

PipeWorx Welding System **Multiprocess Pipe Welding Systems**

Quick Specs

Pipe Welding Fabrication

Process piping
Refinery
Petrochemical
Power
HVAC and water pipe

Processes

Stick (SMAW)
DC TIG (GTAW)
MIG (GMAW)
RMD®
Pulsed MIG (GMAW-P)
Flux-cored (FCAW)

Rated Output 400 A at 36 VDC, 100% duty cycle

Output Range Stick: 40–400 A
DC TIG: 10–350 A
MIG/flux-cored: 10–44 V, 400 A

Net Weight Power source: 225 lb. (102 kg)
Dual-wire feeder: 90 lb. (41 kg)
Cooler: 133 lb. (60 kg)

Designed exclusively for pipe fabrication shops.

Simple process setup

- Setting up a new weld process is simple, requiring fewer steps, less training, and minimizing potential errors.
- The front panel was designed by welders for welders. Only backlit controls are adjustable to eliminate confusion.
- The memory feature stores four programs for stick, DC TIG, and wire processes (left and right feeder side) each.

Streamlined system

- Innovative cable and gun storage maintains an organized weld-cell area. Cables stay connected to the power source, eliminating the need for switching between welding processes.
- All system components are tailored to meet the demands of a pipe fabrication shop.



Multiprocess machine

- Includes conventional stick, DC TIG (Lift-Arc™ or HF start), flux-cored and MIG welding processes.
- Features advanced RMD and pulsed MIG processes for high-quality welds, enhanced productivity, and less rework and training.

Quick process changeover

- PipeWorx ‘Quick-Select’ technology auto-chooses welding process, polarity, cable outputs, and parameters.
- Eliminates set-up time for switching cables and gas hoses.

PipeWorx Welding System (951000094)



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



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PipeWorx Welding System Features (PipeWorx power source shown with control panel door open.)

Easy process selection. Switch between stick or DC TIG with the press of a button.

Memory card slot. Memory card saves process parameters of all memory locations. Each operator can have their own machine settings.

Electrode selection. Automatically sets the optimum welding conditions for common E6010 series and E7018 low hydrogen series electrodes.

MIG-type process selections provide optimum pipe welding performance. Choose from FCAW, MIG, RMD® and pulsed MIG. RMD modified short circuit and pulsed MIG are synergic programs. See pages 3 and 4 for more information.

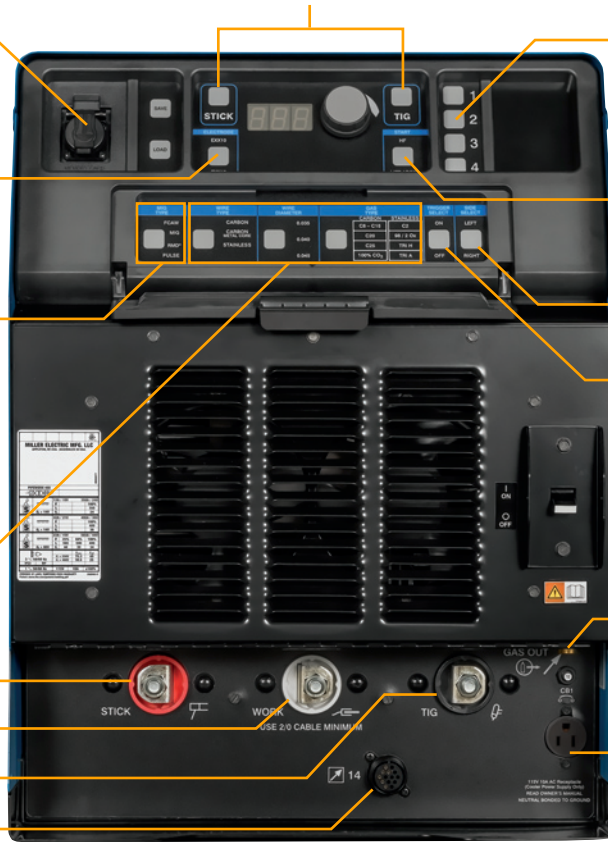
MIG starts and stops are optimized based on selection of wire type, wire diameter and shielding gas type. No setting required.

Dedicated stick connection

Dedicated work cable connection

Dedicated TIG torch cable connection

Dedicated TIG remote receptacle



Memory stores four programs (stored parameters) for each selection: stick, TIG, MIG (left and right). This eliminates the need to remember parameters.

TIG starts. Select between high frequency or Lift-Arc™ with the push of a button.

Easily switch from left side of feeder to right.

Trigger select allows the welder to select a stored “parameter” without returning to the power source.

Wind Tunnel Technology™ and Fan-On-Demand™ provide system protection in the dusty environment of a pipe shop.

Dedicated TIG gas hose connection. Built-in TIG gas solenoid automatically turns gas on/off in HF or Lift-Arc™ mode.

115-volt (10 amp) receptacle for water cooler, if used.

PipeWorx power source shown with control panel door and cable connection panel door open

Note: MIG connections are on rear panel of power source—see Owner's Manual.

Dual-wire feeder available with simple operator interface. Wire feed speeds up to 780 ipm.

Left and right gun selection.

MIG process type indicator is helpful in remote feeder applications.

Jog feeds the wire through the gun.

Trigger hold reduces operator fatigue by allowing continuous welding without holding the trigger.



Volt sense lead connection (rear panel of feeder) provides accurate voltage feedback for proper operation of the MIG welding processes.

Remote memory select allows the operator to change programs (stored parameters) without returning to the power source.

Purge purges gas hoses.

PipeWorx bench and remote feeder interface

PipeWorx Power Source

Welding Mode	Rated Output at 100% Duty Cycle	Amp/Volt Range	Amps Input at Rated Output, 50/60 Hz, 3-Phase					KVA	KW	Max. Open-Circuit Voltage	Dimensions	Net Weight
			230 V	380 V	400 V	460 V	575 V					
CC: stick	400 A at 36 VDC	40–400 A	43.9	26.3	25.5	26.6	22.4	230 V 17.5 380 V 17.6 400 V 17.8 460 V 21.2 575 V 22.3	230 V 16.1 380 V 16.5 400 V 16.5 460 V 16.3 575 V 16.4	90	H: 28.5 in. (724 mm) W: 19.5 in. (495 mm) D: 31.75 in. (806 mm)	225 lb. (102 kg)
CC: DC TIG	350 A at 24 VDC	10–350 A	29.3	19	18.1	18.2	13.5	230 V 11.8 380 V 12.4 400 V 12.5 460 V 14.5 575 V 13.4	230 V 10.7 380 V 9.7 400 V 9.8 460 V 10.6 575 V 10.0			
CV: MIG/flux-cored	400 A at 34 VDC	10–44 V	42.9	27.1	25.7	24	20.5	230 V 17.3 380 V 18.0 400 V 18.0 460 V 19.2 575 V 20.5	230 V 16.0 380 V 15.5 400 V 15.6 460 V 15.8 575 V 16.2			

PipeWorx Dual Feeder

Input Power	Input Welding Circuit Rating	Wire Feed Speed Range	Wire Diameter Capacity	Maximum Spool Size Capacity	Dimensions	Net Weight
24 VAC, 11 amps	100 V, 750 A, 100% duty cycle	50–780 ipm (1.3–19.8 mpm)	.035–.062 in. (0.9–1.6 mm)	60 lb. (27 kg)	H: 14 in. (356 mm) W: 19 in. (483 mm) D: 29 in. (737 mm)	90 lb. (41 kg)

Welding Process Capabilities

The PipeWorx Welding System provides standard welding process programs specifically designed for the welding of carbon steel and stainless steel pipe. The RMD® (MIG-modified short circuit) programs and pulsed MIG programs are synergic programs designed specifically for combinations of wire type, wire diameter and shielding gas.

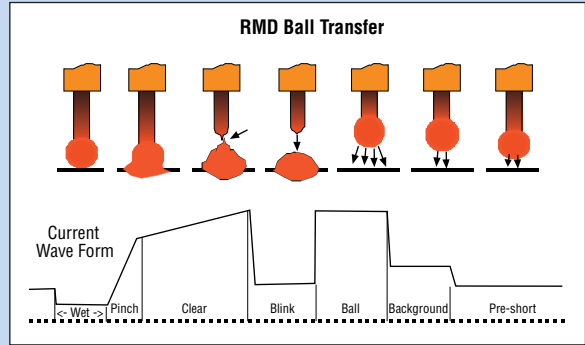
Carbon Steel Programs		Wire Type			
		Solid Wire			Metal-cored Wire
		.035 in. (0.9 mm)	.040 in. (1.0 mm)	.045 in. (1.1/1.2 mm)	.045 in. (1.1/1.2 mm)
Shielding Gas	C8-15 (argon/8–15% CO ₂)	MIG, RMD, Pulse	MIG, RMD, Pulse	MIG, RMD, Pulse	Pulse
	C20 (argon/20% CO ₂)	MIG, RMD, Pulse	MIG, RMD, Pulse	MIG, RMD, Pulse	RMD
	C25 (argon/25% CO ₂)	MIG, RMD	MIG, RMD	MIG, RMD	RMD
	100% CO ₂	MIG, RMD	MIG, RMD	MIG, RMD	

Stainless Steel Programs		Wire Type		
		Solid Wire		
		.035 in. (0.9 mm)	.040 in. (1.0 mm)	.045 in. (1.1/1.2 mm)
Shielding Gas	C2 (argon/2% CO ₂)	MIG, RMD, Pulse	MIG, RMD, Pulse	MIG, RMD, Pulse
	98/2 (argon/2% oxygen)	MIG, RMD, Pulse	MIG, RMD, Pulse	MIG, RMD, Pulse
	Tri H (90% He/7.5% Ar/2.5% CO ₂)	MIG, RMD, Pulse		MIG, RMD, Pulse
	Tri A (81% Ar/18% He/1% CO ₂)	MIG, RMD, Pulse		MIG, RMD, Pulse

Improved Arc Performance

RMD® (Regulated Metal Deposition)

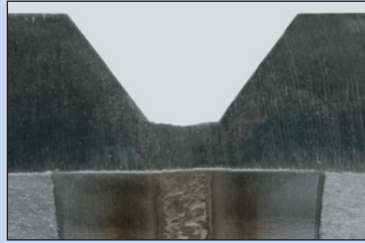
A precisely controlled short-circuit metal transfer that provides a calm, stable arc and weld puddle. This provides less chance of cold lap or lack of fusion, less spatter and a higher quality root pass on pipe. The stability of the weld process lessens the puddle manipulation required by the welder 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



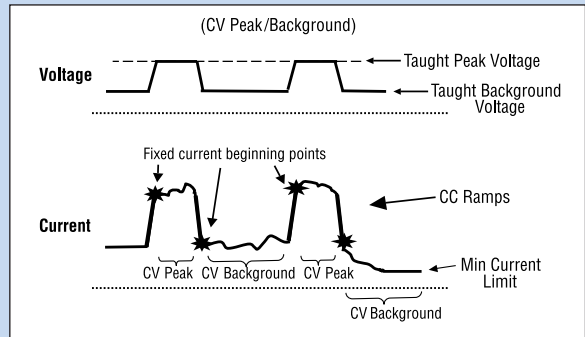
RMD carbon steel



RMD stainless

Pulsed MIG

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 closed-loop, 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 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



Pulsed MIG carbon



Pulsed MIG stainless

Bernard® PipeWorx Guns Features



As the preferred hand-held MIG gun and consumable manufacturer of Miller, Bernard is proud to provide its durable and innovative products for use with Miller® wire feeders and machines. Each Bernard product is versatile, dependable and built with the goal in mind of improving your welding productivity and performance.

The Bernard PipeWorx gun with a tapered tip and nozzle is recommended for root pass welding, especially in fixed-position applications where visibility is difficult. Switch to a standard tip and nozzle for fill and cap pass welding with flux-cored or pulsed MIG welding processes. This allows one gas and one wire to make the weld.

Versatility	Can be used for MIG, pulsed MIG, and flux-cored.
Ergonomics	Compact, lightweight gun with high-amperage capability reduces operator fatigue improving productivity.
Visibility	The combination of tapered tips and nozzles and 60-degree neck provides excellent visibility on root passes in pipe joints.
Centerfire™ Tip	Provides “drop-in” tip with no threads providing quick changeover. No tools are required.

Specifications (Subject to change without notice.)

Bernard Model	Gas Type	100% Duty Cycle NEMA	100% Duty Cycle CE	60% Duty Cycle CE	35% Duty Cycle CE	Cable Length	Net Weight
PipeWorx 300-15 195400	CO ₂ gas	350 A	320 A	370 A	470 A	15 ft. (4.6 m)	10 lb. (4.6 kg)
	80% argon/20% CO ₂	—	270 A	310 A	390 A		

Key Gun Consumables

Description	Part Number	Package Quantity
.035 in. tapered tip	TT-035	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 ¹	10
.052 in. tip	T-052	10
1/16 in. tip	T-062	10
.035–.045 in. liner	415-35-152 ¹	1
.045–1/16 in. liner	415-116-152	1

¹Standard part on PipeWorx 300-15.

Description	Part Number	Package Quantity
Nozzle 5/8 in. ID	NS-5818C ¹	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	10
Diffuser	D-1	10
Diffuser	DS-1 ¹	10
Q tube assembly 60°	QT2-60 ¹	1
Q tube assembly 80°	QT2-80	1
O-ring	4929	10

Weldcraft™ TIG Torches



Complete your PipeWorx Welding System with a Weldcraft TIG torch. These torches use high-quality, durable components combined with innovative designs to ensure long, trouble-free performance, better productivity and lower costs.

Stock No.	Model	Connector
WP1725RM	Air-cooled (one cable) 150 amp	105Z57
WP2625RM	Air-cooled (one cable) 200 amp	45V62
301525025	Air-cooled (one cable) 250 amp	45V62
WP1825RM	Water-cooled (one cable) 350 amp	45V11
WP2025RM	Water-cooled (one cable) 250 amp	45V11
Cable Cover: WC-3-22		

Genuine Miller® Accessories



PipeWorx Running Gear 300368
Includes dual cylinder rack with chains for gas cylinders and front handles for power source.



PipeWorx Cooler 300370
For MIG or TIG welding. Removable for service and repair.

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.



Cable Kit 300367
For feeder used on power source. 5 ft. (1.5 m) feeder control cable, 2/0 feeder weld cable with lugs and 25 ft. (7.6m) work sense lead.



Composite Cable Kit 300454 25 ft. (7.6 m)
300456 50 ft. (15.2 m)
For remote feeder applications.

Composite cable with feeder control cable, weld cable and gas hose in protective sheath to simplify installation and reduce clutter in the weld cell. Includes work sense lead.



PipeWorx Accessories Kit for Dual Feeder 300568
25 ft. (7.6 m) work cable, EG500 work clamp, two flowmeter regulators and two 4 ft. (1.2 m) gas hoses.



Work Sense Leads (volt sense)
300461 25 ft. (7.6 m)
300462 50 ft. (15.2 m)

When connected from the back of the wire feeder to the workpiece, the work sense lead provides accurate voltage feedback on the wire feeder display, and compensates for any voltage drop from the weld cables.



Dual Feeder Spool Covers
057607 For left side
090389 For right side
For 12-inch (305 mm) diameter spools. Protects

wire from dust and contaminants.



Dual Feeder Reel Covers
195412 For left side
091668 For right side
For 60-pound (27 kg) coils. Protects wire from dust and contaminants.



Wire Reel Assembly 108008
For 60-pound (27 kg) coil of wire.



DSS-9 Dual Schedule Switch 071833
Allows the operator to switch between two sets

of parameters during welding to provide consistent penetration in the fixed position or change parameter between passes in roll welding applications.



RPBS-14 Remote Control 300666
Attaches to the TIG torch to remotely start and stop the TIG welding process.



RFCS-14 HD Foot Control 301589
Heavy-duty foot pedal current and contactor control provides increased stability and durability from larger base and heavier cord. Includes 20-foot (6 m) cord with plug.



Wireless Remote Foot Control 301580
For PipeWorx models with serial number MA470021G and after. See literature AY/6.5 for more information.



Foot Control Bracket 300676
Used to hold RFCS-14 HD remote foot control or wireless remote foot control.



PipeWorx Remote Feeder Interface 300597
Designed for manipulators and other mechanized devices used to hold the torch in roll-welding applications. It features a simple operator interface with LEDs for easy viewing.

PipeWorx Memory Cards

For system updates, custom programs and Accu-Power visit MillerWelds.com/support/software/pipeworx-400



300460 Range Locks — Provides ability to set nominal parameter values and ranges for wire feed processes.

Note: Other non-standard programs are optionally available for unique welding applications. These programs are available on commercial memory cards and operate through the PipeWorx Card Reader on the operator interface. Contact Miller for more information on less common materials and gases.

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.

Feeder Drive Roll Kits

Wire size	V-groove for hard wire	V-knurled for hard-shelled cored wires
.035 in. (0.9 mm)	151026	151052
.040 in. (1.0 mm)	161190	—
.045 in. (1.1/1.2 mm)	151027	151053
.052 in. (1.3/1.4 mm)	151028	151054
1/16 in. (1.6 mm)	151029	151055
.068/.072 in. (1.8 mm)	—	151056
5/64 in. (2.0 mm)	—	151057
3/32 in. (2.4 mm)	—	151058
.035 and .045 in. (0.9 and 1.2)	269480*	

*Included with PipeWorx feeders. Drive roll is dual-size reversible with one .035-inch V-groove and one .045-inch V-knurled groove.

Wire Guides

Wire size	Inlet Guide	Intermediate Guide
.023–.040 in. (0.6–1.0 mm)	150993	149518
.045–.052 in. (1.1–1.4 mm)	150994	149519
1/16–5/64 in. (1.6–2.0 mm)	150995	149520
3/32–7/64 in. (2.4–2.8 mm)	150996	149521

Typical PipeWorx Welding Systems



Air-cooled system



Water-cooled system

Air-cooled package

95100094 230/460 V, three-phase, 50/60 Hz

95100095 575 V, three-phase, 50/60 Hz

Packages include:




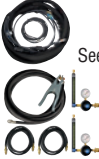
- PipeWorx 400 power source (230/460 V: 907382) **OR** (575 V: 907384) with side-mount cable hangers
- PipeWorx dual-wire bench-style feeder with drive rolls (300366)
- Cable kit with 25 ft. (7.6 m) work sense lead (300367)
- Two Bernard® PipeWorx 300-15 guns (195400)
- Running gear with handles and dual cylinder rack with chains for gas cylinders (300368)
- PipeWorx accessories kit for dual feeder (300568)

Add the following to create water-cooled system as shown

- PipeWorx cooler (300370), coolant (043810), wireless remote foot control (301580), foot control bracket (300676) and TIG torch (WP1825RM) with adapter (45V11)

Note: Systems do not include input power cable.

Ordering Information Most popular model ◀

PipeWorx Package	Stock No.	Description	Qty.	Price
PipeWorx Welding System <i>(Does not include input power cable, stick electrode holder and cable, TIG torch and cable, or TIG remotes)</i>	95100094 ◀ 95100095	230/460 V, 3-phase, 50/60 Hz, air-cooled 575 V, 3-phase, 50/60 Hz, air-cooled Systems include power source (with side-mount cable hangers), dual feeder (300366), cable kit with 25 ft. (7.6 m) work sense lead (300367), two PipeWorx 300-15 guns (195400), running gear with handles (300368), and PipeWorx accessories kit for dual feeder (300568)		
Configure a Custom PipeWorx System. (See page 7 for typical system configurations.)				
1 Select Power Source 	PipeWorx 400 Power Source	907382 907384 907475	230/460 V, 3-phase, 50/60 Hz. Includes side-mount cable hangers 575 V, 3-phase, 50/60 Hz. Includes side-mount cable hangers 400 V, 3-phase, 50/60 Hz. Includes side-mount cable hangers <i>Includes one blank memory card (301080) and short gas hose for connecting output gas connection on power source to TIG block. Does not include an input power cable</i>	
2 Select Feeder 	PipeWorx Dual-Wire Bench-Style Feeder	300366	Includes .035/.045 in. combination smooth V-drive rolls (for solid wire), .045 in. knurled V-drive rolls (for flux-cored wire), and Y-hose for single gas input	
3 Select MIG Gun  <i>See page 5</i>	Bernard® PipeWorx 300-15 Gun <i>(Included in pkgs)</i>	195400	15 ft. (4.6 m), 300 A air-cooled MIG gun	
4 Select Cable/ Accessories Kits  <i>See page 6</i>	Cable Kit <i>(For feeder used on power source)</i>	300367	5 ft. (1.5 m) feeder control cable, 2/0 feeder weld cable with lugs and 25 ft. (7.6 m) work sense lead	
	Composite Cable Kit <i>(For remote feeder applications)</i>	300454 300456	25 ft. (7.6 m) composite cable with feeder control cable, gas hose and weld cable in protective sheath and 25 ft. work sense lead 50 ft. (15.2 m) composite cable with feeder control cable, gas hose and weld cable in protective sheath and 50 ft. work sense lead	
	PipeWorx Accessories Kit for Dual Feeder	300568	25 ft. (7.6 m) work cable, EG500 work clamp, two flowmeter regulators and two 4 ft. (1.2 m) gas hoses	
System Options				
PipeWorx Running Gear	300368	For power source. Includes gas cylinder rack and handles		
PipeWorx Cooler <i>(Coolant sold separately)</i>	300370	For MIG or TIG welding		
Coolant <i>(must be ordered in quantities of four)</i>	043810	1-gallon plastic bottle. Protects against freezing to -37° Fahrenheit (-38°C) or boiling to 227° Fahrenheit (108°C)		
Accessories				
Weldcraft™ TIG Torches		See page 5		
Work Sense Lead <i>(Volt sense)</i>	300461 300462	25 ft. (7.6 m) 50 ft. (15.2 m)		
Spool Covers		For 12 in. (305 mm) spool		
Reel Covers		For 60 lb. (27 kg) coil		
Wire Reel Assembly	108008	For 60 lb. (27 kg) coil		
DSS-9 Dual Schedule Switch	071833	Used to change weld parameters during welding		
RPBS-14 On-Off Switch Remote	300666	TIG welding remote		
RFCS-14 HD Remote Control	301589	Heavy-duty foot current/contacter control		
Wireless Remote Foot Control	301580	Wireless foot current/contacter control		
Foot Control Bracket	300676	Holds RFCS-14 HD remote foot control or wireless remote foot control		
PipeWorx Remote Feeder Interface w/Gun Triggers and Cable	300597	For mechanized systems		
PipeWorx Memory Cards		See page 6		
Wire Feeder Consumables		See page 7 for drive rolls, inlet guides and intermediate guides		
Flowmeter Regulator <i>(Gas hose sold separately)</i>	194738			
Gas Hose	144108	5 ft. (1.5 m)		

Date:

Total Quoted Price:

Distributed by:

