ (GMAW-P)  
Flux Cored (FCAW)

### Rated Output

PipePro 300: 225 A at 29 VDC, 100% Duty Cycle  
PipePro 450 RFC: 450 A at 44 VDC, 100% Duty Cycle

### Voltage Range

10–44 V

### Ship Weight

PipePro 300: 127 lb (58 kg)  
PipePro 450 RFC: 163 lb (72.9 kg)  
PipePro 12RC SuitCase: 25.5 lb (11.6 kg)  
Bernard PipeWorx 250-15: 9 lb (4.1 kg)  
Bernard PipeWorx 300-15: 10 lb (4.6 kg)

## The Power of Blue.®

The PipePro® Welding System provides a productive solution for welding on pipe in field construction applications. The welding system includes a PipePro power source, PipePro SuitCase® feeder, and Bernard® PipeWorx™ welding guns.



### PipePro 450 RFC

The PipePro 450 provides the same capabilities and benefits of the PipePro 300 with a higher amperage output — up to 650 amps. The higher output of the PipePro 450 provides greater flexibility for the following applications (see specifications on page 2):

- Larger-diameter flux cored wires
- High-ambient-temperature applications
- Roll welding with MIG or FCAW (high wire-feed speeds)

### PipePro 12RC SuitCase

Provides a durable wire feeder solution for field applications. The impact-resistant case design protects the wire and drive mechanism from moisture, dust and contamination.

### NEW! PipePro 300

Multiprocess welding power source is capable of the following processes: Stick, TIG, MIG, RMD (Modified Short Circuit MIG), Pulsed MIG, and Flux Cored. The RMD Process is optimized for root pass welding on carbon and stainless steel pipe with solid and metal-cored wires. Programs are available for the most common shielding gases, wire types and wire diameters.

### Bernard PipeWorx 250-15

Provides an ergonomic solution to producing root passes on pipe and other medium-duty applications. Designed by welders to reduce fatigue and improve visibility of the puddle on the root pass.

### Bernard PipeWorx 300-15

Provides a heavy-duty solution to producing root, fill and cap welds on pipe.

### IMPROVED WELD PERFORMANCE

See page 3 for more information on **Regulated Metal Deposition (RMD™ Pro)** and **Pro-Pulse™** welding processes.



Power source is warranted for 3 years, parts and labor.

MADE IN **USA**  
APPLETON, WI



### Miller Electric Mfg. Co.

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### Web Site

www.MillerWelds.com



# PipePro® 300 and 450 RFC Power Sources



## Features

<b>Auto-Line™</b>	Allows for <b>any</b> input voltage hook-up (190–630 V, 50/60 Hz) with no manual linking. Compensates for voltage spikes and drops within the entire range. CE units are limited to 305–460 V range.
<b>1/4-turn connectors</b>	Allow for faster installation of system and reduces thread stripping.
<b>Multiprocess</b>	Select from Stick, TIG, MIG, GMAW-P, RMD Pro, Pro-Pulse MIG, and FCAW.
<b>Wind Tunnel Technology™</b>	Circulates air over components that require cooling, not over electronic circuitry, which reduces contaminants and improves reliability.
<b>Fan-On-Demand™</b>	Cooling system operates only when needed. Reduces amount of airborne contaminants pulled through the machine.
<b>Easy to operate</b>	Simple front panel layout makes it easy to select programs.

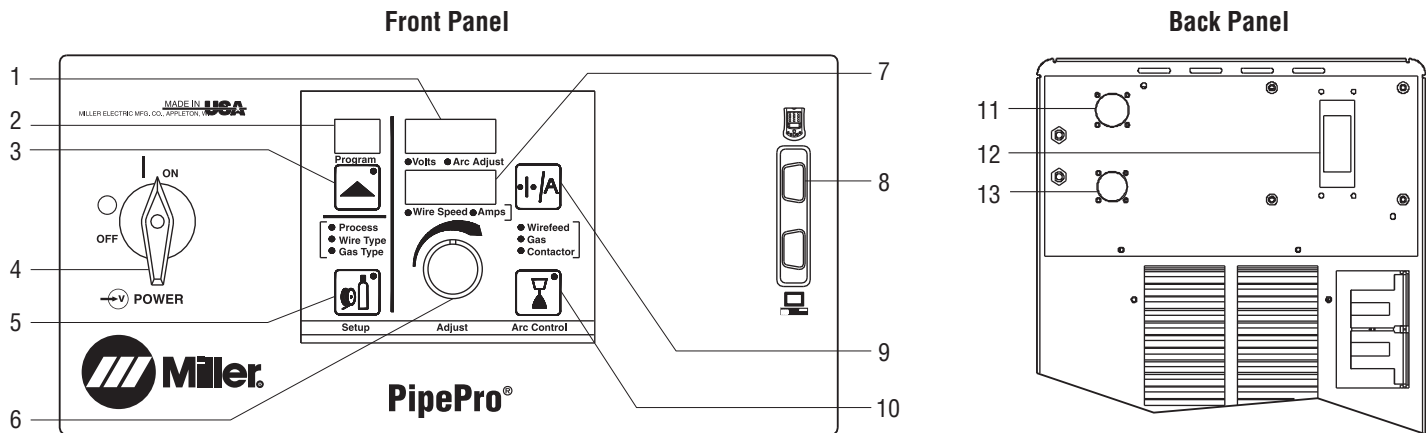
## Specifications (Subject to change without notice.)



Model	Rated Welding Output	Voltage Range in CV Mode	Amperage Range in CC Mode	Max. Open-Circuit Voltage	Amperes Input at Rated Output for Typical Voltages +/-10%, 50/60 Hz						KVA	KW	Dimensions	Ship Weight
					208 V	230 V	380 V	400 V	460 V	575 V				
PipePro 300	225 A at 29 VDC, 100% Duty Cycle	10–44 V	10–300 A	80 VDC	22.8*	20.6*	12.4	11.8	10.3*	8.6*	8.3	7.8	H: 23 in (584 mm) W: 17-3/32 in (434 mm) D: 22-1/2 in (572 mm)	127 lb (58 kg)
PipePro 450 RFC	450 A at 44 VDC, 100% Duty Cycle	10–44 V	5–600 A	80 VDC	67*	59*	36	34	29*	23*	23.8	22.9	H: 41 in (1041 mm) W: 15-1/2 in (394 mm) D: 22 in (559 mm)	163 lb (72.9 kg)

\*Note: CE units are limited to 305–460 V range.

## Control Panels



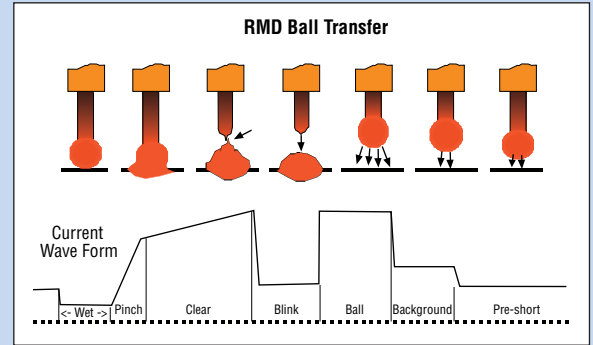
- |                                     |   |  |                          |
|-------------------------------------|---|--|--------------------------|
| 1. Voltage/Arc Adjust Display Meter | 5. Process Setup Button<br>• Weld Process<br>• Wire Size and Type<br>• Gas Type | 7. Wire Speed/Amperage Digital Display Meter | 11. Peripheral Connector |
| 2. Program Display                  | 6. Control Knob   | 8. Palm™/PC RS-232 Ports                     | 12. Remote Connector     |
| 3. Program # Select                 |   | 9. Wire Feed/Amperage Select                 | 13. Wirefeed Connector   |
| 4. Power Switch                     |   | 10. Arc Control and Inductance Control       |                          |

# Welding Process Capabilities

## RMD™ (Regulated Metal Deposition) Pro

A precisely controlled short-circuit metal transfer that provides a calm, stable arc and weld puddle. This provides less chance of cold lap or lack of fusion, less spatter and a higher quality root pass on pipe. The stability of the weld process lessens the puddle manipulation required by the welder and is more tolerant to hi-lo conditions, reducing training requirements. Weld bead profiles are thicker than conventional root pass welds which can eliminate the need for a hot pass, improving weld productivity. In some stainless steel applications, it may be possible to eliminate the backing (purge) gas to further improve productivity and reduce welding costs.

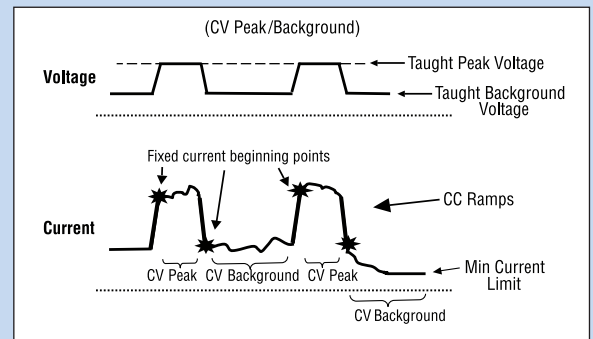
- Ideally suited to root pass welding
- Consistent side wall fusion
- Less weld spatter
- Tolerant to hi-lo fit-up conditions
- More tolerant of tip to work distance
- Less welder training time
- Thicker root passes can eliminate hot pass
- Eliminate backing gas on some stainless steel applications



## Pro-Pulse™

This method of pulse welding provides a shorter arc length, narrower arc cone and less heat input than with traditional spray pulse transfer. Since the process is synergic, arc wandering and variations in tip-to-work distances are virtually eliminated. This provides easier puddle control for both in-position and out-of-position welding, reducing welder training time. The process also improves fusion and fill at the toe of the weld, permitting higher travel speeds and higher deposition. This process coupled with RMD Pro for root pass welding permits welding procedures with one wire and one gas to eliminate process switch-over time.

- Ideally suited to fill and cap pass welding
- Easier puddle control than conventional spray pulse
- Shorter arc lengths and narrow arc cone for out-of-position welding
- More tolerant of tip to work variation
- Improve fusion and fill at toe of weld
- Less heat input reduces interpass cooling time and improves weld cycle time
- Enables one-wire with one-gas weld procedures



## PipePro® Welding Programs

RMD Pro programs designed for root pass welding on deep groove welds in all positions.

Process	Wire Type	Diameter	Gas Mixtures
RMD Pro	Steel E70	.035/.040/.045 in	CO <sub>2</sub> , C25, C10, C15
	Steel E80	.035 in	CO <sub>2</sub> , C15
	Stainless Steel 308 and 316	.035/.040/.045 in	TRI-H, Ox2, C2
	Metal Core	.045 in	C10, C15
	Chrome Steel 5 Chrome	.045 in	C25

Ox2 = 98% Ar, 2% O<sub>2</sub>  
 HE25 = 75% Ar, 25% He  
 C2 = 98% Ar, 2% CO<sub>2</sub>  
 TRI-A = 81% Ar, 18% He, 1% CO<sub>2</sub>  
 TRI-H = 90% He, 7.5% Ar, 2.5% CO<sub>2</sub>  
 TRI3 = 69% Ar, 30% He, 1% CO<sub>2</sub>

Pro-Pulse programs designed for fill and cap welding in all positions.

Process	Wire Type	Diameter	Gas Mixtures
Pro-Pulse™	Steel E70	.035/.040/.045/.052	C10, C15
	Steel E70	.052/.062	C10
	Steel E80	.040/.045 in	C15
	Stainless Steel 308/309/312/316	.035/.045 in	TRI-H, TRI-A, C2, Ox2
	Metal Core	.045/.052 in	C10, C15
	Inconel 625	.045 in	HE25
	Duplex Stainless	.040/.045 in	TRI3



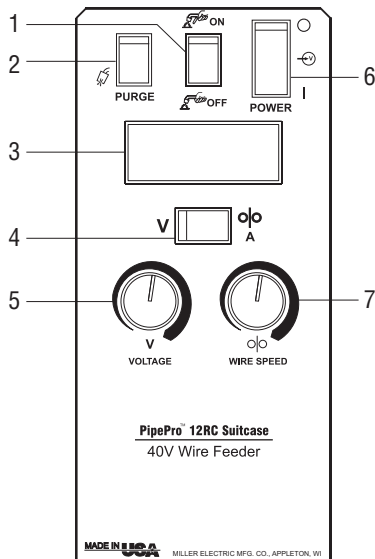
## Features

<b>Rugged Construction</b>	Designed for use in field construction.
<b>Remote Voltage Control</b>	Comes standard with PipePro 12RC SuitCase.
<b>Standard Gas Solenoid</b>	Controls gas flow.
<b>Flame-Retardant Case</b>	Totally enclosed and impact resistant, this case provides strength and durability while protecting components and weld wire from moisture, dust and contaminants.
<b>Drive Roll Accessibility</b>	Easy to install wire, adjust tension and change drive rolls.
<b>Digital Meter</b>	Wirefeed and voltage display comes standard on SuitCase.
<b>Portable</b>	Lightweight feeder can be used with 150 ft cables from power source.

## Specifications (Subject to change without notice.)

Input Power	Welding Power Source Type	Input Welding Circuit Rating	Wire Feed Speed Range	Wire Diameter Capacity	Maximum Spool Size Capacity	Dimensions	Net Weight
40 VDC, 10 Amps	Constant-Voltage (CV)	500 Amps at 100% Duty Cycle	75–700 IPM (1.9–17.7 m/min)	Solid Wire: .035–5/64 in (0.9–2.0 mm)	12 in (305 mm) 44 lb (20 kg)	H: 16 in (406 mm) W: 7-1/4 in (184 mm) D: 20 in (508 mm)	25.5 lb (11.6 kg)

## Control Panel



1. Trigger Hold Switch
2. Purge Switch
3. Meter Display
4. Volt/Amp Switch
5. Voltage Control
6. Power Control Switch
7. Wire Speed Control

## Drive Roll Kits (1 kit required, order from Miller Service Parts.)

Select drive roll kits from chart below according to type and wire size being used. Drive roll kits include 2 drive rolls, necessary guides and feature an anti-wear sleeve for the inlet guide.

Wire size	"V" groove for hard wire	"V" knurled for hard-shelled cored wires
.035 in (0.9 mm)	#079 595	#079 606
.040 in (1.0 mm)	#161 189	—
.045 in (1.1/1.2 mm)	#079 596	#079 607
.052 in (1.3/1.4 mm)	#079 597	#079 608
1/16 in (1.6 mm)	#079 598	#079 609
.068/.072 in (1.8 mm)	—	#089 984
5/64 in (2.0 mm)	—	#079 610

# Bernard® PipeWorx™ Guns



The PipeWorx 250-15 Gun is recommended for root pass welding, especially in fixed-position applications where visibility is difficult. The PipeWorx 300-15 is recommended for fill and cap pass welding with Flux Cored arc or Pulsed MIG welding processes. In roll welding applications where one gas and one wire are used to make the weld, the PipeWorx 300-15 can be used to deposit the root pass. (A smaller nozzle diameter should be considered for improved puddle visibility and should be used for stainless steel root pass welding without purge gas.)

## Features

<b>Versatility</b>	Can be used for MIG (solid and metal cored wires), Pulsed MIG, and Flux Cored (shielded and self-shielded wires).
<b>Ergonomics</b>	Compact, lightweight gun with high-amperage capability reduces operator fatigue, improving productivity.
<b>Visibility</b>	The combination of tapered tips and nozzles and 60° neck provides excellent visibility on root passes in pipe joints.
<b>Centerfire™ Tip</b>	Provides “drop-in” tip with no threads providing quick changeover. No tools are required.

## Specifications (Subject to change without notice.)

Bernard Model	100% Duty Cycle NEMA	100% Duty Cycle CE	60% Duty Cycle CE	35% Duty Cycle CE	Gas Type	Cable Length	Net Weight
PipeWorx 250-15	300 A	250 A	300 A	365 A	100% CO <sub>2</sub>	15 ft (4.6 m)	9 lb (4.1 kg)
	—	210 A	250 A	300 A	80% Argon/20% CO <sub>2</sub>		
PipeWorx 300-15	350 A	320 A	370 A	470 A	CO <sub>2</sub> Gas	15 ft (4.6 m)	10 lb (4.6 kg)
	—	270 A	270 A	390 A	80% Argon/20% CO <sub>2</sub>		

## Key Gun Consumables

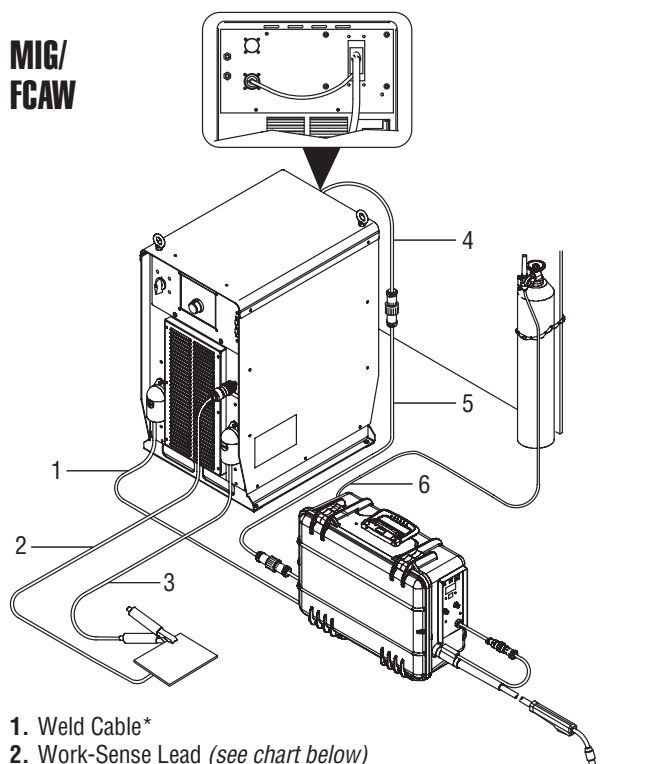
Description	Part Number	Package Quantity
.035 in Tapered Tip	TT-035 <sup>1</sup>	10
.040 in Tapered Tip	TT-039	10
.045 in Tapered Tip	TT-045	10
.035 in Tip	T-035	10
.040 in Tip	T-039	10
.045 in Tip	T-045 <sup>2</sup>	10
.052 in Tip	T-052	10
1/16 in Tip	T-062	10
.035 – .045 Liner	43115 <sup>1,2</sup>	1
.045 – .062 Liner	44215	1

<sup>1</sup>Standard part on PipeWorx 250-15. <sup>2</sup>Standard part on PipeWorx 300-15.

Description	Part Number	Package Quantity
Nozzle 5/8 in D	NS-5818C <sup>2</sup>	10
Nozzle 5/8 in ID	N-5818C	10
Nozzle 1/2 in ID	NS-1218C	10
Nozzle 3/4 in ID	N-3418C	10
Nozzle 3/8 in ID Tapered Tip	NT-3800C	10
Nozzle 3/8 in ID Tapered Tip	NST-3800B	10
Nozzle 3/8 in ID Extended Tapered Tip	NST-38XTB <sup>1</sup>	10
Diffuser	D-1	10
Diffuser	DS-1 <sup>1,2</sup>	10
Q Tube Assembly 60°	QT2-60 <sup>1,2</sup>	1
Q Tube Assembly 80°	QT2-80	1
O-Ring	4929	10

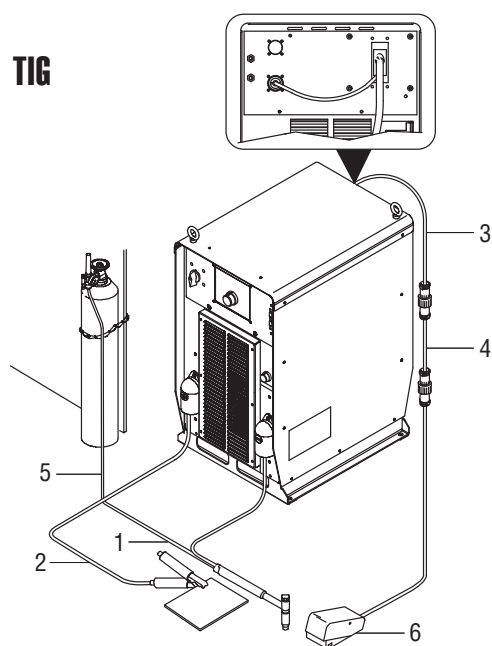
# Installation Diagrams

## MIG/ FCAW



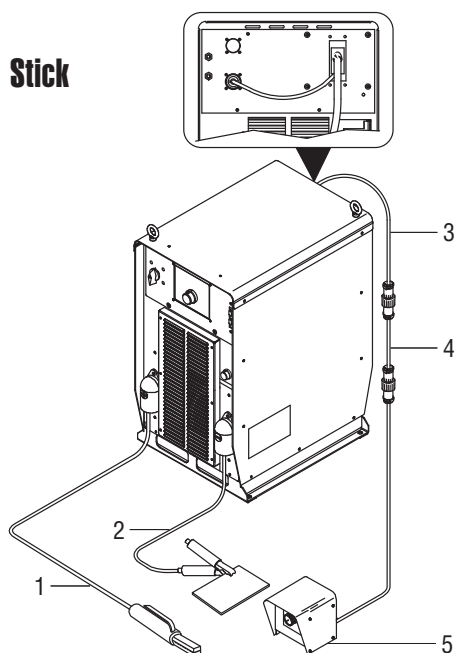
1. Weld Cable\*
2. Work-Sense Lead (see chart below)
3. Work Cable\*
4. Interconnect and Feeder Control Cable #195 185
5. Feeder Control Extension Cable  
(see chart below, not required if feeder is on or near power source)
6. Gas Hose\*

## TIG



1. Weld Cable and TIG Torch\*
2. Work Cable\*
3. Interconnect and Feeder Control Cable #195 185
4. Remote Control Adapter #300 248
5. Gas Hose\*
6. Remote with Cable (see page 8)

## Stick



1. Weld Cable and Electrode Holder\*
2. Work Cable\*
3. Interconnect and Feeder Control Cable #195 185
4. Remote Control Adapter #300 248
5. Remote with Cable (see page 8)

## Individual Cables for Typical Installations

Typical Installation Setup	Interconnect and Feeder Control Cable "Y"	Feeder Control Extension Cable	Work-Sense Lead
5 ft	195 185	—	195 397
25 ft	195 185	195 395	195 397
50 ft	195 185	195 401	195 397
100 ft	195 185	195 396	195 398

Note: For 150 ft Feeder Control Extension Cable combine one #195 396 and one #195 401 cable.

\* Contact your distributor.

**Note: Size 2/0 weld cable minimum is recommended with PipePro power sources.**



## Ordering Information (Select a power source, wire feeder, cables and gun for complete system.)

Power Source and Accessories	Stock No.	Description	Qty.	Price
<b>PipePro® 300 Power Source</b> <i>Add a Wire Feeder, Cables and Gun to create a system.</i>	<b>#907 489</b>	190–630 V with Auto-Line™		
	<b>#907 435</b>	305–460 V with Auto-Line™, <b>CE</b>		
<b>PipePro® 450 RFC Power Source</b> <i>Add a Wire Feeder, Cables and Gun to create a system.</i>	<b>#907 296</b>	190–630 V, Auto-Line™		
	<b>#907 297</b>	305–460 V with Auto-Line™, <b>CE</b>		
<b>SuitCase-Style Wire Feeder and Accessories</b>				
PipePro 12RC SuitCase® Feeder	<b>#195 392</b>	<b>CE</b>		
Flowmeter Kit	<b>#300 343</b>			
Filter Inline Shielding Gas	<b>#195 189</b>			
Drive Roll Kit <i>(Required)</i>		See page 4		
<b>Individual Cables for Typical Installations</b>				
Interconnect and Feeder Control Cable	<b>#195 185</b>	5 ft (1.5 m) <i>(one required per system)</i>		
Feeder Control Extension Cable <i>(Not required if feeder is on or near power source.)</i>	<b>#195 395</b>	25 ft (7.6 m)		
	<b>#195 401</b>	50 ft (15.2 m)		
	<b>#195 396</b>	100 ft (30.5 m)		
Remote Control Adapter	<b>#300 248</b>	For PipePro 12RC SuitCase. Required to connect Stick and TIG remotes to PipePro 14-pin control cable connector		
Work-Sense Lead	<b>#195 397</b>	50 ft (15.2 m)		
	<b>#195 398</b>	150 ft (45.7 m)		
<b>Individual MIG/FCAW Guns and Consumables</b>				
Bernard® PipeWorx™ Guns	<b>#195 399</b>	250-15 Gun. See page 5 for consumables		
	<b>#195 400</b>	300-15 Gun. See page 5 for consumables		
<b>Accessories for TIG and Stick</b>				
RFCS-14 HD	<b>#194 744</b>	20 ft (6 m) cord. Heavy-duty foot control		
RCC-14	<b>#151 086</b>	26.5 ft (8 m) cord. Side-to-side fingertip control		
RCCS-14	<b>#043 688</b>	26.5 ft (8 m) cord. Up-and-down fingertip control		
RHC-14	<b>#242 211 020</b>	20 ft (6 m) cord. Hand current control and contactor		
	<b>#242 211 100</b>	100 ft (30.5 m) cord. Hand current control and contactor		

Date:

Total Quoted Price:



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