

# Dimension™ Series

Issued Dec. 2010 • 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, CAC-A).

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

**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 easy to start difficult 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  $\pm 10\%$ .

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

**115 VAC duplex receptacle** provides 15 amps of auxiliary power.

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



**Dimension™ 452  
MIGRunner™  
Package shown**

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



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



Build your own system at [MillerWelds.com/equiptoweld](http://MillerWelds.com/equiptoweld) or see the **Stationary and MIGRunner Packages** (pg 5).

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

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

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

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

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

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

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

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



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An Illinois Tool Works Company  
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Appleton, WI 54914 USA

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**Web Site**  
[www.MillerWelds.com](http://www.MillerWelds.com)

MADE IN **USA**  
APPLETON, WI



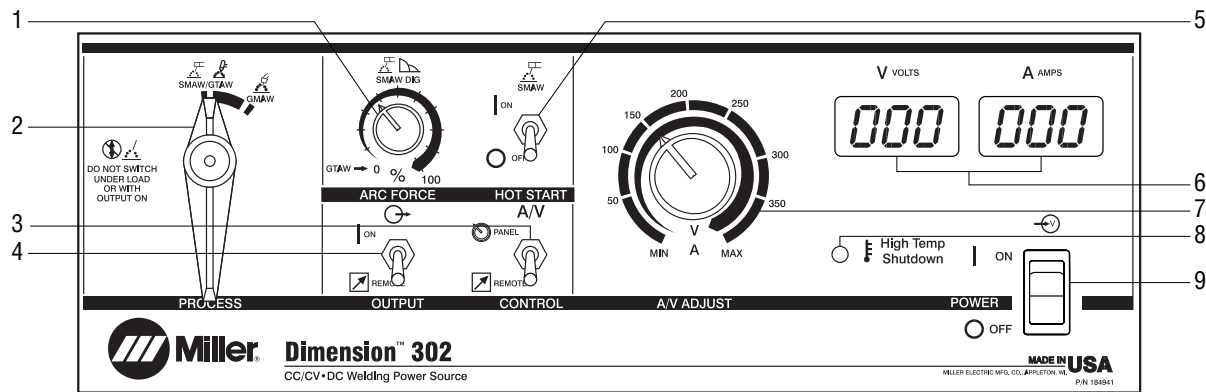
# Dimension™ 302 Specifications (Subject to change without notice.)



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		

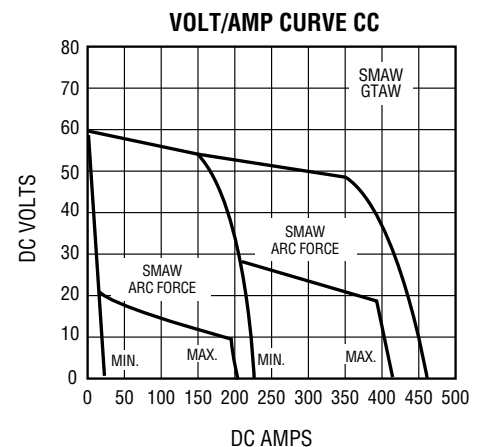
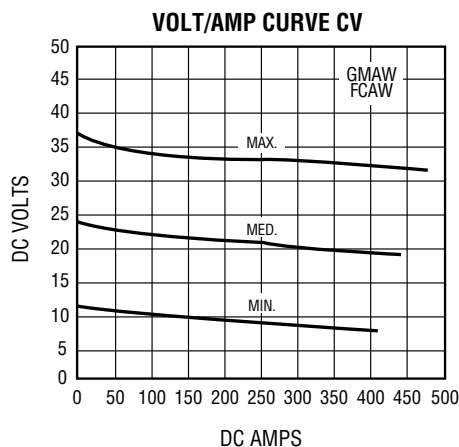
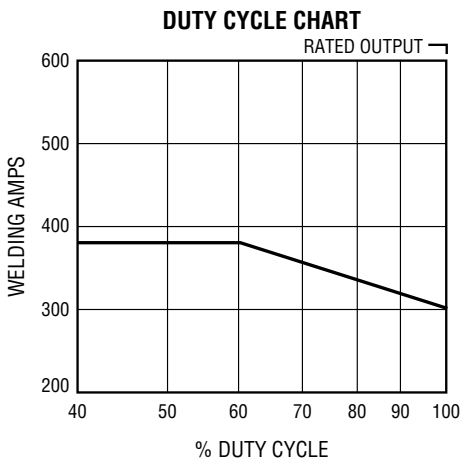
\*Open-circuit voltages in CV mode are factory set at values less than indicated for CC.

## Control Panel



- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>1. Arc Force (DIG) Control</li> <li>2. Process Selector Switch</li> <li>3. Remote Amperage/Voltage Control Switch</li> <li>4. Output Switch (Contactor)</li> <li>5. Hot Start Switch</li> </ul> | <ul style="list-style-type: none"> <li>6. Digital Meters</li> <li>7. Amperage/Voltage Adjustment Control</li> <li>8. High Temperature Shutdown Light</li> <li>9. Power Switch with Indicator Light</li> </ul> |
|--|---|

## Performance Data



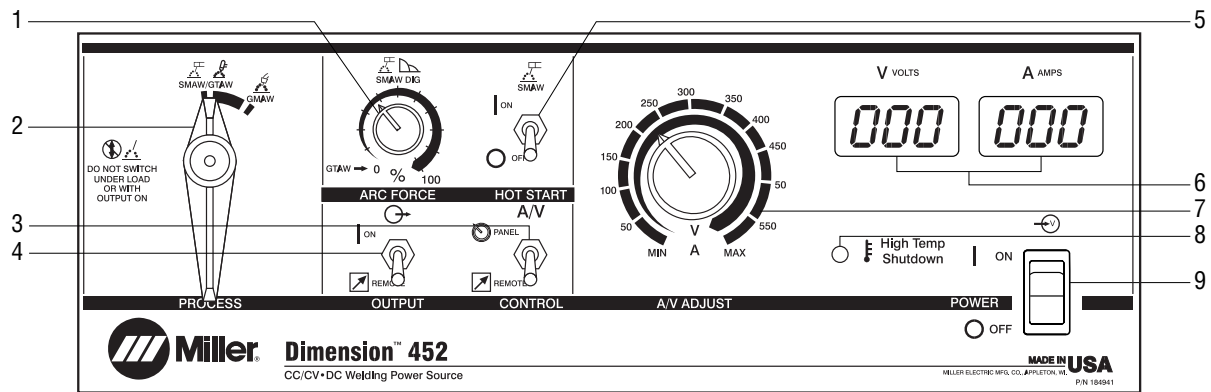
# Dimension™ 452/562 Specifications (Subject to change without notice.)



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		

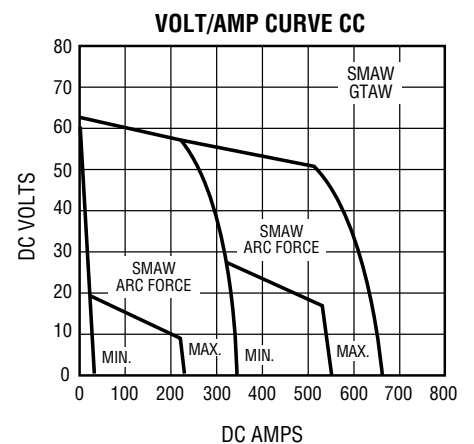
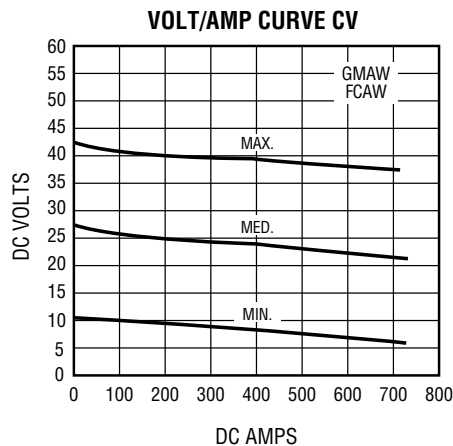
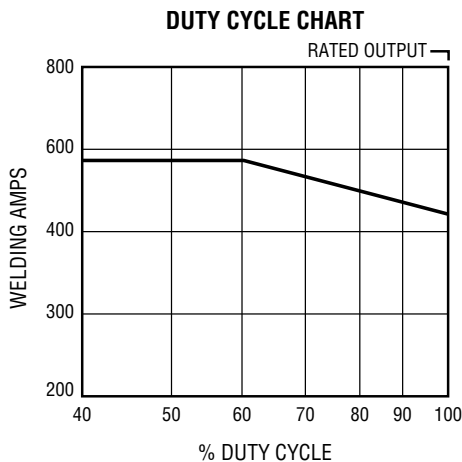
\*Open-circuit voltages in CV mode are factory set at values less than indicated for CC.

## 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



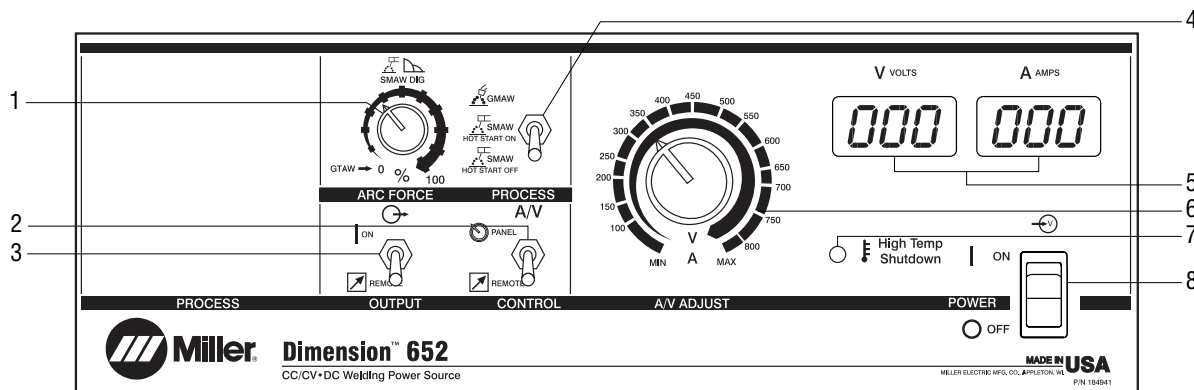
# Dimension™ 652/812 Specifications (Subject to change without notice.)



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		

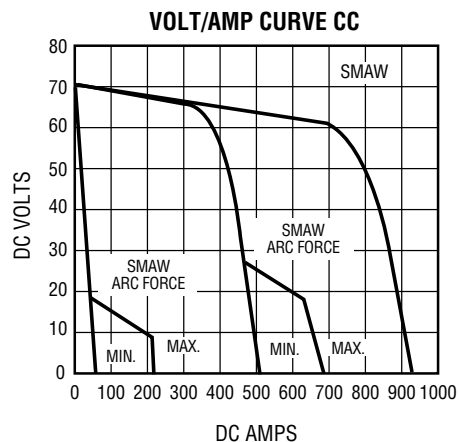
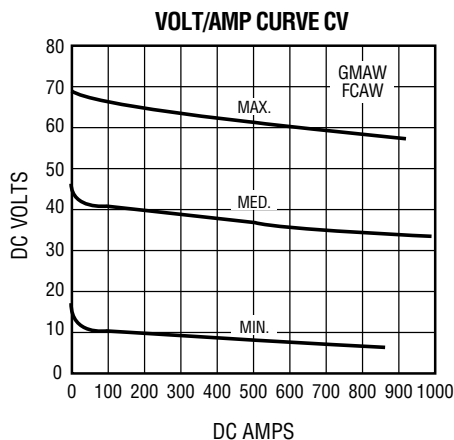
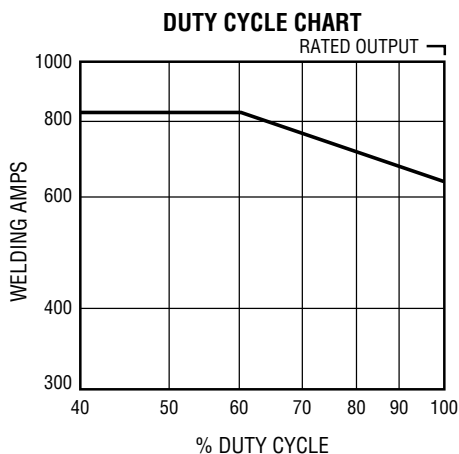
\*Open-circuit voltages in CV mode are factory set at values less than indicated for CC.

## Control Panel



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

## Performance Data



## 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

#907 360 (380/400/440 V, 50 Hz w/CE)

#### Dimension 652

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

#### Dimension 812

#907 361 (380/400/440 V, 50 Hz w/CE)



Build your own system at  
[MillerWelds.com/equiptoweld](http://MillerWelds.com/equiptoweld)



### 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

## 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.

## Genuine Miller Accessories

### Extension Cables for 14-Pin Plugs to 14-Pin Sockets\*

#242 208 025 25 ft (7.6 m)

#242 208 050 50 ft (15.2 m)

#242 208 080 80 ft (24.4 m)

Extension cables make a direct connection between the power source and remote control or 24 VAC wire feeder. No messy splicing or adapting required.

\*Custom lengths available in 5 ft increments up to 50 ft and 10 ft increments up to 100 ft.



### 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.

## 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.



### 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.

### 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.

## Remote Controls and Switches

### Remote On/Off Control #242 197 025

Allows you to turn your power source on or off from a distance of 25 ft (7.6 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 26.5 ft (8 m) cord and 14-pin plug.



### RCC-14 Remote Contactor and Current Control #151 086

Side-to-side (east/west) rotary-motion fingertip control. Fastens to TIG torch using two Velcro® straps. Allows complete current and contactor control at operator's fingertips. Includes 26.5 ft (8 m) cord and 14-pin plug.



### RCCS-14 Remote Contactor and Current Control #043 688

Up-and-down (north/south) rotary-motion fingertip control. Fastens to TIG torch using two Velcro® straps. Great for applications that require a finer amperage control. Includes 26.5 ft (8 m) cord and 14-pin plug.



### RHC-14 Hand Control\*

#242 211 020

20 ft (6 m) cord

#242 211 100

100 ft (30.5 m) cord

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

\*Custom lengths available in 5 ft increments up to 50 ft and 10 ft increments up to 100 ft.



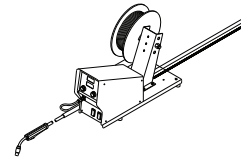
### RFCS-14 Foot Control #043 554

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

# Wire Feeder Options

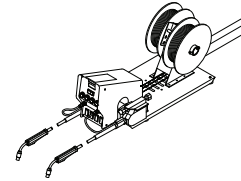
## Bench-Style Feeders

	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



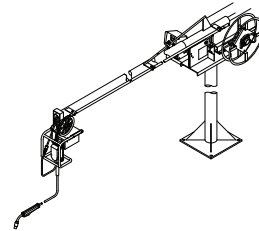
## Bench-Style Dual Feeders

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



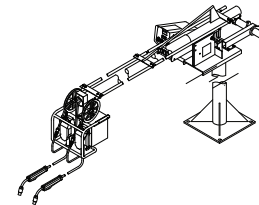
## Boom-Style Feeders

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



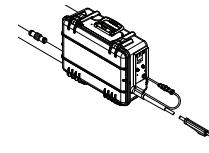
## Boom-Style Dual Feeders

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



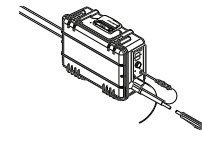
## Portable Feeders

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



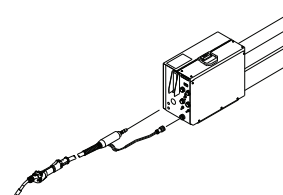
## Portable Voltage Sensing Feeders

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



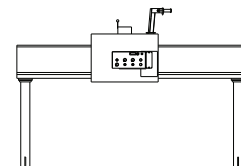
## Aluminum Push-Pull Feeders

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
<b>Power Source</b>				
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	#907 360**	380/400/440 V, 50 Hz w/CE		
Dimension™ 652	#903 379*	230/460/575 V, 60 Hz		
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	#907 361**	380/400/440 V, 50 Hz w/CE		
Air Filter Kit	#042 939	Field		
Ground Current Sensor	#195 048	Field		
<b>Wire Feeders</b>				
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 #300 687	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		
<b>Remote Controls</b>				
Remote On/Off Control	#242 197 025			
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	#242 211 020 #242 211 100	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		
<b>Miscellaneous</b>				
Extension Cables		See page 6		
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			
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 by Canadian Standards Association to both the Canadian and U.S. Standards.

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

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