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XMT® 650 Series

Multiprocess Welding System

Quick Specs

Heavy Industrial Applications
Fabrication and construction
Structural steel fabrication/erection
Heavy manufacturing
MRO — maintenance/repair
Pressure tank/vessel fabrication
Shipbuilding
Refineries and foundries
Railcar manufacturing
Earth-moving equipment manufacturing

Processes
MIG (GMAW)
Flux-cored (FCAW)
Stick (SMAW)
DC TIG (GTAW)*
Submerged arc (SAW)*
Air carbon arc (CAC-A)
cutting and gouging
Rated: 3/8-inch carbons
Induction heating**

Input Power 380/460 V, 50/60 Hz, 3-phase power

Output Range 10–815 A, 10–65 V

Rated Output 650 A at 44 VDC, 100% duty cycle

Net Weight 159 lb. (72.1 kg)

ArcReach (recommended option)
Remote voltage control without a control cord

**Not available with Polarity Reversing model.*
***Available with ArcReach Heater only.*

DONT WALK WELD™

Game-changing welding technologies can stop you from wasting hours every day.

ArcReach welding technology minimizes the non-value-added time spent walking to and from the power source — and maximizes arc-on time, weld quality and jobsite safety.

When operators have complete control at the feeder or remote — even hundreds of feet away from the power source — it minimizes downtime and maximizes productivity, while improving operator safety and delivering high quality welds.

Next Level Productivity

Next Level Cost Savings

Next Level Power

ArcReach®

Remote voltage control at the wire feeder or remote without a control cord. See page 2 for more information.



XMT 650 CC/CV (non-ArcReach model)

Ideal for:
- Heavy manufacturing and fabrication with traditional feeders/ accessories

XMT 650 ArcReach System

Ideal for:
- Structural steel fabrication
- General construction
- Shipbuilding

XMT 650 ArcReach PR System (polarity reversing)

Ideal for:
- Structural steel erection

TRUE BLUE® 3YR. WARRANTY

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

Miller Electric Mfg. LLC
An ITW Welding Company
1635 West Spencer Street
P.O. Box 1079
Appleton, WI 54912-1079 USA

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

MillerWelds.com

Certified System ISO 9001 Quality

XMT® 650 ArcReach® Systems Benefits

Next Level Productivity

ArcReach® capabilities eliminate the time spent tracing weld cables hundreds of feet back to the power source because weld operators can make adjustments at the ArcReach wire feeder or remote.

- **Cable Length Compensation (CLC™)** ensures that the voltage a weld operator sets is the voltage they get by automatically adjusting voltage based on weld cable length, even hundreds of feet away from the power source.
- **Process selection at point of use** to easily switch between welding and gouging with an ArcReach wire feeder or remote.
- **Return to a previous weld process faster** because the power source is restored to its previous settings once the ArcReach accessory is removed.
- **Decrease the chance of an incorrect weld process used** because Auto-Process Select™ automatically sets the power source to the correct weld process based on the polarity applied to the weld accessory.
- **ArcReach 16 shop cart** option with caster wheels and handle makes it easy to transport the wire feeder across the shop and under I-beams.
- **ArcReach 16 field roller option** is equipped with rollers to make it easier than ever to pull an ArcReach 16 wire feeder across pan decking.

Next Level Cost Savings

Maximize savings by simplifying your fleet and accessories, being ready-to-weld with preassembled wire feeders, eliminating inefficiencies, and minimizing equipment downtime with XMT 650 ArcReach systems.

- **Eliminate the control cable** and reduce inventory and maintenance expense with ArcReach.
- **Eliminate dedicated gouging power sources** with integrated gouging stud at the wire feeder.
- **Eliminate cart/sled custom design and assembly** and be ready-to-weld in minutes with a preassembled ArcReach 16 wire feeder.
- **Enable welder with full control at point of use,** increasing efficiency.
- **Adjust While Welding (AWW™)** allows weld operators to change weld parameters while the arc is on.
- **Rugged and durable** means equipment lasts — with IP23 rating, Wind Tunnel Technology™ and Fan-On-Demand™.

Next Level Power

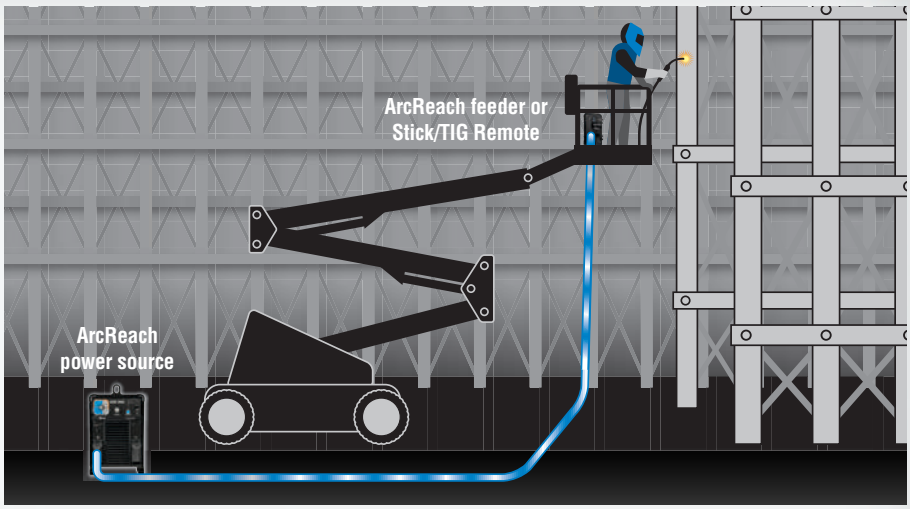
Power for all your welding and gouging needs.

- **Field-proven gouge process.** Remove more material per pass with optimized gouge process without sacrificing control.
- **Weld power to meet productivity needs.** Improve your project timelines with the ability to use large diameter filler wires and minimize downtime with large spools.
- **Elevated arc performance across jobs.** Provides the ability to run a vast range of wire diameters with ideal power. Enables flexibility without sacrificing performance.
- **Rack option** houses four XMT 650 power sources in one convenient package for multiple operators.

ArcReach®

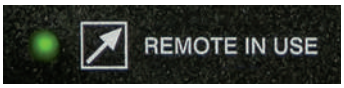
Remote control of the power source without a cord.

ArcReach technology uses the existing weld cable to communicate welding control information between the feeder or remote and power source. This technology eliminates the need for control cords, and their associated problems and costs.



Miller

XMT® 650 Series Features



Remote in use indicator on front panel provides convenient feedback indicating an ArcReach® wire feeder or a compatible 14-pin device is controlling the power source. While under ArcReach control, process and voltage/amperage adjustments are locked out, preventing accidental changes by personnel other than the welding operator.

Auto Remote Sense™ enables unit to automatically use remote control if connected to remote control receptacle.

14-pin receptacle has the flexibility to be used with spool guns, feeders, and remote controls.

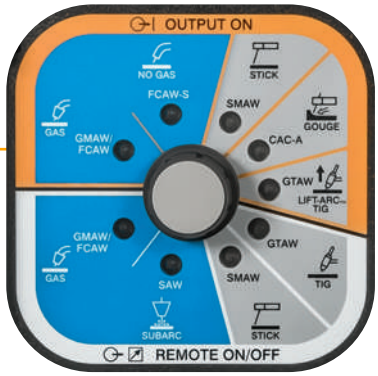
Arc control is active in the stick and solid-wire processes. It allows the operator to customize arc characteristics to match preference, electrode and joint design from a softer arc with more fluid puddle to a stiffer arc with a more controllable puddle. The Star setting is optimized for most applications and pointing the control at Soft or Stiff is optimal for most arc preferences. Control is fully adjustable from 0 to 25 Soft or 0 to 25 Stiff.



120-volt auxiliary power (except ArcReach polarity reversing model) provides 15 amps of power to run power tools — like grinders, chop saws, drills and lights.

XMT 650 CC/CV and ArcReach Process Control





LED process indicator. Front panel process selections are illuminated with an LED that identifies the active process. This enables the selected weld process to be seen at a distance from the power source.

- Gouging mode is an optimized stick position for better gouging performance
- Three wire modes (GMAW/FCAW/SAW) for simplified setup and optimized arc performance
  - Solid and flux-cored wires with gas
  - Flux-cored (self-shielded)
  - Sub arc
- Stick mode for all electrode types
- Lift-Arc™ TIG

XMT 650 ArcReach PR (Polarity Reversing) Process Control





Easy to use. Streamlined and simplified to reduce setup time and potential weld defects. Process changeover eliminates the need for swapping cables. The robust design withstands harsh environments common in the field.

LED process indicator. Front panel process selections are illuminated with an LED that identifies the active process. This enables the selected weld process to be seen at a distance from the power source.

- Gouging mode is an optimized stick position for better gouging performance
- Two wire modes (GMAW/FCAW) for simplified setup and optimized arc performance
  - Solid and flux-cored wires with gas
  - Flux-cored (self-shielded)

XMT® 650 Series Specifications (Subject to change without notice.)

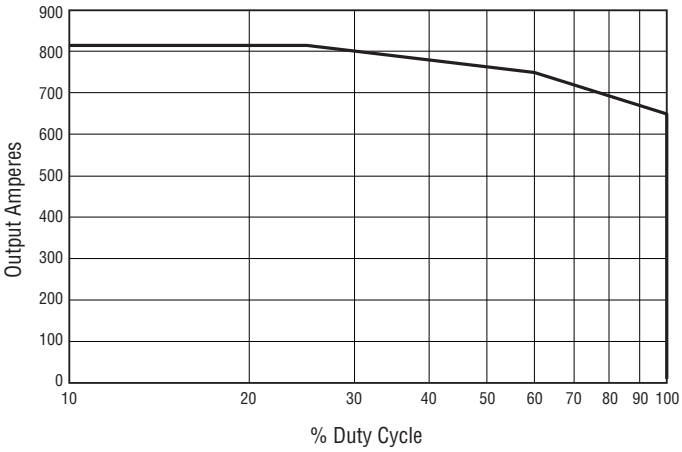
Amperage/Voltage Ranges	Rated Output	Amps Input at Rated Output, 60 Hz 380 V	460 V	575 V	KVA**	KW**	Max. Open-Circuit Voltage	Dimensions	Net Weight
10–815 A in CC mode 10–44 V in CV mode 10–65 V in SAW model*	650 A at 44 VDC, 100% duty cycle	51.5	42.6	35.2	33.9 (35.3)	31.9 (31.7)	82	H: 28.187 in. (716 mm) *(including lift eye)* W: 16.687 in. (424 mm) D: 31.625 in. (803 mm)	159 lb. (72.1 kg)
	750 A at 44 VDC, 60% duty cycle	59.9	49.1	41.1	39.1 (41.0)	37.2 (37.4)			
	815 A at 44 VDC, 25% duty cycle	65.3	53.6	44.3	42.7 (44.2)	40.5			

**Not available with polarity reversing model. **Values in parentheses are for 575 V.*

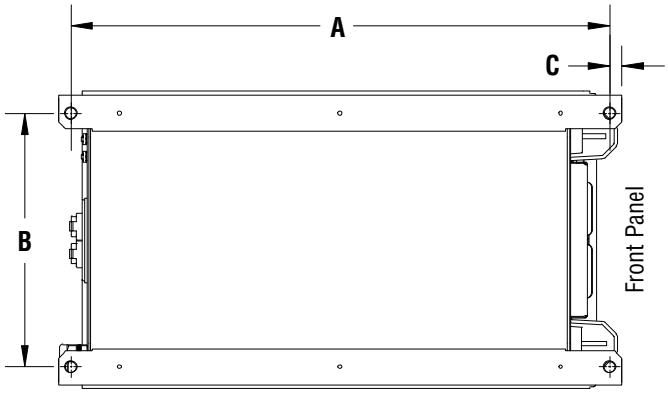
Certified by Canadian Standards Association to both the Canadian and U.S. Standards.

Performance Data

Duty Cycle Chart



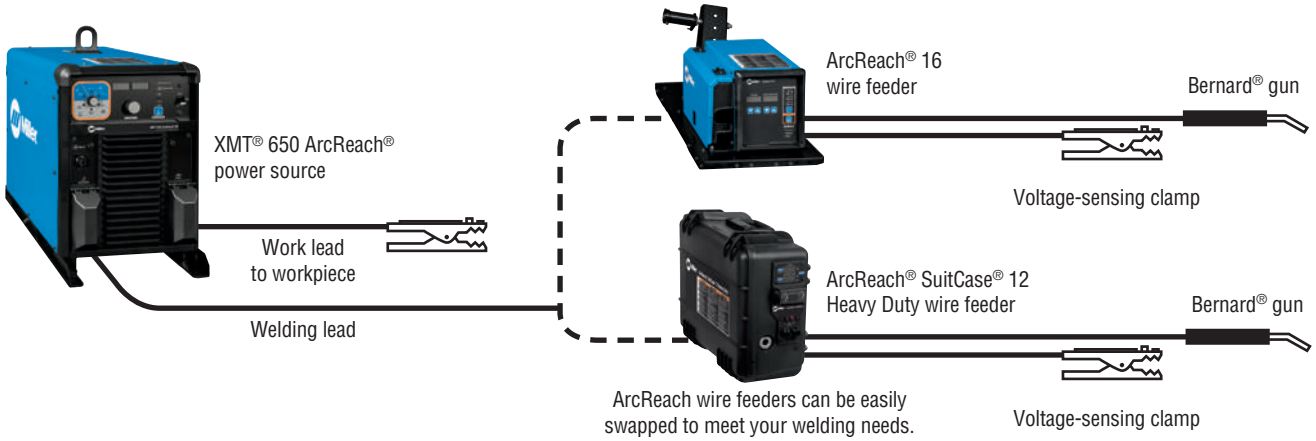
Mounting Specifications



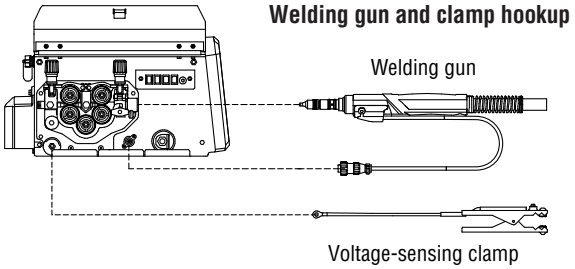
A. 14.25 in. (362 mm)
B. 30.25 in. (768 mm)
C. 0.687 in. (17 mm)

Typical Installation and Hookups

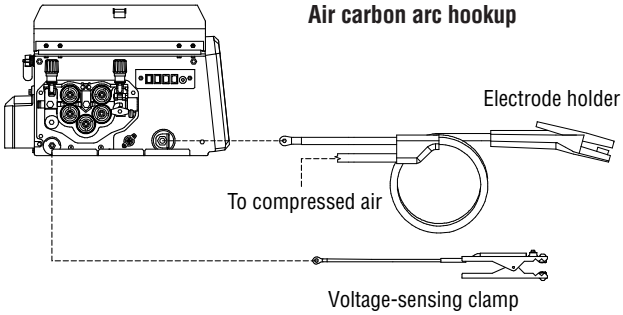
MIG/FCAW installation diagram



Welding gun and clamp hookup



Air carbon arc hookup



ArcReach® Heater System



Take charge of your field preheat and bakeout applications up to 600 degrees Fahrenheit (315°C).

As part of the ArcReach technology platform, the heater is an accessory for select ArcReach welding power sources. The induction heating tools (air-cooled cables or air-cooled quick wraps) connect to the ArcReach Heater, which is powered by select on-site welding power sources.

ArcReach Heater Packages

951848 ArcReach Heater CSA model and extension cable

951849 ArcReach Heater CSA model, extension cable and two air-cooled quick wraps

ArcReach Heater Only

301390 CSA model

301591 CE model

The ArcReach Heater is equipped with built-in temperature control allowing for either manual or computer-loaded programming using up to six thermocouples. The ArcReach Heater can run either one or two heating tools (air-cooled cable or air-cooled quick wrap) simultaneously. Requires ArcReach Heater extension cable to operate. See literature IN/16.0.

Note: Weld cables are not included.

ArcReach Heater systems allow economical, insourced weld preheating and bakeout. With ArcReach Heater systems you can:

- Eliminate the costly overruns common with heating contractors
- Eliminate delays due to transitions between heating and welding crews
- Run your own schedule without depending on third-party contractors
- Use existing on-site welding equipment up to 200 feet away as the heating power source
- Lower preheating and bakeout costs
- Automatically and accurately document joint temperatures
- Eliminate safety concerns caused by traditional resistance and open-flame heating

The ArcReach Heater air-cooled induction heating system is specifically designed for preheating and bakeout applications up to 600 degrees Fahrenheit (315°C), without the need for a cooler and coolant. Preheat and bakeout programs can be manually entered or loaded via USB drive. Heating data is automatically recorded and can be used in quality control and documentation needs.

The air-cooled cables and quick wraps are manufactured from durable high-temperature materials, and designed to withstand the tough conditions in both industrial and construction applications.



ArcReach Heater Extension Cable

301451 10 ft. (3 m)

Air-cooled cables or quick wraps connect to the side of the box. Up to six thermocouple sensors connect to the yellow panel, and provide temperature feedback from the piece being heated.



Air-Cooled Quick Wrap 301452

The quick wrap works on pipe up to 10-inch (25.4 cm) diameter, and can heat up to a maximum of 600 degrees Fahrenheit (315°C). Requires preheat insulation for temperatures over 392 degrees Fahrenheit (200°C) to protect the tool. Most joints will require simultaneous use of two-air cooled quick wraps — one on each side of the joint.



Preheat Insulation with Cable Harness

301334 1/2 x 16 x 120 in. (1.3 x 41 x 305 cm)

Air-cooled heating cable coils of various sizes can be attached directly to this preheat insulation. Once a coil is set up it can easily be moved from part to part reducing setup times. The insulation is 10-feet (3 m) long and can be cut to length to fit your application.

Note: Heating cable not included.

High-Temperature Rope 194965

1-inch (2.5 cm) wide, 50-foot (15.2 m) roll.

ArcReach Heater Specifications (Subject to change without notice.)

Input Power	Ambient Temperature Range Storage	Usage	Rated Output	Dimensions	Net Weight
Operates on open-circuit voltage: 50–70 V	-4–131°F (-20–55°C)	14–104°F (-10–40°C)	7.8 kW at 100% duty cycle	H: 18.6 in (472 mm) W: 11.2 in (285 mm) D: 26.7 in (678 mm)	43 lb. (20 kg) **CSA** 50.5 lb. (23.4 kg) **CE**

Certified by Canadian Standards Association to both the Canadian and U.S. Standards. *Manufactured and certified in accordance with IEC-60974-1, -10.*

Genuine Miller® Accessories



XMT® 650 ArcReach® 4-Pack Racks
907860 Without polarity reversing
907852 With polarity reversing
293380 Empty rack fused for 460 V
Occupied racks come assembled with four XMT 650 ArcReach power sources fused for 460 volts. Features include:
- Provision to parallel power sources on common work connections
- Two lifting eyes for transportation
- Rugged skids for dragging or pushing



Running Gear Cylinder Rack 300408
Small footprint and easily maneuverable, with cylinder rack low enough that you do not have to lift bottles.



ArcReach® Stick/TIG Remote 301325
When paired with an ArcReach power source, provides remote control of the power source without a cord — saving time and money. See literature AY/14.5.



Industrial MIG 4/0 Kit 300390
Consists of 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.

Wire Feeders/Guns



ArcReach® 16
301619 Base feeder (not shown)
301664 With shop cart
951000065 With shop cart and Bernard® BTB Gun 500 A
301663 With field roller
951000066 With field roller and Bernard® IronPro™ flux-cored gun
Portable wire feeder for shop or field use accommodating a variety of wires up to 3/32-inch diameter. When paired with an ArcReach power source, provides remote control of the power source without a control cord — saving time and money. See literature M/6.55.



ArcReach® SuitCase® 12 Heavy Duty
301604
Feeder only
951000096
With Bernard® IronPro™ flux-cored gun
For 3/32-inch cored wire. Portable feeder designed to run off of arc voltage. When paired with an ArcReach power source, provides remote control of the power source without a control cord — saving time and money. See literature M/6.55.



ArcReach® SuitCase® 8
951726001 With Bernard® BTB Gun 300 A
951728 With Bernard® Dura-Flux™ gun
ArcReach® SuitCase® 12
951729001 With Bernard® BTB Gun 300 A
951731 With Bernard® Dura-Flux™ gun
Portable feeder designed to run off of arc voltage. Includes BTB Gun with AccuLock™ consumables, or Dura-Flux™ gun with Centerfire™ consumables. When paired with an ArcReach power source, provides remote control of the power source without a control cord — saving time and money. See literature M/6.55.



SuitCase® 12RC
951580001
Lightweight, portable wire feeder for a variety of wires up to .062-inch diameter. Holds up to a 12-inch spool of wire. Includes remote voltage control, drive roll kit and Bernard® BTB Gun 300 A with AccuLock™ consumables. See literature M/6.5.

Note: Not compatible with XMT 650 ArcReach polarity reversing model.



XR-AlumaFeed® SuitCase®
301567
Advanced push-pull wire feeder designed for high-volume, high-production aluminum MIG welding where quality and consistency is a high priority. See literature DC/34.0.

Note: Not compatible with XMT 650 ArcReach polarity reversing model.

Wire Feeders/Guns (cont.)



74 MPa Plus
S-74 MPa Plus 951291001
D-74 MPa Plus 951292001
Heavy-duty industrial feeder with features for weld control and programs, plus push-pull aluminum capabilities. Handles a variety of wires up to 5/64 inch. Includes Bernard® BTB Gun 400 A with AccuLock™ consumables. Works synergically with MPa power sources. See literature M/3.0.

Note: Not compatible with XMT 650 ArcReach polarity reversing model.



20 Series
Basic 951779001
Digital 951780001
Simple and cost-effective industrial feeders. Digital model adds digital meter, remote voltage control and adjustable run-in control. Handles a variety of wires up to 5/64 inch. Includes Bernard® BTB Gun 400 A with AccuLock™ consumables. See literature M/11.0.

Note: Not compatible with XMT 650 ArcReach polarity reversing model.

Extension Cables
247831025 25 ft. (7.6 m)
247831050 50 ft. (15.2 m)
247831080 80 ft. (24.4 m)
Eleven conductors to support contactor control and remote voltage control on all Miller® electronic CV 14-pin power sources. Additional functions supported when using MPa power sources include synergic pulsed MIG, remote process select and side select capabilities.



Spoolmatic® 30A 130831
One-pound, air-cooled spool gun that extends the weld process range by adding a handy portable system for small wire MIG. Rated at 200 amps at 100% duty cycle. Includes 30-foot (9.1 m) cable assembly. Requires WC-24 Weld Control **137549** for use with 14-pin receptacles, order separately.

Note: Not compatible with XMT 650 ArcReach polarity reversing model.



WC-24 Weld Control
137549
Required to use Spoolmatic 30A spool gun.
Designed for use with Miller CV power sources with 14-pin receptacles and supplying 24 VAC.

Note: Not compatible with XMT 650 ArcReach polarity reversing model.

Remote Controls



Wireless Remote Foot Control 301580
For remote current and contactor control. Receiver plugs directly into the 14-pin receptacle of Miller machine. 90-foot (27.4 m) operating range.



Wireless Remote Hand Control 301582
For remote current and contactor control. Receiver plugs directly into the 14-pin receptacle of Miller machine. 300-foot (91.4 m) operating range.



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.



RHC-14 Hand Control
242211020
20-foot (6 m) cord
242211100
100-foot (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 82 mm). Includes 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. 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. Includes 26.5-foot (8 m) cord and 14-pin plug.

Extension Cables for Remote Controls and 24 VAC Wire Feeders
242208025 25 ft. (7.6 m)
242208050 50 ft. (15 m)
242208080 80 ft. (24.3 m)
14-pin plug to 14-pin socket. Not for use with XR-AlumaFeed® or 70 Series MPa feeder.

Welding Intelligence™



Insight Core™ 14-pin Module 301072
Easy-to-install module brings Insight Core capabilities to your existing fleet. This simplified, Internet-based weld data solution collects, transmits and presents actionable information to any Web-connected device. Insight Core can help you increase productivity, improve weld quality and manage costs.

Note: Not compatible with XMT 650 ArcReach polarity reversing model.

Ordering Information

Power Source and Options	Stock No.	Description	Qty.	Price
XMT® 650 CC/CV	**907843**	380/460 V, 50/60 Hz		
XMT® 650 CC/CV Stationary Package	**951000067**	Includes S-74 MPa Plus feeder with .035/.045 in. reversible V-groove drive rolls, Bernard® BTB Gun 400 A with AccuLock™ consumables, and industrial MIG 4/0 kit (see page 6 for contents)		
XMT® 650 CC/CV MIGRunner™ Package	**951000068**	Includes stationary package above plus running gear/cylinder rack		
XMT® 650 ArcReach®	**907823**	380/460 V, 50/60 Hz		
XMT® 650 ArcReach® PR	**907822**	380/460 V, 50/60 Hz, with polarity reversing		
XMT® 650 ArcReach® 4-Pack Rack	**907860**	Fused for 460 V, 60 Hz		
XMT® 650 ArcReach® PR 4-Pack Rack	**907852**	Fused for 460 V, 60 Hz, with polarity reversing		
ArcReach® Heater System		See page 5		
Accessories				
XMT 650 Rack	**293380**	Empty rack fused for 460 V capable of housing four XMT 650 models		
Running Gear Cylinder Rack	**300408**	Small footprint and easily maneuverable		
ArcReach® Stick/TIG Remote	**301325**	Point-of-use control for stick or TIG welding and gouging		
Industrial MIG 4/0 Kit	**300390**	See page 6 for contents		
Wire Feeders/Guns				
ArcReach® 16 MIG/FCAW/CAC-A Feeder	**301619** **301664** **951000065** **301663** **951000066**	Base feeder only With shop cart With shop cart, drive rolls and Bernard® BTB Gun 500 A with AccuLock™ consumables With field roller With field roller, drive rolls and Bernard® IronPro™ flux-cored gun with AccuLock™ consumables		
ArcReach® SuitCase® 12 Heavy Duty FCAW Feeder w/Tweco-style connectors	**301604** **951000096**	Feeder only. For 3/32 in. flux-cored wire With drive rolls and Bernard® IronPro™ flux-cored gun with AccuLock™ consumables		
ArcReach® SuitCase® 8 MIG/FCAW Feeder with Tweco-style Connectors	**951726001** **951728**	With drive rolls and Bernard BTB Gun 300 A with AccuLock™ consumables With drive rolls and Bernard Dura-Flux™ gun with Centerfire™ consumables		
ArcReach® SuitCase® 12 MIG/FCAW Feeder with Tweco-style Connectors	**951729001** **951731**	With drive rolls and Bernard BTB Gun 300 A with AccuLock™ consumables With drive rolls and Bernard Dura-Flux™ gun with Centerfire™ consumables		
SuitCase® 12RC MIG/FCAW Feeder with Tweco-style Connectors	**951580001**	With drive rolls and Bernard BTB Gun 300 A with AccuLock™ consumables *Not compatible with XMT 650 ArcReach polarity reversing model*		
XR-AlumaFeed® SuitCase® Aluminum MIG Feeder	**301567**	Feeder only. For high-volume, high-production aluminum MIG welding *Not compatible with XMT 650 ArcReach polarity reversing model*		
74 MPa Plus MIG/FCAW Feeder	**951291001** **951292001**	Single-wire model w/drive rolls and Bernard BTB Gun 400 A with AccuLock™ consumables Dual-wire model w/drive rolls and two Bernard BTB Gun 400 A with AccuLock™ consumables *Neither model compatible with XMT 650 ArcReach polarity reversing model*		
20 Series MIG/FCAW Feeder	**951779001** **951780001**	Basic model with drive rolls and Bernard BTB Gun 400 A with AccuLock™ consumables Digital model with drive rolls and Bernard BTB Gun 400 A with AccuLock™ consumables *Neither model compatible with XMT 650 ArcReach polarity reversing model*		
Extension Cables		See page 7		
Spoolmatic® 30A Spool Gun	**130831**	Requires WC-24 weld control **137549** for use with 14-pin receptacles		
Bernard® BTB Gun (GMAW)		See Bernard literature SP-BTB		
Bernard® IronPro™ (FCAW)	**293039**	15 ft. (4.6 m), AccuLock™ consumables, 5/64 and 3/32 in. tips, 12 in. 30° neck		
Bernard® Dura-Flux™ (FCAW)		See Bernard literature SP-DF		
Remote Controls		See page 7		
Welding Intelligence		See page 7		

Date: **Total Quoted Price:**

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The Power of Blue®

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