Dynasty 400 and 800 TIG/Stick Welding Power Source





Quick **Specs**



Industrial Applications

Precision fabrication Heavy fabrication Pipe and tube fabrication Aerospace Aluminum ship repair

Anodized aluminum fabrication

Processes

TIG (GTAW) Pulsed TIG (GTAW-P) Stick (SMAW) Air carbon arc (CAC-A) **400:** 1/4 in. maximum

800: 3/8 in. maximum

Input Power 208–600 V, 3-phase or 1-phase power

Amperage Range 400: 3-400 A

800: 5-800 A

Rated Output 400: 300 A at 32 V, 60% duty cycle

800: 600 A at 44 V, 60% duty cycle

WIRELESS

COMPATIBLE

Wireless Complete

Dynasty 400

Net Weight 400: 126 lb. (57 kg)

800: 201 lb. (91 kg)

Reimagined for Your Pursuit of Perfection.

Experience unfailing precision arc performance paired with a state-of-the-art. user-friendly interface that puts advanced capabilities at your fingertips. Dynasty TIG power sources help minimize error and achieve high-precision welds every time, making the best welders even better.



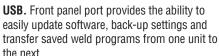
Easy-to-understand interface with 7-inch LCD display.

- Ensures proper machine setup and parameter selection
- and dynamic images enhance the parameter selection process



Dynasty 400 machine only





the next.

Visit MillerWelds.com/TIGSoftware for the latest software updates and expansions.

Cooler Power Supply (CPS) is an integrated 120-volt dedicated-use receptacle for the Coolmate™ 3.5.

Cooler-On-Demand[™] feature operates the auxiliary cooling system only when needed, reducing noise, energy use, and airborne contaminants pulled through the cooler.



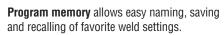
Activate QuietPulse by selecting sine or triangular waveshape to reduce audible noise.

Blue Lightning™ provides more consistent high-frequency (HF) arc starts and greater reliability compared to traditional arc starters.

Lift-Arc[™] provides AC or DC arc initiation without the use of high frequency.



Allows for any input voltage hookup (208-600 V) with no manual linking, providing convenience in any job setting. Ideal solution for dirty or unreliable power.



- Deliver more productivity by eliminating the need to manually set the parameters
- · Deliver consistent quality by welders of all skills

Pro-Set™ eliminates the guesswork when setting weld parameters.

Locks and limits. Provides control of weld parameter ranges minimizing deviation from the welding procedure specification (WPS).





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











Weld Process Features

AC TIG

Balance control provides adjustable oxide removal — essential for creating the highest quality aluminum welds. These models provide extended ranges.

Frequency controls the width of the arc cone and can improve directional control of the arc.

AC Waveforms



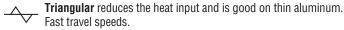
Advanced square provides a fast freezing puddle, deep penetration and fast travel speeds.



Soft square for a soft buttery arc with maximum puddle control and good wetting action.



Sine for customers that like a traditional arc. Quiet with good wetting.



Independent amplitude/amperage control allows EP and EN amperages to be set independently to precisely control heat input to the work and electrode.

DC TIG

Exceptionally smooth and precise arc for welding exotic materials.

Pulse. Pulsing can increase puddle agitation, arc stability and travel speeds while reducing heat input and distortion. These models provide extended ranges.

Pulse Waveforms

Square provides a fast freezing puddle for ultimate arc control.

 $\int \int$

Sine produces a reduced audible sound and provides a more fluid puddle that is good for overlaying applications.



Triangular provides a quick-forming puddle while further reducing heat for thin materials.

QuietPulse.™ Activate QuietPulse by selecting sine or triangular waveshape to reduce audible noise.

AC/DC Stick

DIG control allows the arc characteristics to be changed for specific applications and electrodes. Lower the DIG setting for smooth running electrodes like E7018 and increase the DIG setting for stiffer, more penetrating electrodes like E6010.

Hot Start™ adaptive control provides positive arc starts without sticking.

AC frequency control adds stability for smoother welds when AC stick welding.

Stick-Stuck detects if the electrode is stuck to the part and turns the welding output off to safely and easily remove the electrode. Menu selectable.



Specifications (Subject to change without notice.)







| Model | Input Power | Welding Amperage Range | Rated Output | Amps 208 V | Input at 230 V | Rated L 400 V | .oad Ou 460 V | tput, 50 600 V | /60 Hz KVA | KW | Max. Open-Circuit Voltage | Dimensions | Net Weight |
|----------------|----------------|------------------------------|-------------------------------------|----------------------------------|-------------------|------------------|------------------|-------------------|---------------|------|---------------------------------|--|--------------------------|
| Dynasty 400 | 3-phase | 3-400 A | 250 A at 30 V, 100% duty cycle | 28 | 26 | 14 | 13 | 10 | 10.3 | 9.8 | 75 VDC (10-15 VDC*) | W: 13.875 in. (352 mm) (5 | 126 lb. (57 kg) |
| | | | 300 A at 32 V, 60% duty cycle | 36 | 33 | 19 | 16 | 12 | 13.1 | 12.5 | | D: 24.313 in. (618 mm) with TIGRunner® | with |
| | 1-phase | 3-400 A | 200 A at 27.2 V, 100% duty cycle | 39 | 35 | 19 | 17 | 12 | 8.2 | 7.5 | | H: 43.125 in. (1,095 mm) W: 23.125 in. (587 mm) D: 41.625 in. (1,057 mm) | TIGRunner® 246 lb. |
| | | | 250 A at 29 V, 60% duty cycle | 52 | 47 | 26 | 22 | 16 | 10.9 | 9.9 | | | (112 kg) |
| Dynasty 800 | 3-phase | 5-800 A | 500 A at 40 V, 100% duty cycle | 73 | 66 | 37 | 32 | 24 | 26 | 25 | 75 VDC (10-15 VDC*) | H: 34.25 in. (870 mm) W: 13.875 in. (352 mm) | 201 lb. (91 kg) |
| | | | 600 A at 44 V, 60% duty cycle | 96 | 86 | 48 | 42 | 32 | 35 | 33 | | D: 24.313 in. (618 mm) with TIGRunner® | with |
| | 1-phase | 5-800 A | 400 A at 34 V, 100% duty cycle | 98 | 88 | 48 | 41 | 31 | 20 | 19 | | H: 52.625 in. (1,337 mm) W: 23.125 in. (587 mm) | TIGRunner® 320 lb. |
| | | | | 500 A at 40 V, 60% duty cycle | 136 | 122 | 66 | 56 | 42 | 28 | 26 | | D: 41.625 in. (1,057 mm) |

Certified by Canadian Standards Association to both the Canadian and U.S. Standards. CE MI CE models conform to the applicable parts of the IEC 60974 series of standards.

Performance Data

| Model | Input Power | TIG (GTAW) Duty Cycle | Stick (SMAW) Duty Cycle | AC TIG Material Thickness Range | DC TIG Material Thickness Range | Stick Electrode Maximum Diameter | Carbon Arc Gouging (CAC-A) Maximum | Generator Requirement |
|----------------|----------------|---|---|------------------------------------|------------------------------------|--|---------------------------------------|--------------------------|
| Dynasty 400 | 3-phase | 400 A, 20% 300 A, 60% 250 A, 100% | 400 A, 20% 300 A, 60% 250 A, 100% | .015-5/8 in. (0.38-15.9 mm) | .012-5/8 in. (0.3-15.9 mm) | 6010: 1/4 in. (6.4 mm) 7018: 1/4 in. (6.4 mm) 7024: 1/4 in. (6.4 mm) | 1/4 in. (6.4 mm) | 20 kVA |
| | 1-phase | 300 A, 20% 250 A, 60% 200 A, 100% | 300 A, 20% 250 A, 60% 200 A, 100% | | | | | |
| Dynasty 800 | 3-phase | 800 A, 20% 600 A, 60% 500 A, 100% | 700 A, 20% 600 A, 60% 500 A, 100% | .020-1 in. (0.5-25.4 mm) | .020-1 in. (0.5-25.4 mm) | 6010: 1/4 in. (6.4 mm) 7018: 1/4 in. (6.4 mm) 7024: 1/4 in. (6.4 mm) | 3/8 in. (9.5 mm) | 50 kVA |
| | 1-phase | 500 A, 60% 400 A, 100% | 500 A, 60% 400 A, 100% | | | | | |



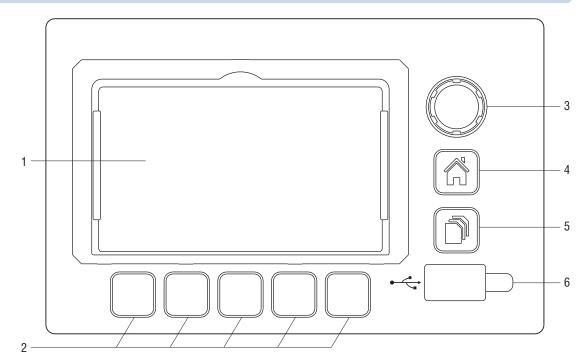
^{*}Sense voltage for low OCV stick and Lift-Arc™ TIG.

Dynasty® 400 and 800 Control Panel

- 1. Color LCD Display
- 2. Soft Keys

(Multiple functions depending on screen displayed.)

- 3. Control Knob (Adjusts amperage or parameter values depending on mode.)
- 4. Home Button
- 5. Program Button
- 6. USB Port



Amperage

TIG AC 400: 3-400 A** 800: 5-800 A** 1IG DC 400: 3-400 A** 800: 5-800 A** 400: 3-400 A 800: 5-800 A**

Process AC TIG HF, DC TIG HF,

AC TIG Lift-Arc™, DC TIG Lift-Arc™,

AC Stick, DC Stick, Carbon Arc Gouge,

Hotwire

Tungsten (inch) .020, .040, 1/16, 3/32, 1/8, 5/32, 3/16 in., General

(.05, 1.0, 1.6, 2.4, 3.2, 4.0, 4.8 mm)

Trigger Remote Standard: Foot, Finger, Pushbutton

Sequencer: Pushbutton Hold (2T), 3T 4T, 4TE,

4TL, 4TM

Pulse

Pulses per Second* DC: 0.1-5,000 pps

AC: 0.1-5,000 pps

Peak Time* 5–95% Background Amps* 5–95%

DC Pulse Waveshape: Square, Sine, Triangular

AC Waveshape

Balance* Ball: 30–99% EN Frequency* 20–400 Hz

Waveshape Advanced Square, Soft Square, Sine, Triangular Independent EN Amperage: **400**: 3–400 A** **800**: 5–800 A**

EP Amperage: **400**: 3–400 A** **800**: 5–800 A** EN Waveshape: Advanced Square, Soft Square,

Sine, Triangular

EP Waveshape: Advanced Square, Soft Square,

Sine, Triangular

Commutation Low, High

Sequencer Control

Initial Amps AC
Initial Amps DC
Initial Time

400: 3-400 A**
400: 5-800 A**
400: 3-400 A**
400: 5-800 A**

 Initial Slope
 0.0-25.0 seconds

 Initial Slope
 0.0-50.0 seconds

 Weld Time
 0.0-999 seconds

 Final Slope
 0.0-50.0 seconds

Final Amps AC **400**: 3–400 A** **800**: 5–800 A** Final Amps DC **400**: 3–400 A** **800**: 5–800 A**

Final Time 0.0-25.0 seconds

Preflow 0.0-25.0 seconds

Postflow Auto/Off-50 seconds

DIG* Off-100%

Hot Start™ On, Off

Stick-Stuck On, Off

OCV Normal, Low

Programs 1–99 (user defined program names)

Locks and Limits Individual Parameters

Languages English, Spanish, French, German, Italian,

Dutch, Swedish, Polish

^{*}Pro-Set parameter selectable. **Amperage range is tungsten size dependent.



Dynasty® 400 and 800 Models/Packages

Machines and Preconfigured Water-Cooled Packages

Order machine only or use a single stock number to order a complete preconfigured system.





907858001 and 907859001 packages shown.





Machine Only

Dynasty 400 907858 Dynasty 400, CE 907858002

Dynasty 400 comes with:

- 8 ft. power cord (no plug)
- Two 50 mm Dinse-style connectors

Dynasty 800 Dynasty 800, CE

907859 907859002

Dynasty 800 comes with:

- Two thread-lock connectors
- · One thread-lock water-cooled connector

TIGRunner® Package (Machine/Cart/Cooler)

Dynasty 400 907858001 Dynasty 400, CE 907858003

Dynasty 400 TIGRunner comes with:

- 8 ft. power cord (no plug)
- Coolmate™ 3.5 (quick connect model on CE TIGRunner)
- Runner[™] cart

Dynasty 800 907859001 Dynasty 800, CE 907859003

Dynasty 800 TIGRunner comes with:

- Two thread-lock connectors
- One thread-lock water-cooled connector
- Coolmate™ 3.5 (quick connect model on CE TIGRunner)
- Runner[™] cart

Complete Package (Machine/Cart/Cooler/Torch Kit/Remote)

951000002

Complete package includes TIGRunner at left, plus:

- Coolant (4 one-gallon bottles)
- . W-375 torch kit (see page 6 for contents)

Dynasty 400 with Wireless Foot Control

Wireless foot control

Dynasty 800 with Wireless Foot Control 951000008

Complete package includes TIGRunner at left, plus:

- Coolant (4 one-gallon bottles)
- W-400 (WP-18SC) torch kit (see page 6 for contents)
- · Wireless foot control

Build a Water-Cooled Package

Select desired stock number for each step.



907858001 Dynasty 400 TIGRunner® shown with four bottles of 043810 Low-Conductivity Coolant.





301580 remote shown.



301268 kit shown.

Step 1 • Select Dynasty TIGRunner® and Coolant

Low-Conductivity Coolant (must be ordered in quantities of four)

Step 2 • Select Remote Control

Wireless Foot 301580

RFCS-14 HD Foot 301589
RCC-14 E/W Fingertip 151086
RCCS-14 N/S Fingertip 043688
RMS-14 Pushbutton 187208
RMLS-14 Momentary/Maintained 129337
RHC-14 Hand 242211020

301582

See page 7 for remote descriptions.

Wireless Hand

Step 3 • Select Torch Kit

W-375 Kit 301268 (recommended for 400 model)
W-400 (WP-18SC) Kit recommended for 800 model)
See page 6 for kit contents.



Water-Cooled Torch Kits



W-375 Torch Kit 301268

(Standard torch kit included in Dynasty® 400 Complete package)

- Weldcraft™ W-375 25-foot (7.6 m) TIG torch with Dinse-style connector
- Torch cable cover
- Work clamp with 15-foot (4.6 m) 1/0 cable and Dinse-style connector
- Flowmeter regulator
- Gas hose (regulator to machine)
- AK4GL torch accessory kit includes short back cap, nozzles, gas lenses, collets and 2% ceriated tungsten electrodes (1/16, 3/32 and 1/8 inch)



W-400 (WP-18SC) Torch Kit 300186

(Standard torch kit included in Dynasty® 800 Complete package)

- Weldcraft[™] W-400 (WP-18SC) 25-foot (7.6 m) TIG torch with thread-lock connector
- Torch cable cover
- Work clamp with 12-foot (3.7 m) 4/0 cable with thread-lock connector
- Flowmeter regulator
- Gas hose (regulator to machine)
- AK18C torch accessory kit includes short back cap, nozzles, collets, collet bodies and 2% ceriated tungsten electrodes (3/32, 1/8 and 5/32 inch)

Genuine Miller® Accessories



Water-Cooled TIG Torch Connector 195377 For Dynasty® and Maxstar® 400. 50 mm Dinse-style with water return line. For use with all Weldcraft™ water-cooled torches.



Water-Cooled TIG Torch Connector 225028 For Dynasty 800. 50 mm thread-lock with water return line. For use with all Weldcraft™ water-cooled torches.



Weldcraft Gas Hose Quick Connect QRG Sold individually. Allows for quick connection and removal of torch shielding gas hoses.



Weldcraft™ Water Hose Quick Connect QRW Sold individually. Allows for quick connection and removal of torch coolant hoses.



Runner™ Cart 300244

Designed to accommodate Dynasty 400/800 or Maxstar 400 power sources and a Coolmate™ 3.5 Cooler. Cart features single cylinder rack, foot pedal holder, three cable/torch

holders, and two TIG electrode filler holders.



Coolmate™ 3.5

301788 120 V, 50/60 Hz, **CE 301789** 120 V, 50/60 Hz, **CE** with quick connect Industrial 3.5-gallon cooler for use with watercooled torches rated up to 600 amps. Designed to integrate with the Dynasty 400/800 and

Maxstar 400 power sources.



Low-Conductivity TIG Coolant 043810

Must be ordered in quantities of four. One-gallon recyclable plastic bottle. Miller coolants contains a base of ethylene

glycol and deionized water to protect against freezing to -37° Fahrenheit (-38°C) or boiling to 227° Fahrenheit (108°C).

Contractor Kit 301549

All-in-one TIG/stick welding kit comes with a Weldcraft™ A-200 TIG torch, RFCS-14 HD foot control, 200-amp stick electrode holder and 300-amp work clamp with 15-foot (4.6 m) cables, flow gauge regulator with 12-foot (3.7 m) gas hose, gas hose coupler, AK2C torch accessory kit and TIG torch connector.

Automation Interface Connection Kit 278161 Field

Provides control of power source welding parameters through a 28-pin receptacle. The 28-pin receptacle replaces the standard 14-pin receptacle and requires a PLC controller to operate the power source. Ideal for automated equipment integration.

Weld Current Sensor 300179 Field

Detects when work clamp is not connected and prevents expensive damage to disconnect devices and input power cord and wiring.



Genuine Miller® Accessories (Continued)

Remote Controls and Switches



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.



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.



RCC-14 Remote Contactor and Current Control 151086

East/west rotary-motion fingertip control attaches to TIG torch using two hook-and-loop fasteners. Great for production or contractors that need quick ramp-up. 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.



RMS-14 On/Off Control 187208

Momentary-contact switch for contactor control. Rubber-covered pushbutton dome switch ideal for repetitive on-off applications. Includes 26.5-foot (8 m) cord and 14-pin plug.



RMLS-14 Switch 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.



RHC-14 Hand Control 242211020

Miniature hand control for remote current and contactor control. Dimensions: 4 x 4 x 3.25 inches (102 x 102 x 83 mm).

Includes 20-foot (6 m) cord and 14-pin plug.



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.

Extension Cables for 14-Pin Remote Controls 242208025 25 ft. (7.6 m) 242208050 50 ft. (15.2 m) 242208080 80 ft. (24.4 m)

TIG Gloves



Performance TIG Gloves

263346 Small **263347** Medium **263348** Large

263349 X-Large

Completely unlined, goat grain leather with triple-padded palm.



Performance TIG/Multitask

Gloves

263352 Small **263353** Medium

263354 Large

263355 X-Large

Goat grain leather with dual-

padded palm and wool back.



Cut-Resistant TIG Gloves

290401 Small **290402** Medium **290403** Large

290404 X-Large 290411 2X-Large

Protects against cuts and abrasions with an ANSI A5 cut rating, level 4 puncture and abrasion ratings, and level 3 heat rating.

Tungsten

| Tungsten | Amp Range | 2% Ceriated (AC/DC) | 2% Lanthanated (AC/DC) |
|-------------------|-----------|---------------------|------------------------|
| 1/16 in. (1.6 mm) | 70-150 A | WC116X7 | WL2116X7 |
| 3/32 in. (2.4 mm) | 140-250 A | WC332X7 | WL2332X7 |
| 1/8 in. (3.2 mm) | 225-400 A | WC018X7 | WL2018X7 |
| 5/32 in. (4.0 mm) | 300-500 A | WC532X7 | WL2532X7 |



Ordering Information

| Equipment and Options | Stock No. | Description | Qty. | Price |
|--|------------------------|--|------|-------|
| Dynasty® 400 | 907858 907858002 | Auto-Line™ 208-600 V, 50/60 Hz. 8 ft. power cord Auto-Line™ 380-600 V, 50/60 Hz, CE . 8 ft. power cord | | |
| Dynasty® 400 TIGRunner® | 907858001 907858003 | Auto-Line™ 208-600 V, 50/60 Hz. 8 ft. power cord. <i>Requires coolant</i> Auto-Line™ 380-600 V, 50/60 Hz, CE . 8 ft. power cord. <i>Requires coolant</i> | | |
| Dynasty® 400 Complete w/Wireless Foot | 951000002 | Auto-Line™ 208-600 V, 50/60 Hz. 8 ft. power cord | | |
| Dynasty® 800 | 907859 907859002 | Auto-Line™ 208-600 V, 50/60 Hz Auto-Line™ 380-600 V, 50/60 Hz, CE | | |
| Dynasty® 800 TIGRunner® | 907859001 907859003 | Auto-Line™ 208-600 V, 50/60 Hz. <i>Requires coolant</i> Auto-Line™ 380-600 V, 50/60 Hz, CE . <i>Requires coolant</i> | | |
| Dynasty® 800 Complete w/Wireless Foot | 951000008 | Auto-Line™ 208-600 V, 50/60 Hz | | |
| TIG Torches, Kits and Connectors | | | | |
| Water-Cooled Torch Kits (see page 6 for contents) | 301268 300186 | W-375 (standard torch kit included in Dynasty 400 Complete package) W-400 (WP-18SC) (standard torch kit included in Dynasty 800 Complete package) | | |
| Water-Cooled TIG Torch Connectors | 195377 225028 | Connects Weldcraft™ water-cooled torches to Dinse-style connector Connects Weldcraft™ water-cooled torches to Dynasty 800 (thread-lock connector included with 800 models) | | |
| Weldcraft™ A-200 (WP-26) TIG Torch | WP-26-25-R | For Dynasty 400 only. 25 ft. (7.6 m) cable. Requires 195379 connector | | |
| Weldcraft™ Quick Connects (sold individually) | QRG QRW | For gas hoses For water hoses | | |
| Tungsten | | See page 7 | | |
| Accessories | | | | |
| Runner™ Cart | 300244 | See page 6 | | |
| Coolmate™ 3.5 | 301788 301789 | 120 V, 50/60 Hz, CE . <i>Requires coolant</i> 120 V, 50/60 Hz, CE with quick connect. <i>Requires coolant</i> | | |
| Cooler Adapter | 301791 | Used to connect legacy Coolmate 3.5 to power source | | |
| TIG Coolant (must be ordered in quantities of four) | 043810 | 1-gallon plastic bottle. Protects against freezing to -37° Fahrenheit (-38°C) or boiling to 227° Fahrenheit (108°C) | | |
| Contractor Kit | 301549 | See page 6 for contents | | |
| Automation Interface Kit | 278161 | Field installation required. Provides 28-pin automation connections | | |
| Weld Current Sensor | 300179 | Field installation required. Detects when work clamp is not connected | | |
| Dinse-Style Connector 50 mm (1 male) | 042418 | Used to connect weld cable to Dinse terminal machine | | |
| Thread-Lock Connectors (2 male) | 225029 | Used to connect weld cable to Dynasty 800 | | |
| Dinse-Style Connector 50 mm (1 male, 1 female) | 042419 | Used to extend weld cables | | |
| Dinse/Tweco® Adapter | 042465 | Male Dinse to female Tweco | | |
| Dinse/Cam-Lok Adapter | 042466 | Male Dinse to female Cam-Lok | | |
| Remote Controls | | | | |
| Wireless Remote Foot Control | 301580 | Foot control with wireless 90 ft. (27.4 m) operating range | | |
| RFCS-14 HD | 301589 | Heavy-duty foot control | | |
| RCC-14 | 151086 | East/west fingertip control | | |
| RCCS-14 | 043688 | North/south fingertip control | | |
| RMS-14 | 187208 | Momentary rubber dome switch | | |
| RMLS-14 | 129337 | Momentary/maintained rocker switch | | |
| RHC-14 | 242211020 | Hand control | | |
| Wireless Remote Hand Control | 301582 | Hand control with wireless 300 ft. (91.4 m) operating range | | |
| Extension Cables | | See page 7 | | |
| TIG Gloves | | See page 7 | | |

Date: Total Quoted Price:

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