

Dimension™ Series

Issued Nov. 2009 • Index No. DC/19.2

**Multiprocess Welding
Power Source** 

Quick Specs



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

Processes

MIG (GMAW)
Stick (SMAW)
TIG (GTAW)
Flux Cored (FCAW)
Air Carbon Arc (CAC-A)
Cutting and Gouging
Submerged Arc (SAW)

Input Power 3-Phase Power on all models

Rated Output **302:** 300 A at 32 VDC, 100% Duty Cycle
452/562: 450 A at 38 VDC, 100% Duty Cycle
652/812: 650 A at 44 VDC, 100% Duty Cycle

Weight **302:** 361 lb (164 kg)
452/562: 424 lb (192 kg)
652/812: 545 lb (247 kg)

The Power of Blue.®

DC multiprocess capability provides versatility and outstanding arc performance in CV (MIG) and CC (Stick, TIG).

Internal digital voltage control (DVC) enables operator to preset weld voltage in the CV mode before striking an arc.

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.

Hot Start™ makes it easier to start difficult-to-start Stick electrodes such as E-6010 and E-7018.

Line voltage compensation ensures consistent weld performance by keeping output power constant even if primary input power varies by $\pm 10\%$.

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

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

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



See option and package descriptions on page 5.



Dimension™ 452
MIGRunner® Package
shown

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

115 V duplex receptacle provides 15 amps of auxiliary power.

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

Remote voltage control allows operator to change voltage from feeder.

Power efficient for exceptional value and return on your investment.

Fan-On-Demand™ operates only when needed reducing noise, power consumption, and the amount of airborne contaminants pulled through the machine.

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.

Power cord strain relief provided for your convenience at installation.



Power source is warranted for 3 years, parts and labor.
Original main power rectified parts are warranted for 5 years.

MADE IN **USA**
APPLETON, WI



Miller Electric Mfg. Co.
An Illinois Tool Works Company
1635 West Spencer Street
Appleton, WI 54914 USA

Equipment Sales US and Canada
Phone: 866-931-9730
FAX: 800-637-2315
International Phone: 920-735-4554
International FAX: 920-735-4125

Web Site
www.MillerWelds.com



Dimension™ 302 Specifications (Subject to change without notice.)



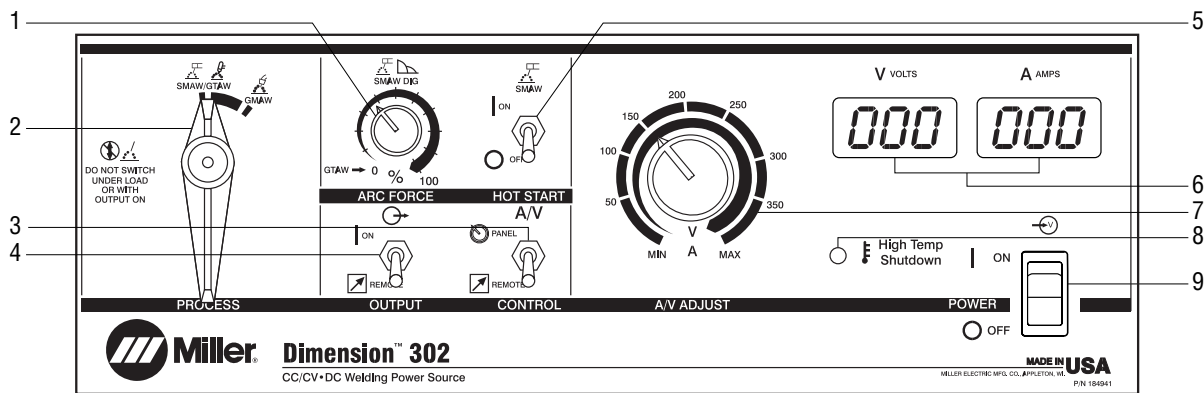
Rated Output	Amperage/Voltage Range	Amps Input at Rated Output, 50/60 Hz						Max. Open-Circuit Voltage*	Dimensions	Net Weight
		200 V	230 V	460 V	575 V	KVA	KW			
300 A at 32 VDC, 100% Duty Cycle	15–375 A in CC mode	57.5	50	25	20	20	12.9	60 VDC	H: 30 in (762 mm) including lift eye W: 23 in (585 mm) D: 30-1/2 in (775 mm) including strain relief	361 lb (164 kg)
	10–32 V in CV mode	69	60	30	24	23.7	13.4	36 VDC		

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

Certified to both the Canadian and U.S. Standards for welding equipment.

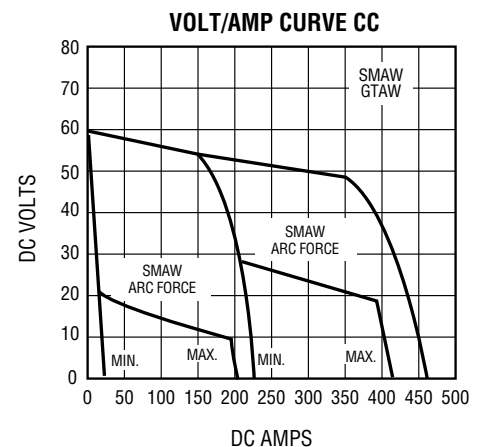
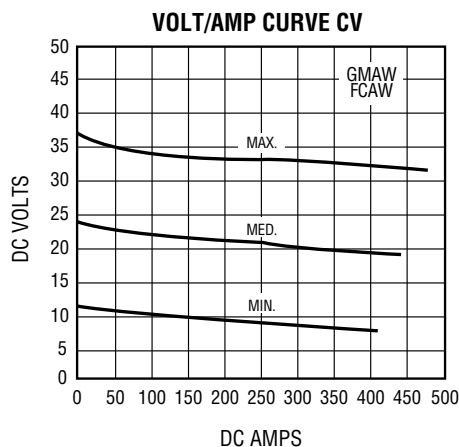
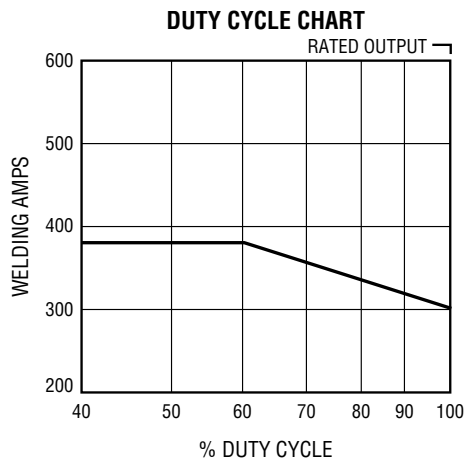
50 Hz models with CE Specifications are manufactured according to the Standards IEC-974-1 and EN-60974-1.

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



Dimension™ 452/562 Specifications (Subject to change without notice.)



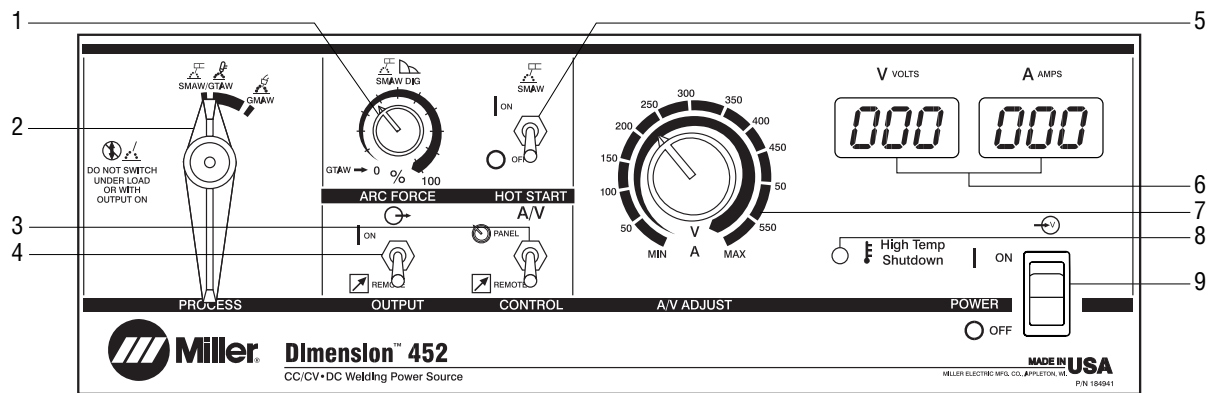
Rated Output	Amperage/Voltage Range	Amps Input at Rated Output, 50/60 Hz										Max. Open-Circuit Voltage*	Dimensions	Net Weight
		200 V	230 V	380 V	400 V	440 V	460 V	520 V	575 V	KVA	KW			
450 A at 38 VDC, (36.5 VDC for CE Model) 100% Duty Cycle	20–565 A in CC mode	91	79	48	46	41	39	34	31	31.4	22	65 VDC	H: 30 in (762 mm) including lift eye W: 23 in (585 mm) D: 38 in (966 mm) including strain relief	424 lb (192 kg)
	10–38 V in CV mode	104	90	52.5	51	46	45	38	36	35.3	22.3	43 VDC		

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

Certified to both the Canadian and U.S. Standards for welding equipment.

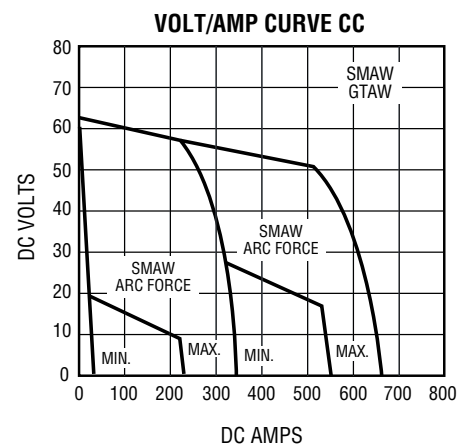
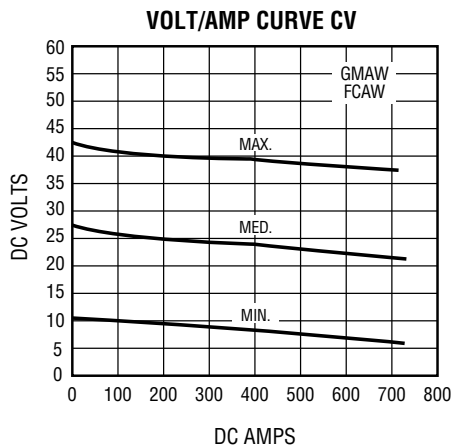
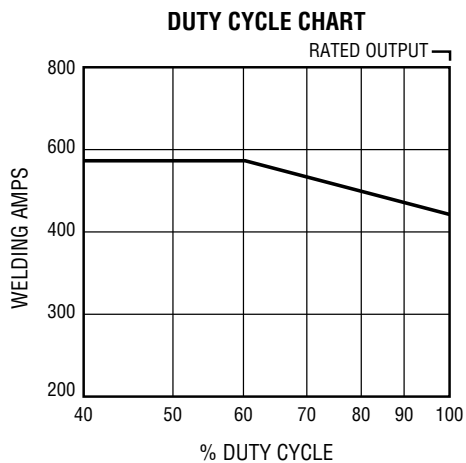
50 Hz models with CE Specifications are manufactured according to the Standards IEC-974-1 and EN-60974-1.

Control Panel



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

Performance Data



Dimension™ 652/812 Specifications (Subject to change without notice.)



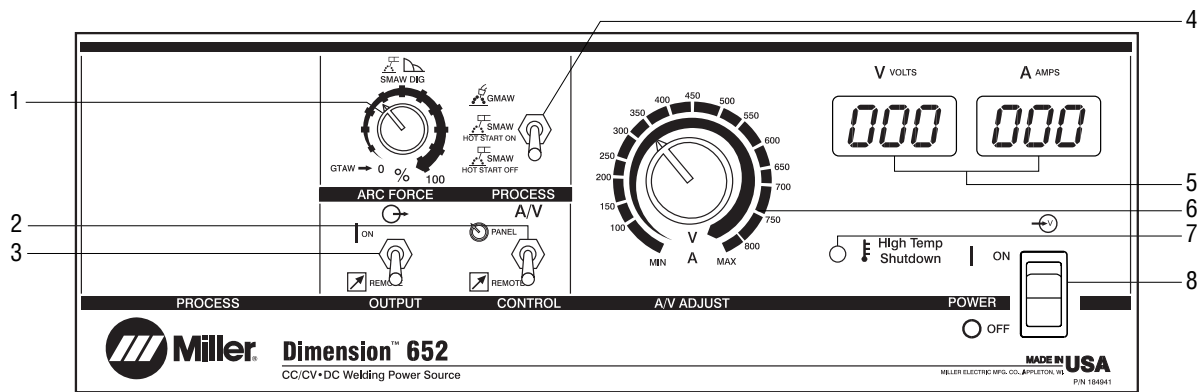
Rated Output	Amperage/Voltage Range	Amps Input at Rated Output, 50/60 Hz 230 V 380 V 400 V 440 V 460 V 520 V 575 V KVA KW	Max. Open-Circuit Voltage*	Dimensions	Net Weight
650 A at 44 VDC, 100% Duty Cycle	50–815 A in CC mode	126 77 73 66 63 54 50.4 50 34.8	72 VDC	H: 30 in (762 mm) including lift eye W: 23 in (585 mm) D: 38 in (966 mm) including strain relief	545 lb (247 kg)
	10–65 V in CV mode		67 VDC		

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

Certified to both the Canadian and U.S. Standards for welding equipment.

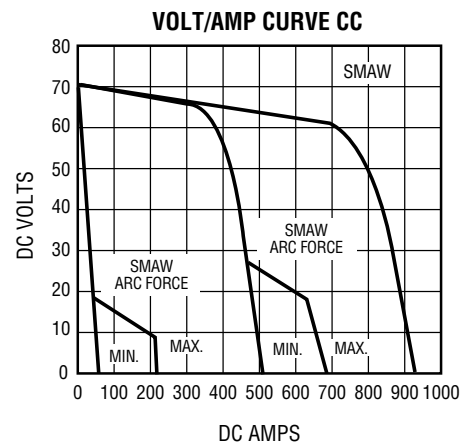
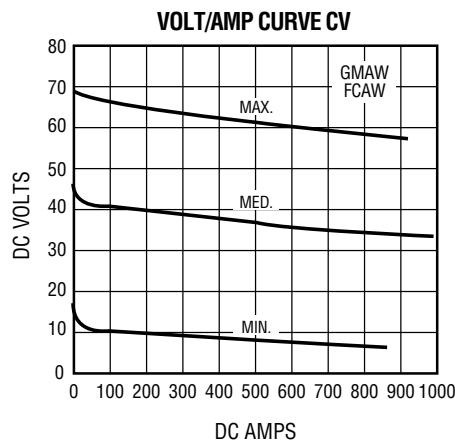
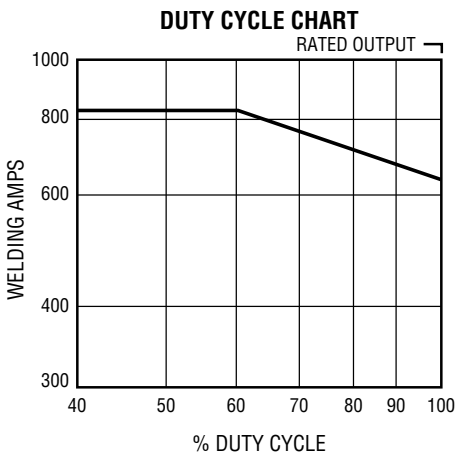
50 Hz models with CE Specifications are manufactured according to the Standards IEC-974-1 and EN-60974-1.

Control Panel



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

Performance Data



Genuine Miller Options

Air Filter Kit #042 939 Field
Reusable air filter helps protect internal components from dust and dirt, reducing need for maintenance and providing extended service life. Easily attaches and detaches from front of the power source.

Ground Current Sensor #195 048 Field
Disables power source if weld current is present on primary ground.

Packages



Option #1: Dimension™ Power Sources

Purchase components separately.

Dimension™ 302

#903 215 (200-208/230/460 V, 60 Hz)

#903 216 (230/460/575 V, 60 Hz)

Dimension™ 452

#903 254 (200-208/230/460 V, 60 Hz)

#903 255 (230/460/575 V, 60 Hz)

Dimension™ 562

#907 288 (380/400/440 V, 50 Hz w/CE)

Dimension™ 652

#903 379 (230/460/575 V, 60 Hz)

#903 379-01-12 (230/460/575 V, 60 Hz w/Sub Arc upgrade)

Dimension™ 812

#907 289 (380/400/440 V, 50 Hz w/CE)



Option #2: Dimension™ Stationary Packages

Stationary display without running gear/cylinder rack.

Dimension™ 302 Stationary Package

#951 272 (230/460/575 V, 60 Hz)

Dimension™ 452 Stationary Package

#951 273 (230/460/575 V, 60 Hz)

Dimension™ 652 Stationary Package

#951 274 (230/460/575 V, 60 Hz)

Comes complete With:

- Dimension™ power source
- S-74D wire feeder
- Bernard® Q-Gun™
- Industrial MIG 4/0 Kit:
Smith® regulator/flowmeter 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



Option #3: Dimension™ MIGRunner® Packages

MIGRunner system with factory-installed running gear/cylinder rack.

Dimension™ 302 MIGRunner Package

#951 276 (230/460/575 V, 60 Hz)

Dimension™ 452 MIGRunner Package

#951 277 (230/460/575 V, 60 Hz)

Dimension™ 652 MIGRunner Package

#951 278 (230/460/575 V, 60 Hz)

Comes complete With:

- Dimension™ power source
- S-74D wire feeder
- Bernard® Q-Gun™
- Industrial MIG 4/0 Kit:
Smith® regulator/flowmeter 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
- Factory installed running gear/cylinder rack



Industrial MIG 4/0 Kit #300 390

Consists of Smith® regulator/flowmeter 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 #042 871

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 #042 872

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.

Extension Cables for 14-Pin Plugs to 14-Pin Sockets

#122 973 25 ft (7.6 m)

#122 974 50 ft (15.2 m)

#122 975 75 ft (22.8 m)

This extension cord makes a direct connection between the power source and the accessory control or wire feeder. No messy splicing or adapting required.



Standard Running Gear #042 886

The large 10 in (254 mm) rear wheels and 5 in (127 mm) front casters on this running gear provide excellent mobility on the shop floor, making it easier to move the power source around and over cables and cracks. Very easy to install. Handles double as weld cable holder.

Standard Cylinder Rack #042 887

Holds two cylinders. Only installs on Standard Running Gear.



HF-251D-1 High-Frequency Arc Starter/Stabilizer #042 388

This portable 250 A, 60% duty cycle unit adds high frequency to the welding circuit to help start the arc when using the TIG (GTAW) process. Operates on 115 VAC 50/60/100 Hz. See Lit. Index No. AY 5.1.

Remote Controls and Switches

Remote On/Off Control #042 869

Allows you to turn your power source on or off from a distance of 20 ft (6 m). This is especially useful if your power source is located up in a mezzanine.



RMLS-14 #129 337

Momentary- and maintained-contact rocker switch for contactor control. Push forward for maintained contact and back for momentary contact. Includes 20 ft (6 m) cord and 14-pin plug.



RCC-14 Remote Contactor and Current Control #151 086

Rotary-motion (side to side) fingertip control. Fastens to TIG torch using two Velcro strips. Allows complete current and contactor control at operator's fingertips. Includes 28 ft (8.5 m) cord and plug.



RCCS-14 Remote Contactor and Current Control #043 688

Up-and-down rotary-motion fingertip control. Great for applications that require a finer amperage control. Includes 28 ft (8.5 m) control cord.



RHC-14 Hand Control #129 340

20 ft (6 m) cord

#300 350

100 ft (30.5 m) cord

Miniature hand control with 14-pin plug for remote current and contactor control. Dimensions: 4 x 4 x 3-1/4 in (102 x 102 x 82 mm).

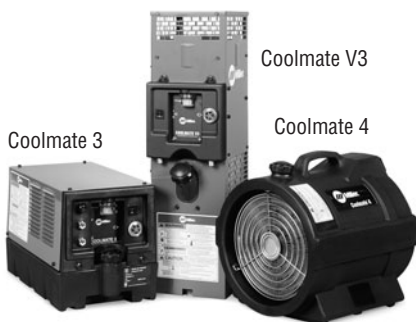


RFCS-14 Foot Control #043 554

Heavy-duty foot current and contactor control. Includes 20 ft (6 m) cord and 14-pin plug.

Water Coolant Systems

For more information, see Miller Coolant Systems Lit. Index No. AY/7.2.



Coolmate™ 3

#043 007 115 VAC

#043 008 230 VAC

For use with water-cooled torches rated up to 600 amps. Unique paddle-wheel indicator, external filter and easy fill spout.

Coolmate™ V3 #043 009 115 VAC

For use with water-cooled torches rated up to 500 amps. Vertical design conveniently mounts to Miller cylinder rack in place of one cylinder.

Coolmate™ 4 #042 288 115 VAC

For use with water-cooled torches rated up to 600 amps. Tough molded polyethylene case with carrying handle.

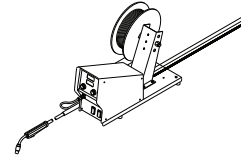
Coolant #043 810

Sold in cases of four 1-gallon recyclable plastic bottles. Miller coolants contain a base of ethylene glycol and deionized water to protect against freezing to -37°F (-38°C) or boiling to 227°F (108°C). Also contains a compound that resists algae growth.

Wire Feeder Options

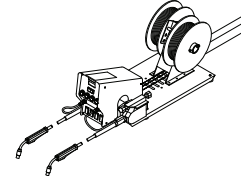
Bench-Style Feeders

	Lit. Index No.
S-22A	M/11.0
S-24A	M/11.0
S-74S	M/3.0
S-74D	M/3.0
S-74DX	M/3.0



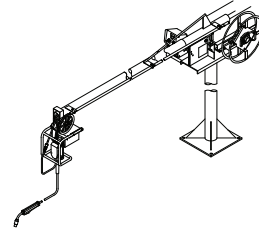
Bench-Style Dual Feeders

D-74S	M/3.0
D-74D	M/3.0
D-74DX	M/3.0



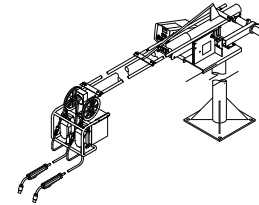
Boom-Style Feeders

SS-74S12	M/13.11
SS-74S16	M/13.11
SS-74D12	M/13.11
SS-74D16	M/13.11
SS-74DX12	M/13.11
SS-74DX16	M/13.11



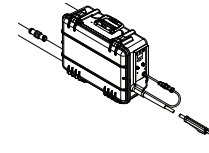
Boom-Style Dual Feeders

DS-74S12	M/13.11
DS-74S16	M/13.11
DS-74D12	M/13.11
DS-74D16	M/13.11
DS-74DX12	M/13.11
DS-74DX16	M/13.11



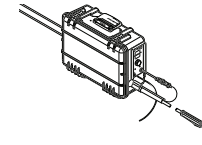
Portable Feeders

SuitCase® 8RC	M/6.5
SuitCase® 12RC	M/6.5



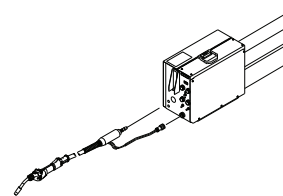
Portable Voltage Sensing Feeders

SuitCase® X-TREME™ 8VS	M/6.41
SuitCase® X-TREME™ 12VS	M/6.41



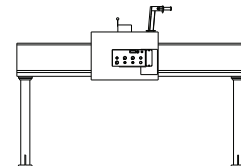
Aluminum Push-Pull Feeders

XR™-S and XR™-D Controls	M/1.7
Guns available:	
XR-Aluma-Pro™ A	M/1.71
XR-Aluma-Pro™ W	M/1.71
XR-A Pistol Grip	M/1.73



Hard Automation

Control Detach Kit 70 Series	M/3.0
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Ordering Information

Equipment and Options	Stock No.	Description	Qty.	Price
Power Source				
Dimension™ 302 Power Source Only	#903 215* #903 216*	200-208/230/460 V, 60 Hz 230/460/575 V, 60 Hz		
Dimension™ 302 Stationary Package	#951 272*	230/460/575 V, 60 Hz		
Dimension™ 302 MIGRunner Package	#951 276*	230/460/575 V, 60 Hz		
Dimension™ 452	#903 254* #903 255*	200-208/230/460 V, 60 Hz 230/460/575 V, 60 Hz		
Dimension™ 452 Stationary Package	#951 273*	230/460/575 V, 60 Hz		
Dimension™ 452 MIGRunner Package	#951 277*	230/460/575 V, 60 Hz		
Dimension™ 562	#907 288**	380/400/440 V, 50 Hz w/CE		
Dimension™ 652	#903 379* #903 379-01-12*	230/460/575 V, 60 Hz 230/460/575 V, 60 Hz w/Sub Arc upgrade		
Dimension™ 652 Stationary Package	#951 274*	230/460/575 V, 60 Hz		
Dimension™ 652 MIGRunner Package	#951 278*	230/460/575 V, 60 Hz		
Dimension™ 812	#907 289**	380/400/440 V, 50 Hz w/CE		
Air Filter Kit	#042 939	Field		
Ground Current Sensor	#195 048	Field		
Wire Feeders				
22A	#951 190	See Lit. Index No. M/11.0		
24A	#951 193	See Lit. Index No. M/11.0		
70 Series		See Lit. Index No. M/3.0		
SuitCase® 8RC	#951 186	See Lit. Index No. M/6.5		
SuitCase® 12RC	#951 188	See Lit. Index No. M/6.5		
SuitCase® X-TREME™ 8VS	#951 181	See Lit. Index No. M/6.41		
SuitCase® X-TREME™ 12VS	#951 184	See Lit. Index No. M/6.41		
XR™-Controls	#300 601 #300 678	XR-S model. See Lit. Index No. M/1.7 XR-D model. See Lit. Index No. M/1.7		
Swingarc™ Boom Feeders		See Lit. Index No. M/13.11		
Remote Controls				
Remote On/Off Control	#042 869			
RMLS-14	#129 337	Rocker switch		
RCC-14	#151 086	Fingertip control (side to side)		
RCCS-14	#043 688	Fingertip control (up and down)		
RHC-14	#129 340 #300 350	Hand control w/20 ft (6 m) cord and 14-pin plug Hand control w/100 ft (30.5 m) cord and 14-pin plug		
RFCS-14	#043 554	Foot control		
Miscellaneous				
Industrial MIG 4/0 Kit	#300 390	Includes Smith regulator/flowmeter 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	#042 871			
Process Control Selector	#042 872			
Extension Cables		See page 6		
Standard Running Gear	#042 886			
Standard Cylinder Rack	#042 887			
HF-251D-1 Starter/Stabilizer	#042 388	See Lit. Index No. AY/5.1		
Coolant Systems		See page 6		
Coolant	#043 810			
Primary Power Cable				
Secondary Welding Cables				
Work Cable and Clamp				

Date:

Total Quoted Price:

*  Certified to both the Canadian and U.S. Standards for welding equipment.

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

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