

Big Blue® 700X Duo Pro

Diesel Engine-Driven Welder 

Quick Specs



Heavy Industrial Applications

Pipe welding
Mechanical contractor
Construction
Repair

Processes

Stick (SMAW)
MIG (GMAW)*
Flux-cored (FCAW)*
RMD®**
Pulsed MIG (GMAW-P)**
DC TIG (GTAW)
Air carbon arc (CAC-A)
Single weld mode 3/8-inch (9.5 mm) carbons
Dual weld mode 1/4-inch (6.4 mm) carbons

Output Range

Single weld mode CC: 40–800 A, CV: 14–50 V
Dual weld mode CC: 20–400 A, CV: 14–50 V
Auxiliary Output Rated at 104°F (40°C)
3-phase 20,000 watts continuous
1-phase 12,000 watts continuous

*With wire feeder. **With ArcReach Smart Feeder.

The professional welder's choice.

Designed with the professional in mind, the Big Blue 700X Duo Pro is the best for arc performance, ease of use and reliability. Ideal for dual-operator applications on labor intensive jobsites, or jobsites with limited space.



Heavy-duty low-speed industrial diesel engine

is designed to operate over 10,000 hours before the first basic overhaul. Backed by worldwide support and service.

Double the amperage output.

Parallel switch combines both independent outputs to a single side. This provides a safe and easy way to run large electrodes, stud weld or carbon arc gouge.



**56.7°C
RATED**

Designed to excel in extreme temperatures. See page 2.



Parameter control at the wire feeder or pendant without needing a control cord. See pages 2 and 3.



Increased efficiency. More arcs and better fuel economy equal increased profits for your business. Estimated savings are 34 percent with a dual-operator unit versus two single-operator units.

Thermal overload protection prevents machine damage if duty cycle is exceeded or airflow is blocked.

Independent generators provide the flexibility, dependability and reliability you need to get the job done right. Power is available anytime the engine is running, even while welding! Generators provide 20,000 watts continuous power (3-phase) / 12,000 watts continuous power (1-phase).

Low OCV stick (VRD) reduces the open-circuit voltage to 30 volts when the welding power source is not in use. This feature is now built in for increased operator safety without compromising arc start performance.



Engine-driven welder is warranted for three years, parts and labor.
Engine is warranted separately by engine manufacturer.



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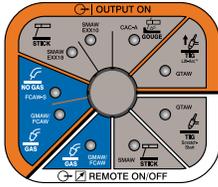
MillerWelds.com



Big Blue® 700X Duo Pro Features

Digital meters with SunVision™ technology enable welding parameters to be viewed with greater clarity than analog meters — at virtually any angle. Meters can be seen clearly even in direct sunlight.

Simple-to-set controls require no elaborate procedure — just select process and weld!



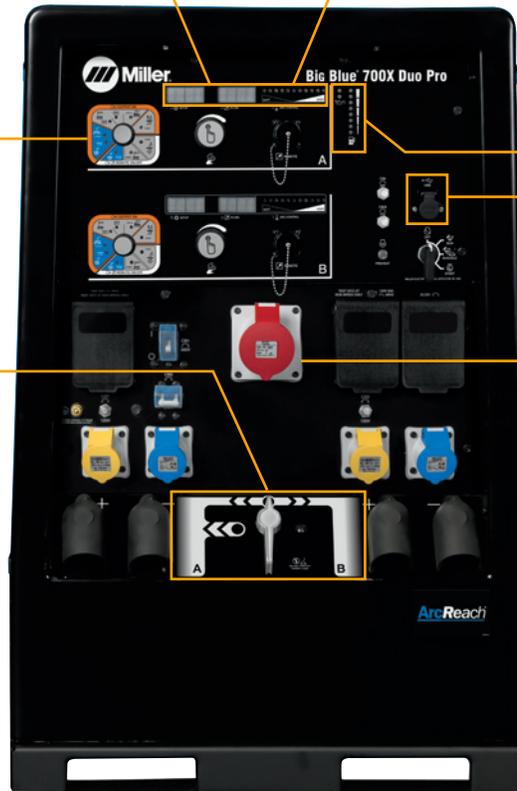
Standard 14-pin receptacle with Auto-Remote Sense™ for simple connection of remote controls and wire feeders.

Simple paralleling switch makes switching from a single operator to dual operators a breeze. Weld up to 400 amps per side when set up in dual-operator mode, or up to 800 amps in single-operator mode.

56.7°C RATED

Miller engine drives are tested to perform in high-temperature climates, even at the highest recorded temperature on earth — 56.7°C*. They are designed to excel in extreme heat by optimizing engine cooling, reducing harmful environmental effects.

*According to the World Meteorological Organization Global Weather & Climate Extremes Archive (<https://wmo.asu.edu/content/world-highest-temperature>)



Arc control is beneficial when welding with stick and solid wires for easier fine-tuning of tough-to-weld materials and out-of-position applications.

Fuel gauge and oil change indicator

Industrial USB port. Quickly upload the latest software and download machine log files to retrieve in-depth information such as diagnostics and machine statistics.

20,000 watts of pure auxiliary power. Plug in an extra Miller® inverter-based power source for a second welding arc!

HD powder coat with zinc-rich primer protects sheet metal from rust and corrosion.

Standard features include ArcReach®, digital preset weld meters, output contactor control, automatic idle, intake manifold heater and oil pan heater.

Big Blue® 700X Duo Pro Technologies

Dynamic DIG™ technology



Ultra-adaptive arc control. Unlike conventional DIG that provides a preset amount of short-clearing current, Miller-exclusive Dynamic DIG technology works on a time-based algorithm to optimize metal

deposition. Dynamic DIG provides independent control of the fluidity of the weld puddle (arc control) and the drive of the arc (DIG range). This delivers a tailorable and user-friendly arc to match the application, material, fit-up and welder technique.

ArcReach® technology

ArcReach® Parameter control at the wire feeder or pendant without needing a control cord.

An ArcReach system allows you to change weld settings from your ArcReach feeder or stick/TIG remote, saving a trip to the power supply. ArcReach technology uses the existing weld cable to communicate welding control information between the feeder or stick/TIG remote and the power source. This technology eliminates the need for control cords, and their associated problems and costs.

ArcReach-equipped power sources work with non-ArcReach accessories; however the ArcReach benefit is only realized with the complete ArcReach system. This includes an ArcReach-equipped machine and one or more of the following accessories:

- ArcReach SuitCase feeder
- ArcReach Stick/TIG Remote
- ArcReach Smart Feeder
- ArcReach Heater

See pages 6 and 7 for more information.

Big Blue® 700X Duo Pro ArcReach® System and Accessories

Big Blue 700X Duo Pro ArcReach system, engine drive (907762), ArcReach SuitCase® 12 feeder with Bernard® S-Gun™ (951730), ArcReach Stick/TIG Remote (301325), and ArcReach Smart Feeder with Bernard PipeWorx 300-15 MIG gun (951733).

ArcReach®

ArcReach SuitCase 8 and 12 feeders for MIG or flux-cored welding

- Remote voltage control
- Polarity indication
- Auto-Process Select™



ArcReach Smart Feeder for advanced wire processes

- RMD® and pulsed MIG processes
- Remote voltage control
- Store and recall weld settings

ArcReach Stick/TIG Remote for stick or TIG welding

- Remote amperage control
- Arc control for stick
- Polarity indication
- Auto-Process Select™

Big Blue® 700X Duo Pro Benefits

Easily update technology



With the industrial USB port, you can easily upload the latest software and download machine log files to retrieve in-depth information from your machine such as diagnostics and statistics.

Visit MillerWelds.com/support to download the latest software updates.

Multi-arc welding



Multiprocess welding has never been easier or more versatile. One dependable engine, two independent arcs with up to 400 amps each. Or plug in additional inverters for a true multiprocess work platform. For example, you can add two XMT® multiprocess machines to allow four

operators to weld with up to 200 amps each. Premium quality arcs allow operators to work independently with no arc interaction.

More arcs provide better fuel economy, improve efficiency and increase profits. You can save about 34 percent with a dual-operator unit versus two single-operator units.

Jobsite safety



Reduce the need to walk back to or climb into the truck bed to make process and parameter changes, or turn your machine on/off. ArcReach® technology provides

parameter control at the wire feeder or stick/TIG remote and optional wireless interface control provides full front panel control in the palm of your hand, so you can lower the risk of encountering potential jobsite hazards.

ArcReach Heater compatibility



Take charge of your field preheat and bakeout applications up to 600 degrees Fahrenheit (315°C). This system uses induction heating to generate heat in

workpieces, so welders can do their own preheating quickly and safely. A part of the ArcReach technology platform, the ArcReach Heater is an accessory for select ArcReach welding power sources.

Specifications (Subject to change without notice.)



Weld Mode/ Process	Output Mode	Weld Output Range	Weld Output Rated at 104°F (40°C)	Max. Open- Circuit Voltage	Auxiliary Power Output Rated at 104°F (40°C) ³	Dimensions	Weight
CC/DC (Stick/TIG)	Separate (dual outputs)	20–400 A (each side)	300 A at 28 VDC, 100% duty cycle ¹ (each side) 400 A at 36 VDC, 40% duty cycle ¹ (one side only)	85 VDC 35 VDC ²	3-phase: 20 kW continuous 1-phase: 12 kW continuous	H: 43 in. (1,092 mm) W: 28.5 in. (724 mm) D: 65.125 in. (1,654 mm) Add 7 in. (178 mm) to height for exhaust pipe	Net: 1,729 lb. (784 kg) Ship: 1,761 lb. (799 kg) Add 165 lb. (75 kg) when fuel tank is full
	Paralleled (combined)	40–800 A	500 A at 34 VDC, 100% duty cycle 700 A at 24 VDC, 60% duty cycle				
CV/DC (MIG/FCAW)	Separate (dual outputs)	14–50 V (each side)	300 A at 28 VDC, 100% duty cycle ¹ (each side) 400 A at 34 VDC, 40% duty cycle ¹ (one side only)	85 VDC 35 VDC ²	3-phase: 20 kW continuous 1-phase: 12 kW continuous	H: 43 in. (1,092 mm) W: 28.5 in. (724 mm) D: 65.125 in. (1,654 mm) Add 7 in. (178 mm) to height for exhaust pipe	Net: 1,729 lb. (784 kg) Ship: 1,761 lb. (799 kg) Add 165 lb. (75 kg) when fuel tank is full
	Paralleled (combined)	14–50 V	500 A at 34 VDC, 100% duty cycle 700 A at 24 VDC, 60% duty cycle				

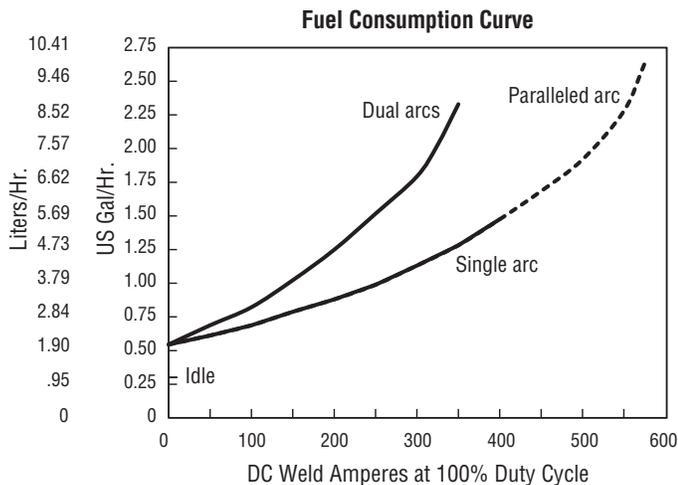
¹Meets NEMA and IEC ratings. ²Sense voltage for stick and Lift-Arc™ TIG. ³Will operate either 60 Hz or 50/60 Hz power tools, lights, etc.

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

Engine Specifications (Engines warranted separately by the engine manufacturer.)

Engine Brand	Features	HP	Type	Engine Speeds	Sound Levels at Rated Output, 23 ft. (7 m)	Capacities	Automatic Engine Shutdown
Deutz D2011L04i	EPA Tier 4i compliant	48.6	Direct-injected four-cylinder, air/oil-cooled industrial diesel	Idle: 1,350 rpm Weld: 1,800 rpm	Idle: 67.9 dB (93 Lwa) Weld: 74.7 dB (100 Lwa)	Fuel: 25 gal. (95 L) Oil: 9 qt. (8.5 L) Coolant: integrated oil	Low oil pressure, high coolant temperature, low fuel level

Performance Data

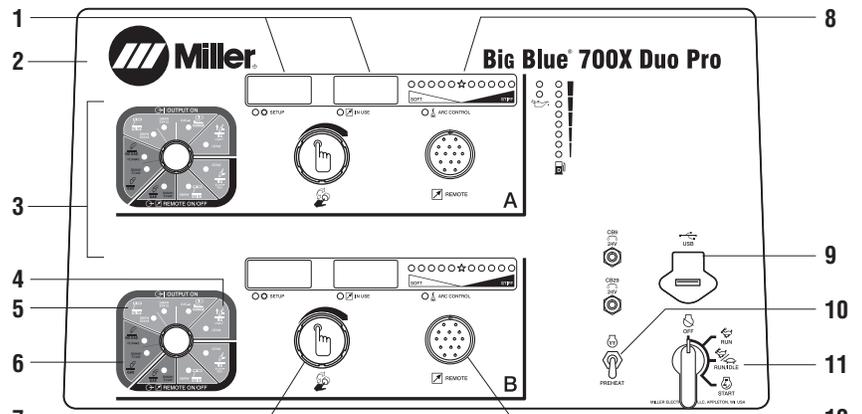


Simultaneous Welding and Power

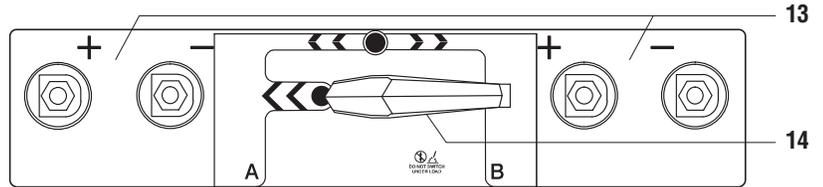
Weld Amperes	Total Aux. Power Available (Watts)	
	1-Phase	– or – 3-Phase
No Weld Output	12,000	20,000
200 A	11,500	11,000
300 A	6,000	6,500
400 A	1,000	1,000

Function Guide

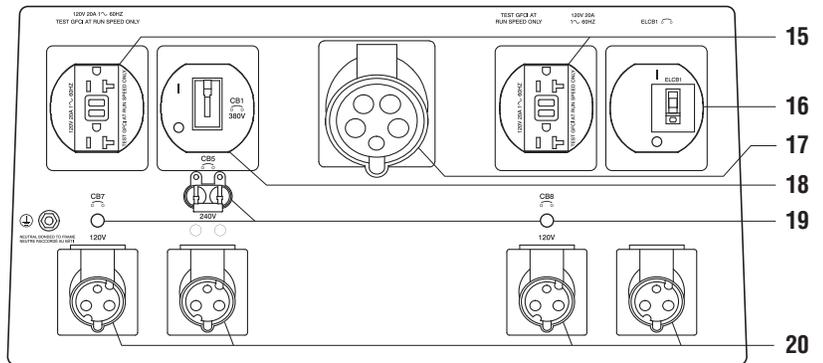
- Self-calibrating digital weld meters with fault code indication** display preset or actual weld parameters.
- Weatherproof Lexan® nameplate** is super durable and resists cracking and fading.
- Operator controls.** Independent controls for multi-arc welding. “A” controls are for single operator and “B” controls are for a second operator.
- Lift-Arc™ TIG with Auto-Stop™.** See descriptions below.
- Hot Start™** provides positive stick electrode starts making it easy to start all types of electrodes and it also works great for bead tie-ins.
- Great FCAW/MIG performance and arc starts** make the Big Blue® 700X Duo Pro arc the best in its class. Easy to run all wires from .023-inch solid wires to large-diameter 5/64-inch flux-cored wires.
- Pushbutton main control knob** used for adjusting amperage/voltage, adjusting arc control, and accessing the service menu.
- Adjustable arc control** adjusts DIG when process control is in stick modes and adjusts inductance when process control is in FCAW or MIG modes. The amount of DIG determines how much amperage (heat) varies with stick arc length. Inductance determines the “wetness” of the weld puddle.
- USB port** allows software updates from a USB drive. A summary file of recorded data from the unit will be saved to a USB drive that is inserted.
- Glow plugs** assist in cold weather starting.
- Engine control switch** is used to start engine and then select between auto idle and high speed lock.
- Standard 14-pin receptacle** for simple connection of remote controls and wire feeders. Includes **Auto Remote Sense™** which automatically switches from panel to remote amperage/voltage (A/V) control with remote connected. Eliminates confusion of a panel/remote switch.
- Weld output terminals**
- Separate/parallel switch.** Use switch to select single operator mode (A) or dual operator mode (A/B).



Control panel



Terminal panel

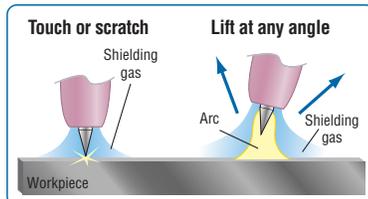


Receptacles and circuit breakers

- 20 A, 120 V receptacles with ground fault
- 240 V earth leakage circuit breaker
- 32 A, 400 V three-phase receptacle
Note: For matching plug, order 255421.
- 30 A, three-phase circuit breaker
- 120 and 240 V circuit breakers
- 16 A, 120/240 V receptacles
Note: For matching plug, order 255416 for 240 V.

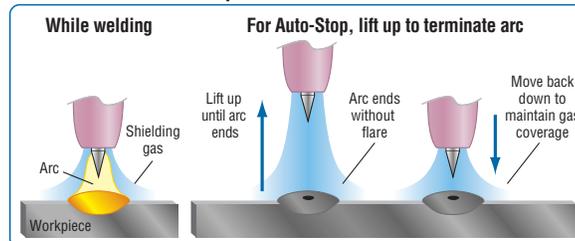
Lift-Arc™ TIG with Auto-Stop™

Arc Start with Lift-Arc™



- Reduces or eliminates sticking
- Reduces or eliminates electrode/work contamination
- Low open-circuit voltage

Arc End with Auto-Stop™



- Eliminates need for a remote control
- Maintains shielding gas coverage
- Eliminates tungsten and workpiece contamination
- Eliminates unwanted arc strikes outside the weld area

Genuine Miller® Accessories



International Plugs Field
255416 1-phase, 240 V, 16 A plug
255421 3-phase, 400 V, 32 A plug

Engine Filter Kit 246988 Field
 For International models. Includes all filters required for proper engine maintenance. Oil filter, primary and secondary fuel filter, and primary air filter.



FA-1D Lockable Flame Arrestor Fuel Cap 043947 Field
 Fuel cap can be padlocked to prevent vandalism. A built-in flame arrestor prevents flames or sparks from entering the fuel tank.



Spark Arrestor Kit 195012 Field
 Prevents particles from leaving the muffler that could potentially start a fire.



Vandalism Lockout Kit 399802 Field
 Lockable hinged steel panels cover and protect name plate gauges and ignition switch (padlock included).



Protective Cover 194683 Field
 Blue water-resistant canvas cover resists stains and mildew, and protects the finish of your welder.

Note: Protective cover cannot be used with cable holder.

MIG/Flux-cored Welding



ArcReach® 16
301619 Base feeder (not shown)
301664 With shop cart
951000065 With shop cart and Bernard® BTB Gun 400 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® 8
951726001 With Bernard® BTB Gun 300 A
951727 With Bernard® S-Gun™
951728 With Bernard® Dura-Flux™ gun
ArcReach® SuitCase® 12
951729001 With Bernard® BTB Gun 300 A
951730 With Bernard® S-Gun™
951731 With Bernard® Dura-Flux™ gun
ArcReach® SuitCase® 12 Heavy Duty
301604 Feeder only — 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® Smart Feeder 951733
 Includes drive rolls and Bernard® PipeWorx 300-15 MIG gun. For MIG, FCAW, and advanced RMD® and pulse processes. See literature M/6.55.



SuitCase® 12RC Wire Feeder 951580001
 Lightweight and flexible enough to run wires up to .062-inch diameter. Includes remote voltage control, drive roll kit and Bernard® BTB Gun 300 A. See literature M/6.5.

MIG (GMAW)/Flux-cored (FCAW) Guns
 See Bernard® literature SP-BTB for BTB air-cooled MIG guns, and SP-DF for Dura-Flux™ self-shielded flux-cored guns.

Stick (SMAW) Welding

Weld Leads
2/O Stick Cable Set, 50 ft. (15 m) 173851
 Consists of 50-foot (15 m) 2/O electrode cable with holder, and 50-foot (15 m) work cable with clamp. 350 A, 100% duty cycle.

2/O Stick Cable Set, 100/50 ft. (30.5/15 m) 043952
 Consists of 100-foot (30.5 m) 2/O electrode cable with holder, and 50-foot (15 m) work cable with clamp. 300 A, 100% duty cycle.

TIG (GTAW) Welding



Dynasty® 210 Series
 For portable AC/DC TIG. See literature AD/4.81.

Plasma Cutting



Spectrum 375 X-TREME and 625 X-TREME shown.

Spectrum® 375 X-TREME™ 907529
 See literature PC/9.2.

Spectrum® 625 X-TREME™ 907579
 See literature PC/9.6.

Spectrum® 875 907583
 See literature PC/9.8.

The Spectrum 375 X-TREME and 625 X-TREME come complete with protective X-CASE™ (not shown).

Genuine Miller® Accessories (Continued)

Stick/TIG Remote Controls



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.



Wireless Remote Hand Control 301582

For remote current, voltage and contactor control.

Receiver plugs directly into the 14-pin receptacle of Miller machine. 300-foot (91.4 m) operating range.

Wireless antenna kit **300749** is recommended.

Wireless Antenna Kit 300749

Optional when improved reception is desired.



RHC-14 Hand Control 242211020

Miniature hand control for remote current, voltage and contactor control. Dimensions: 4 x 4 x 3.25 inches (102 x 102 x 82 mm). Includes 20-foot (6 m) cord and 14-pin plug.

Extension Cables for 14-Pin Remote Controls or 24 VAC Wire Feeders

242208025 25 ft. (7.6 m)

242208050 50 ft. (15.2 m)

242208080 80 ft. (24.4 m)

ArcReach® Heater System



ArcReach Heater Only

301390
CSA model

301591
CE model

ArcReach Heater Packages

951848 ArcReach Heater CSA model and extension cable

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

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) at the same time. Requires ArcReach Heater extension cable to operate. See literature IN/16.0.

Note: Weld cables are not included.

Trailers and Hitches (Note: Trailers are shipped unassembled.)



HWY-225 Trailer 301338

A 2,700-pound (1,225 kg) capacity highway trailer with welded steel tubing frame, heavy-duty axle with roller bearing hubs and leaf-spring suspension. Includes jack stand, fenders, lights, and dual hitch with 2-inch (50 mm) ball hitch and 3-inch (76 mm) lunette eye.

Cable Tree 043826

Provides an area to conveniently wrap weld cables and extension cords.



Dual Hitch 301441

2-inch (50 mm) ball hitch and 3-inch (76 mm) lunette eye in one reversible assembly.

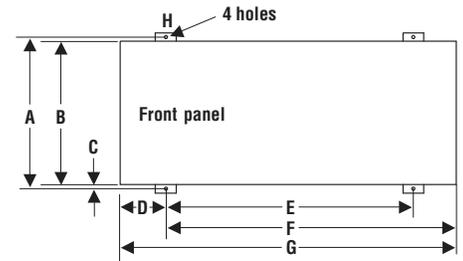


2-In-1 Document/Fire Extinguisher Holder 301236

For use with HWY-225. Stores documents and holds a 5-pound fire extinguisher.

Note: Holder shown mounted on trailer. Fire extinguisher not included.

Mounting Specifications



A. 29.812 in. (757 mm)

B. 27.5 in. (699 mm)

C. 1 in. (25 mm)

D. 9.625 in. (244 mm)*

E. 46.5 in. (1,181 mm)*

F. 56 in. (1,422 mm)*

G. 65.125 in. (1,654 mm)

H. .562 in. (14 mm) dia.

Height: 43 in. (1,092 mm) to top of cover
Add 7 in. (178 mm) to height for exhaust pipe
(Exhaust measurement subject to change.)

Width:

28.5 in. (724 mm) (mounting brackets turned in)

30.75 in. (781 mm) (mounting brackets turned out)

Depth: 65.125 in. (1,654 mm)

*With mounting brackets in center position.
Dimensions vary with location of mounting brackets.

Trailer Specifications (Subject to change without notice.)

Model	Gross Axle Weight Rating	Gross Vehicle Weight Rating	Net Payload	Height of Bed	Road Clearance	Track (Center to center of tires)	Standard Tires (Standard rating or P-size rating)	Dimensions	Net Weight
HWY-225	3,500 lb. (1,588 kg)	2,999 lb. (1,360 kg)	2,700 lb. (1,225 kg)	19 in. (483 mm)	7.5 in. (191 mm)	50 in. (1,270 mm)	ST175/80R-13 Load Range D	Length: 105.5 in. (2,680 mm) Width: 56.5 in. (1,435 mm)*	280 lb. (127 kg)

*Width at outside of fenders.

Ordering Information

Equipment and Options	Stock No.	Description	Qty.	Price
Big Blue® 700X Duo Pro (NOT available for sale in the USA)	907762	International model with EPA Tier 4i compliant engine, 400-volt 3-phase power, ArcReach®, parallel switch, intake manifold heater and 120-volt oil pan heater		
Field Accessories				
International Plugs	255416 255421	1-phase, 240 V, 16 A 3-phase, 400 V, 32 A		
Engine Filter Kit	246988	Includes oil filter, primary and secondary fuel filter, and primary air filter		
FA-1D Lockable Flame Arrestor Fuel Cap	043947	Padlock NOT included		
Spark Arrestor Kit	195012			
Vandalism Lockout Kit	399802	Lockable front control panel		
Protective Cover	194683	Canvas cover — will not fit over machine with cable holder attached		
MIG/Flux-cored Welding				
ArcReach® 16	301619 301664 951000065 301663 951000066	Base feeder With shop cart With shop cart and Bernard® BTB Gun 400 A With Bernard® field roller With field roller and Bernard® IronPro™ flux-cored gun		
ArcReach® SuitCase® 8	951726001 951727 951728	With Bernard® BTB Gun 300 A. See literature M/6.55 With Bernard® S-Gun™ With Bernard® Dura-Flux™ gun		
ArcReach® SuitCase® 12	951729001 951730 951731	With Bernard® BTB Gun 300 A. See literature M/6.55 With Bernard® S-Gun™ With Bernard® Dura-Flux™ gun		
ArcReach® SuitCase® 12 Heavy Duty	301604	Feeder only — for 3/32 in. cored wire. See literature M/6.55		
ArcReach® Smart Feeder	951733	MIG/FCAW/RMD®/pulse feeder with Bernard® PipeWorx 300-15 MIG gun. Tweco®-style connectors. See literature M/6.55		
SuitCase® 12RC	951580	With Bernard® BTB Gun 300 A. See literature M/6.5		
MIG (GMAW) and Flux-cored (FCAW) Guns		See Bernard® literature SP-BTB and SP-DF		
Stick Welding Leads	173851 043952	2/0, 350 A, 100% duty cycle, 50 ft. (15 m) stinger, 50 ft. (15 m) work clamp 2/0, 300 A, 100% duty cycle, 100 ft. (30.5 m) stinger, 50 ft. (15 m) work clamp		
TIG Welding		See page 6		
Plasma Cutting		See page 7		
Stick/TIG Remote Controls				
ArcReach® Stick/TIG Remote	301325	For use with ArcReach models only		
Wireless Remote Hand Control	301582	Wireless antenna kit 300749 recommended		
RHC-14 Hand Control	242211020			
Extension Cables		See page 7		
ArcReach® Heater System				
		See page 7		
Trailers and Hitches				
HWY-225 Trailer	301338	Trailer with lights, fenders and dual hitch. For highway use		
Cable Tree	043826	Trailer-mounted cable holder for HWY-225		
Dual Hitch	301441	Combination 2-inch (50 mm) ball hitch and 3-inch (76 mm) lunette eye in one reversible assembly for HWY-225		
2-In-1 Document/Fire Extinguisher Holder	301236	Stores documents and holds a 5-pound fire extinguisher for HWY-225		

Date:

Total Quoted Price:

Distributed by:

