

# Dimension™ Series

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

**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

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

**DC multiprocess capability** provides versatility and outstanding arc performance in CV (MIG) and CC (stick, TIG, CAC-A).

**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.

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

**Line voltage compensation** ensures consistent weld performance by keeping output power constant even if primary input power varies by ±10 percent.

**Hot Start™** makes it easy to start difficult stick electrodes such as E-6010 and E-7018.

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

**115-volt 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.

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



Dimension™ 452 Stationary package shown.

**Fan-On-Demand™** cooling system operates only when needed. Reduces contaminants drawn into the machine and excess noise in work areas.



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

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

**Simple control panel** features single range amperage/voltage adjustment. Provides easy and 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 and 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 source is warranted for three years, parts and labor. Original main power rectifier parts are warranted for five years.



**Miller Electric Mfg. Co.**  
 An ITW Welding Company  
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 Appleton, WI 54912-1079 USA

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

**MillerWelds.com**  
    



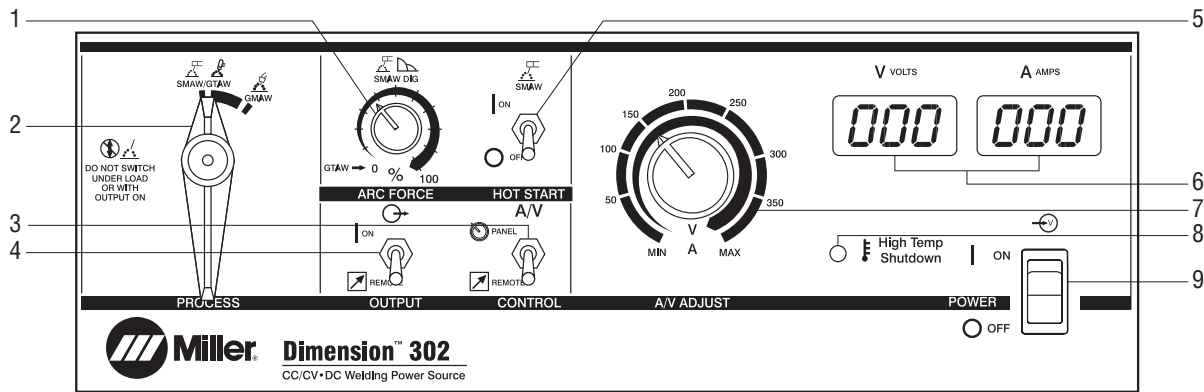
# Dimension™ 302 Specifications (Subject to change without notice.)



Amperage/Voltage Range	Rated Output	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			
15–375 A in CC mode	300 A at 32 VDC, 100% duty cycle	57.5	50	25	20	20	12.9	60 VDC	H: 30 in. (762 mm) (including lift eye) W: 23 in. (585 mm) D: 30.5 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.

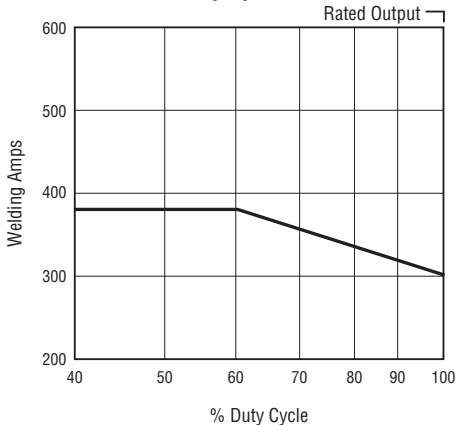
## Control Panel



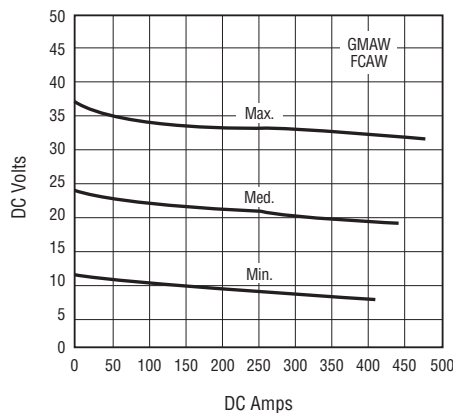
1. Arc Force (DIG) Control
2. Process Selector Switch
3. Remote Amperage/Voltage Control Switch
4. Output Switch (Contactor)
5. Hot Start Switch
6. Digital Meters
7. Amperage/Voltage Adjustment Control
8. High Temperature Shutdown Light
9. Power Switch with Indicator Light

## Performance Data

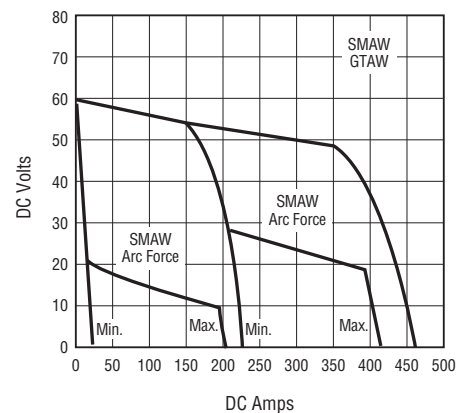
Duty Cycle Chart



Volt/Amp Curve CV



Volt/Amp Curve CC



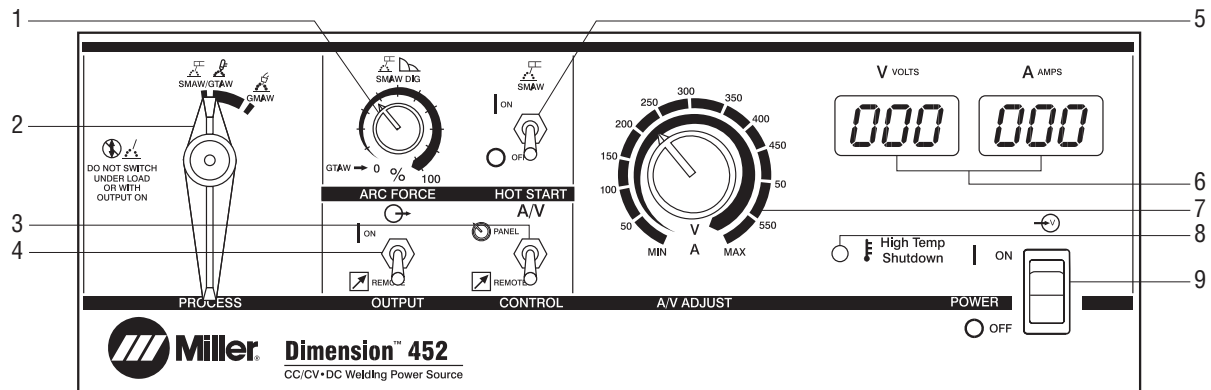
# Dimension™ 452/562 Specifications (Subject to change without notice.)



Amperage/Voltage Range	Rated Output	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			
20–565 A in CC mode	450 A at 38 VDC, (36.5 VDC for CE model) 100% duty cycle	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			

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

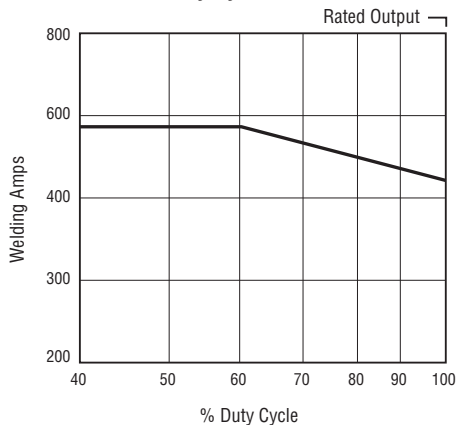
## Control Panel



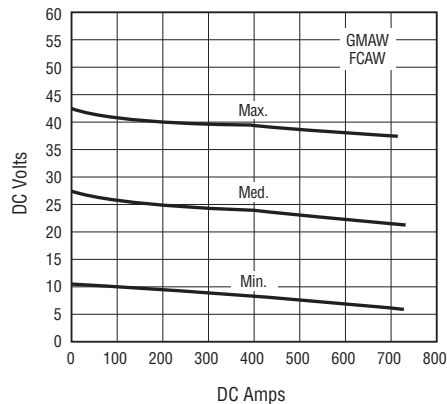
- 1. Arc Force (DIG) Control
- 2. Process Selector Switch
- 3. Remote Amperage/Voltage Control Switch
- 4. Output Switch (Contactor)
- 5. Hot Start Switch
- 6. Digital Meters
- 7. Amperage/Voltage Adjustment Control
- 8. High Temperature Shutdown Light
- 9. Power Switch with Indicator Light

## Performance Data

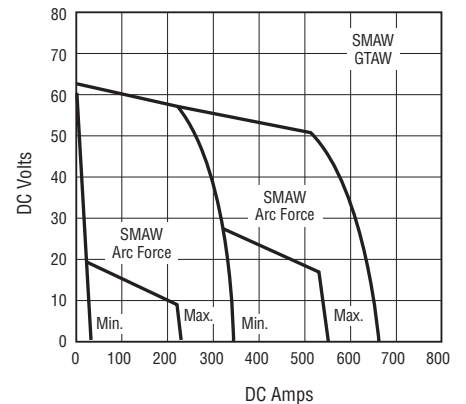
Duty Cycle Chart



Volt/Amp Curve CV



Volt/Amp Curve CC



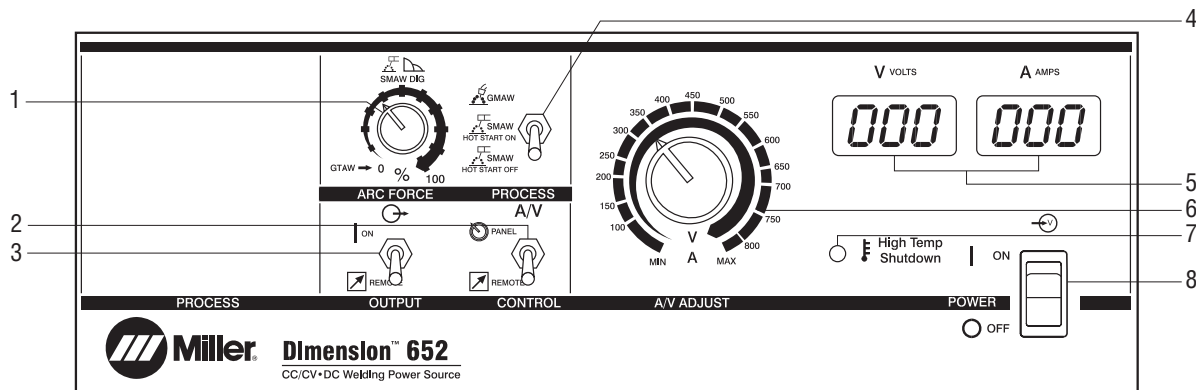
# Dimension™ 652/812 Specifications (Subject to change without notice.)



Amperage/Voltage Range	Rated Output	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
50–815 A in CC mode	650 A at 44 VDC, 100% duty cycle	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.

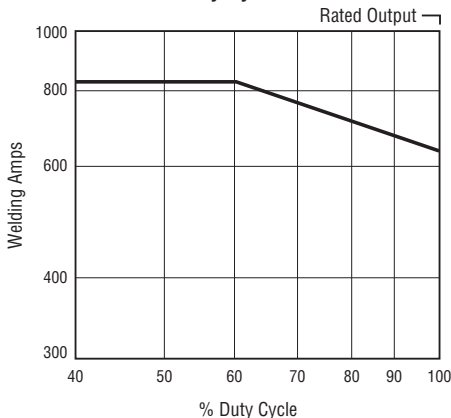
## Control Panel



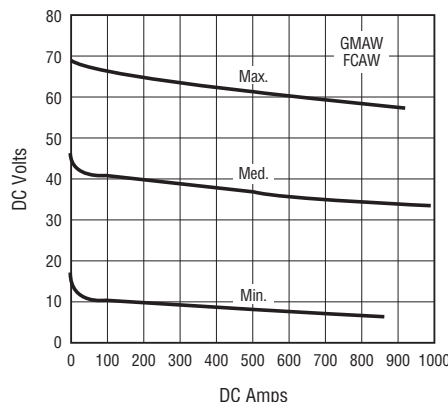
- 1. Arc Force (DIG) Control
- 2. Remote Amperage/Voltage Control Switch
- 3. Output Switch (Contactor)
- 4. Process Selector Switch
- 5. Digital Meters
- 6. Amperage/Voltage Adjustment Control
- 7. High Temperature Shutdown Light
- 8. Power Switch with Indicator Light

## Performance Data

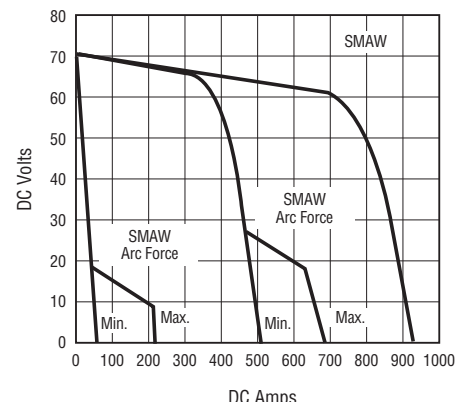
Duty Cycle Chart



Volt/Amp Curve CV



Volt/Amp Curve CC



## Packages



### Option #1: Dimension™ Power Source Only

Purchase components separately.

#### Dimension 302

903216 (230/460/575 V, 60 Hz)

#### Dimension 452

903254 (200-208/230/460 V, 60 Hz)

903255 (230/460/575 V, 60 Hz)

#### Dimension 562

907360 (380/400/440 V, 50 Hz w/CE)

#### Dimension 652

903379 (230/460/575 V, 60 Hz)

#### Dimension 812

907361 (380/400/440 V, 50 Hz w/CE)



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



### Option #2: Dimension™ Stationary Package

Stationary display without running gear or cylinder rack.

#### Dimension 302 Stationary Package

951272 (230/460/575 V, 60 Hz)

#### Dimension 452 Stationary Package

951273 (230/460/575 V, 60 Hz)

#### Dimension 652 Stationary Package

951274 (230/460/575 V, 60 Hz)

#### Comes complete with:

- Dimension power source
- S-74D wire feeder
- Bernard™ BTB Gun 400 A
- Industrial MIG 4/0 kit consisting of flowmeter regulator 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™ Package

MIGRunner system with factory-installed standard running gear and cylinder rack.

#### Dimension 302 MIGRunner Package

951276 (230/460/575 V, 60 Hz)

#### Dimension 652 MIGRunner Package

951278 (230/460/575 V, 60 Hz)

#### Comes complete with:

- Dimension power source
- S-74D wire feeder
- Bernard™ BTB Gun 400 A
- Industrial MIG 4/0 kit consisting of flowmeter regulator 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 and cylinder rack

## Genuine Miller® Options and Accessories

**Ground Current Sensor 195048** Field  
Disables power source if weld current is present on primary ground.

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

**242208025** 25 ft. (7.6 m)

**242208050** 50 ft. (15.2 m)

**242208080** 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.

\*For additional lengths visit [MillerWelds.com/equiptoweld](http://MillerWelds.com/equiptoweld).



### Industrial MIG 4/0 Kit 300390

Includes flowmeter regulator with 10-foot (3 m) gas hose, 10-foot (3 m) 4/0 feeder weld cable with lugs, and 15-foot (4.6 m) work cable with 600-amp C-clamp.

### Polarity Control 042871

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 042872

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.



### Standard Running Gear 042886

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

### Standard Cylinder Rack 042887

Holds two cylinders. Only installs on Standard Running Gear.



### HF-251D-1 High-Frequency Arc Starter/Stabilizer 042388

This portable 250-amp, 60-percent duty cycle unit adds high frequency to the welding circuit to help start the arc when using the TIG (GTAW) process. Operates on 115-volt, 50/60/100 Hz. See literature AY/5.0.

## Remote Controls and Switches



### RMLS-14 129337

Momentary- and maintained-contact rocker switch for contactor control. Push forward for maintained contact and backward for momentary contact. Includes 26.5-foot (8 m) cord and 14-pin plug.



### RCC-14 Remote Contactor and Current Control 151086

East/west rotary-motion fingertip control attaches to TIG torch using two hook-and-loop fasteners. Allows complete current and contactor control at operator's fingertips. Includes 26.5-foot (8 m) cord and 14-pin plug.



### RCCS-14 Remote Contactor and Current Control 043688

North/south rotary-motion fingertip control attaches to TIG torch using two hook-and-loop fasteners. Great for applications that require a finer amperage control. Includes 26.5-foot (8 m) cord and 14-pin plug.



### RHC-14 Hand Control\*

**242211020**

20 ft. (6 m) cord

**242211100**

100 ft. (30.5 m) cord

Miniature hand control for remote current and

contactor control. Dimensions: 4 x 4 x 3.25 inches (102 x 102 x 83 mm). Includes cord and 14-pin plug.

\*For additional lengths visit [MillerWelds.com/equiptoweld](http://MillerWelds.com/equiptoweld).



### RFCS-14 Foot Control 043554

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

## Coolant Systems

For more information see literature AY/7.2.



### Coolmate™ 3

**043007** 115 V

**043008** 230 V

For use with water-cooled torches rated up to 500 amps. Unique paddle-wheel indicator, external filter and easy-fill spout.



### Coolmate™ 4 042288 115 V

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

### Coolant 043810

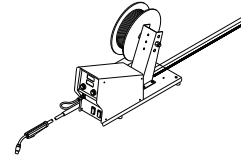
Sold in cases of four one-gallon recyclable plastic bottles. Miller coolants contain a base of ethylene glycol and deionized water to protect against freezing to -37 degrees Fahrenheit (-38°C) or boiling to 227 degrees Fahrenheit (108°C). Also contains a compound that resists algae growth.

# Wire Feeder Options

## Bench-Style Feeders

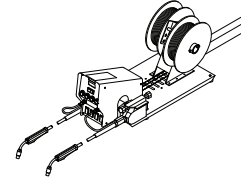
22A	M/11.0
24A	M/11.0
S-74S	M/3.0
S-74D	M/3.0
S-74DX	M/3.0
S-74 MPa Plus	M/3.0

## Literature



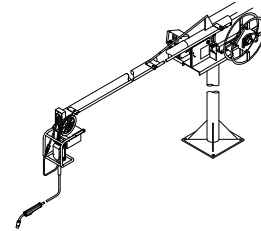
## Bench-Style Dual Feeders

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



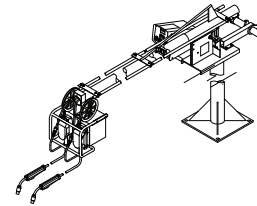
## Boom-Style Feeders

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
SS-74 MPa Plus	M/13.11



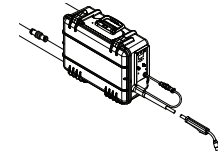
## Boom-Style Dual Feeders

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
DS-74 MPa Plus	M/13.11



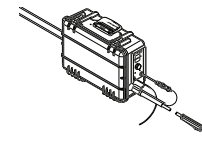
## Portable Feeders

SuitCase® 12RC	M/6.5
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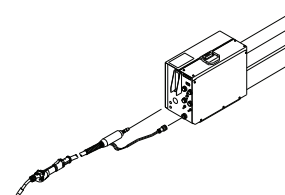
## Portable Voltage-Sensing Feeders

SuitCase® X-TREME™ 8VS	M/6.42
SuitCase® X-TREME™ 12VS	M/6.42



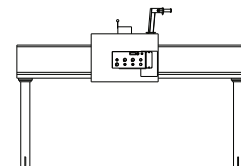
## Aluminum Push-Pull Feeders

XR™-S and XR™-D Controls	M/1.7
Guns available:	
XR-Aluma-Pro™	M/1.71
XR™-Pistol	M/1.73
XR™-Pistol-Pro	M/1.74



## Hard Automation

70 Series Remote Configurations	M/3.0
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## Ordering Information

Equipment and Options	Stock No.	Description	Qty.	Price
Dimension™ 302 Power Source Only	903216*	230/460/575 V, 60 Hz		
Dimension™ 302 Stationary Package	951272*	230/460/575 V, 60 Hz		
Dimension™ 302 MIGRunner™ Package	951276*	230/460/575 V, 60 Hz		
Dimension™ 452	903254* 903255*	200-208/230/460 V, 60 Hz 230/460/575 V, 60 Hz		
Dimension™ 452 Stationary Package	951273*	230/460/575 V, 60 Hz		
Dimension™ 562	907360**	380/400/440 V, 50 Hz w/CE		
Dimension™ 652	903379*	230/460/575 V, 60 Hz		
Dimension™ 652 Stationary Package	951274*	230/460/575 V, 60 Hz		
Dimension™ 652 MIGRunner™ Package	951278*	230/460/575 V, 60 Hz		
Dimension™ 812	907361**	380/400/440 V, 50 Hz w/CE		
<b>Wire Feeders</b>				
22A	951190	See literature M/11.0		
24A	951193	See literature M/11.0		
70 Series		See literature M/3.0		
SuitCase® 12RC	951580	See literature M/6.5		
SuitCase® X-TREME™ 8VS	951583	See literature M/6.42		
SuitCase® X-TREME™ 12VS	951543	See literature M/6.42		
XR™-Controls	300601 300687	XR-S model. See literature M/1.7 XR-D model. See literature M/1.7		
Swingarc™ Boom Feeders		See literature M/13.11		
<b>Remote Controls</b>				
RMLS-14	129337	Rocker switch		
RCC-14	151086	Fingertip control (side to side)		
RCCS-14	043688	Fingertip control (up and down)		
RHC-14	242211020 242211100	Hand control with 20 ft. (6 m) cord and 14-pin plug Hand control with 100 ft. (30.5 m) cord and 14-pin plug		
RFCS-14	043554	Foot control		
<b>Options and Accessories</b>				
Ground Current Sensor	195048	Field		
Extension Cables		See page 6		
Industrial MIG 4/0 Kit	300390	Includes flowmeter regulator 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	042871			
Process Control Selector	042872			
Standard Running Gear	042886			
Standard Cylinder Rack	042887			
HF-251D-1 Starter/Stabilizer	042388	See literature AY/5.0		
Coolant Systems		See page 6		
Coolant	043810			
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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