POWERBALL®

FIXED AUTOMATION
MIG TORCH

OPERATION MANUAL

Installation,
Maintenance
and Warranty
Information

Air-cooled MIG Welding Torch

SHIP DATE _____ **SERIAL #** _____

ELCo Enterprises • 5750 Marathon Drive • Jackson, MI 49201
517.782.8040 • sales@wire-wizard.com
wire-wizard.com

WIRE WIZARD® WELDING PRODUCTS

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1.0 INTRODUCTION

Congratulations on your purchase of the PowerBall® Fixed Automation MIG Welding Torch! Each PowerBall® Welding Torch is proudly manufactured and inspected at our facility in Jackson, Michigan. Please check box contents upon receipt for any damage that may have occurred during transit and to ensure all torch components are accounted for.

This guide is designed to assist the user whose primary responsibility is to operate and maintain the PowerBall® MIG welding torch. This manual provides specific information on installation, safety, basic operation, and maintenance. **Please read, understand and follow all safety precautions noted in this manual.**

For customer service and support, contact ELCo Enterprises at 517.782.8040. A digital version of this manual and additional product information is available on our website at ***wire-wizard.com***.

1.1 WARRANTY

LIMITED ONE (1) YEAR WARRANTY

ELCo Enterprises, Inc. (hereinafter "ELCo") shall warrant this product to be free of defects in material and/or workmanship for a period of one (1) year from the date of shipment to the buyer. The warranty shall cover 100% of all parts and labor with the exception of misuse, abuse, neglect and typical consumables as determined by ELCo. Failure to follow proper installation and/or maintenance procedures specified in the operating instructions will void this warranty. ELCo will at its option, repair, replace or issue a credit for the value of the defective product within the warranty period.

Buyer accepts all responsibility for compliance with any/all Local, State and Federal Laws or Regulations including Regulations of Foreign Governments.

No equipment shall be returned to ELCo without a Return Authorization Number. Upon evaluation and validation of warranty, replacements or repairs will be sent to the Buyer. If a replacement is needed immediately, a purchase order is required to cover the cost of the product until the warranty is determined.

ELCo's warranty is limited to replacing any goods that are proved to be defective and ELCo in no event shall have any liability for paying incidental or consequential damages including and without limitation, damages resulting in personal or bodily injury or death, or damages to, or loss of use of any property. Notwithstanding any of these terms and conditions, the warranties set forth shall apply in connection with any sales of goods, services or design by ELCo and are in lieu of all other warranties, express or implied, including warranties of merchantability and fitness for a particular purpose.

1.2 PRODUCT REGISTRATION

Please register this product online or by phone within 14 days after receipt.

Register this product online by going to **wire-wizard.com/register** or scanning the QR code on the right, or you may call 517.782.8040 to register by phone. Registering this product will allow us to provide firmware and software updates via email, as well as expedited service should there be any problems potentially covered by this warranty in the future.

Please record the following information for this product and retain for your records:

Model #: _____ Lot #: _____ Shipment Date: _____

1.3 SAFETY PRECAUTIONS

The *Weld Central* system is designed to be safe to operate, provided the user reads, understands, and adheres to the safety precautions listed below. Failure to adhere to these precautions may result in personal injury and/or damage to the equipment.

WARNING

Improper installation, use or maintenance of welding equipment may cause serious injury or death. All operators must read and understand all safety warnings and instructions before installing or using this welding torch. All operators must be trained in proper welding safety and operation procedures prior to operating this welding torch. **Please keep these instructions for future reference.**

WARNING: ELECTRIC SHOCK HAZARD

Operators should always wear dry welding gloves and protective clothing when welding. Do not contact electrically live parts. Keep welding torches and other welding equipment away from moisture and water. Ensure ground connections are secure and compatible with the required electric current. When welding under wet conditions or where perspiration is a factor, the use of automatic controls for reducing the no load voltage is recommended to reduce the risk of electric shock. Accidental contact must be prevented with open circuit voltage exceeding 80 volts AC, or 100 volts DC by using insulation or other means. When welding torch is not in use, turn off power supply to prevent any accidental contact.

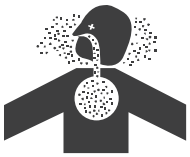
Welding equipment should be installed and maintained in accordance with National Electrical Code (NFPA 70) and in compliance with local codes. Equipment should only be serviced by qualified or trained personnel only. Do not disassemble torch or change welding consumables with the power supply on. See welding safety and operating references in section 1.4 for safety guidelines and additional information.

WARNING: ARC RAYS AND SPARKS CAN CAUSE EYE INJURY AND BURNS

Always wear a federally compliant welding helmet with the proper lens when welding, along with protective welding gloves and protective clothing. Protective clothing should cover all exposed skin to prevent burns and exposure to ultraviolet rays. An approved welding curtain or solid wall must be used in areas where other personnel may be exposed to arc rays. Other personnel in the work area exposed to arc rays and sparks must also wear a welding helmet and protective clothing to prevent eye injury and burns. Ear plugs should be worn to protect ears from sparks. Avoid using flammable hair preparations when welding. **Never attempt to weld without a welding helmet, protective gloves and clothing.** See welding safety and operating references in section 1.4 for safety guidelines and additional information.

WARNING: WELDING SPARKS CAN CAUSE FIRES AND EXPLOSIONS

All combustible materials should be removed from the work area (at least 35 ft / 10.7 m) to prevent fires and explosions. Do not wear clothing soaked with oils, gasoline or other flammable liquids while welding. Always keep a fire extinguisher near the work area and understand its operation. Do not weld containers that have contained flammable materials or liquids. Use only inert gases or inert gas mixes required for the welding process. Do not use oxygen with a welding torch. Arcing against compressed gas cylinders may cause damage to the cylinder or explosion. See welding safety and operating references in section 1.4 for safety guidelines and additional information

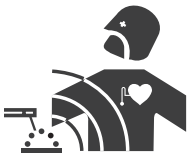


WARNING: SMOKE AND FUMES CAN BE DANGEROUS TO YOUR HEALTH

Ensure there is adequate ventilation to remove smoke and fumes from the work area to protect operators and other nearby personnel. Avoid using chlorinated solvents in the work area that can form Phosgene when exposed to UV arc radiation. An air supplied respirator must be worn where ventilation is not adequate to remove fumes and vapors. Do not use oxygen for ventilation in the work area. See welding safety and operating references in section 1.4 for safety guidelines and additional information.

WARNING: NOISE FROM WELDING CAN DAMAGE HEARING

Improper installation, use or maintenance of welding equipment may cause serious injury or death. All operators must read and understand all safety warnings and instructions before installing or using this welding torch. All operators must be trained in proper welding safety and operation procedures prior to operating this welding torch. **Please keep these instructions for future reference.**



WARNING: ELECTRIC AND MAGNETIC FIELDS

The welding process generates Electric and Magnetic Fields (EMF). EMF fields may interfere with some pacemakers. Operators with a pacemaker should consult their physician prior to welding.

EMF fields may also damage some electronic devices, such as computers and mobile phones. Keep sensitive electronic devices away from work area to prevent damage.

WARNING: WELDING WIRE CAN CAUSE INJURY

Keep hands and other body parts away from end of welding torch in case of accidental activation of the trigger. Weld wire can puncture skin and cause injury. Never point the torch toward the body or others when feeding wire.

1.4 WELDING SAFETY AND OPERATING REFERENCES

Refer to these safety standards and regulations for additional information on best practices for welding safety:

- ANSI Z49.1 “Safety in Welding and Cutting”.
- ANSI Z87.1 “Practice for Occupational and Educational Eye and Face Protection”.
- ANSI Z88.2. “Standard Practice for Respiratory Protection”. American National Standards Institute, 1430 Broadway, New York, NY 10018.
- Code of Federal Regulations (OSHA) Section 29, Part 1910.95, 132, 133, 134, 139, 251, 252, 253, 254 and 1000. U.S. Government Printing Office, Washington, DC 20402.
- AWS F4.1. “Recommended Safe Practices for Welding and Cutting Containers”.
- AWS C5.3. “Recommended Practices for Air Carbon-Arc Gouging and Cutting”. The American Welding Society, 550 NW Lejeune Rd., P.O. Box 351040, Miami, FL 33135.
- NFPA 51B. “Fire Prevention in Cutting and Welding Processes”.
- NFPA-7. “National Electrical Code”. National Fire Protection Association, Battery Park, Quincy, MA 02269.
- CSA W117.2. “Safety in Welding, Cutting and Allied Processes”. Canadian Standards Association, 178 Rexdale Blvd., Rexdale, Ontario, Canada M9W 1R3.

2.0 DUTY CYCLE SPECIFICATIONS

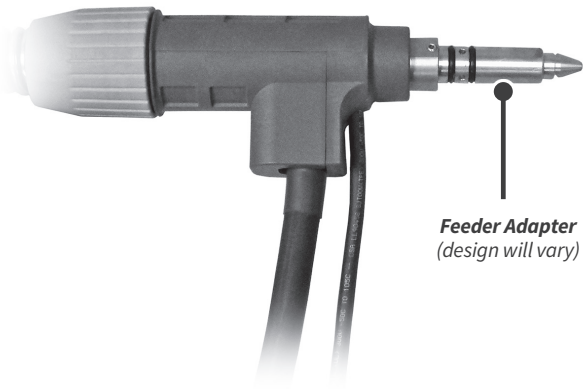
Duty cycle is defined as the percentage of 10 minutes the torch can weld at a rated load without overheating. The data below shows the duty cycle ratings for PowerBall® Air-Cooled MIG Guns with both pure CO2 and mixed gases. PowerBall® 400-500 amp MIG Torches have been tested for reliable operation at 100% duty cycle for both pure CO2 and mixed gases.

Torch Model and Maximum Wire Size	Duty Cycle Ratings
400-500 amp Air-Cooled MIG Torch Maximum wire size: 5/64" (2.0mm)	100% @ 400-500 amps with pure CO2 shielding gas 100% @ 400-500 amps with 90/10 mixed Ar/CO2 shielding gas 100% @ 400-500 amps with 75/25 mixed Ar/CO2 shielding gas

3.0 INSTALLATION

INSTALLATION TO WIRE FEEDER

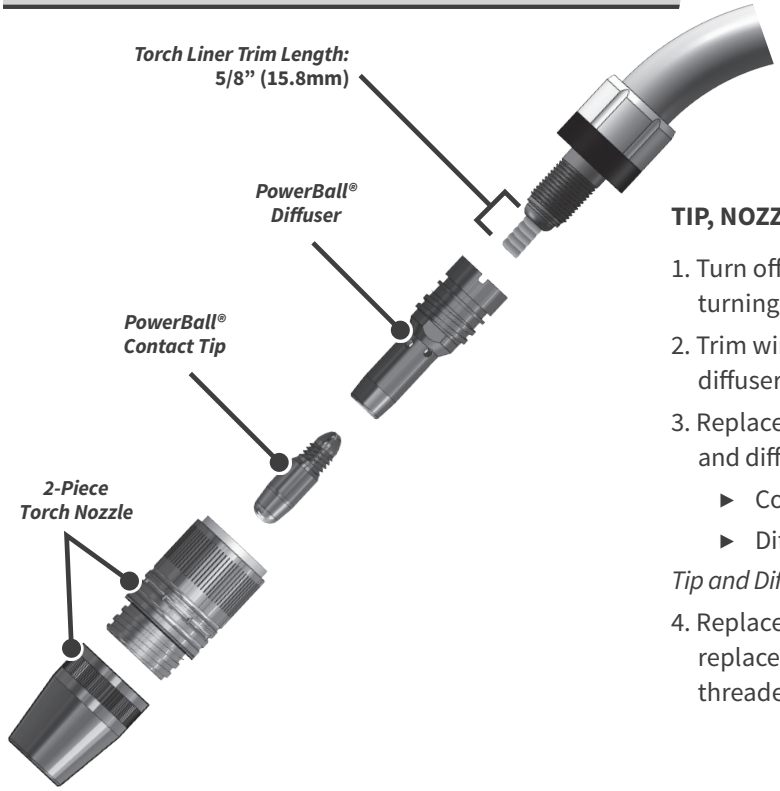
1. Install torch liner through feeder adapter (see page 5).
2. Insert feeder adapter and adapter extension (if required) into wire feeder and secure tightly.
3. Attach power cable to power source and secure tightly.
4. Feed wire to the torch by hand and tighten wire feeder drive rolls



Feeder Adapter
(design will vary)

Power Cable

4.0 CONSUMABLES INSTALLATION



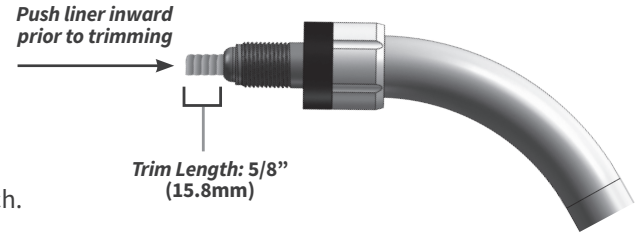
TIP, NOZZLE & DIFFUSER INSTALLATION

1. Turn off power supply and remove threaded nozzle by turning counterclockwise.
2. Trim wire to a clean end and remove the tip and/or diffuser by turning counterclockwise.
3. Replace contact tip and/or diffuser as needed. Re-install tip and diffuser with the following recommended torque settings:
   - Contact Tip Torque: 40 in/lbs
   - Diffuser Torque: 140 in/lbs

Tip and Diffuser calibrated torque wrenches and sockets available.

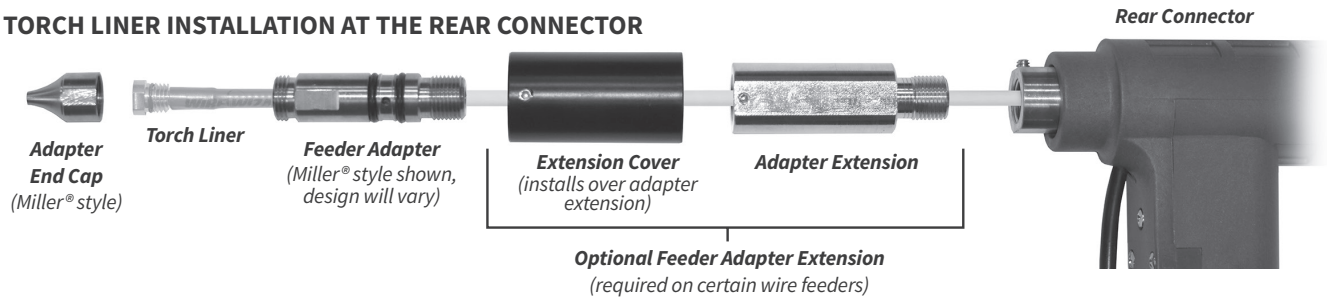
4. Replace Nozzle and Liner as needed (see below for liner replacement instructions). Always ensure the nozzle is threaded all the way onto the torch prior to welding.

TORCH LINER INSTALLATION



1. Turn off power supply and detach welding torch from feeder.
2. Loosen the liner collet at the back end of the torch.
3. Remove the nozzle, tip, diffuser and old torch liner.
4. Uncoil and insert the new liner up through the back of the torch. If it gets caught, rotate while pushing inward.
5. Insert the liner all the way through the torch and place the end into the liner connector. Tighten the liner collet onto the feeder adapter to secure in place.
6. Push inward on the liner and trim to a stick-out of approx. 5/8" (15.8mm). When properly trimmed, the liner should travel all the way into the diffuser. Smooth and deburr the end of the liner so there are no sharp edges. This will prevent wire hang-up and other feeding problems from occurring.
7. Re-install diffuser, contact tip and nozzle. Re-attach torch to wire feeder and feed wire back through the torch.

TORCH LINER INSTALLATION AT THE REAR CONNECTOR

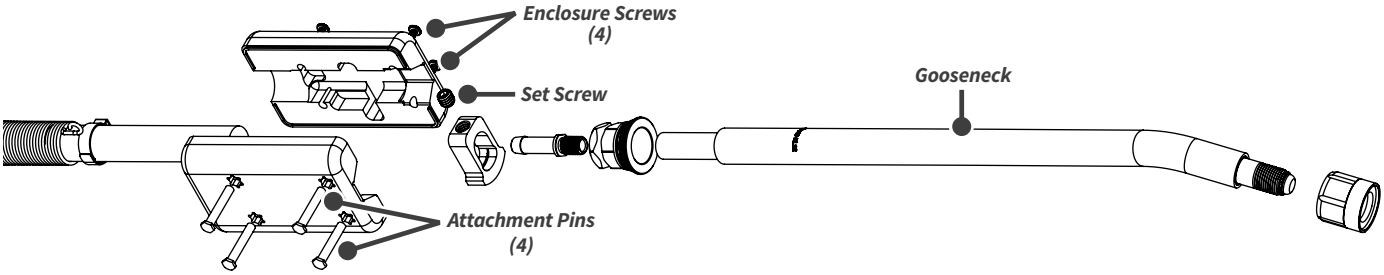


4.1 GOOSENECK REPLACEMENT INSTRUCTIONS

TOOLS REQUIRED

Phillips Screwdriver	5/32" Allen Wrench
Small Crescent Wrench	3/32" Allen Wrench

1. Ensure power supply is OFF. Remove the 4 screws from the enclosure on the back side of the neck. Pull apart to separate the two halves.
2. Loosen the gooseneck clamp bolt and the set screw.
3. Remove gooseneck by turning counterclockwise. Keep the insulating bushing at the base of the neck.
4. Slide the insulating bushing onto the base of the new gooseneck. Install neck assembly by turning clockwise.
5. Secure the neck in place by tightening the clamp bolt and two set screws.
6. Re-assemble enclosure with the 4 screws and attachment pins.

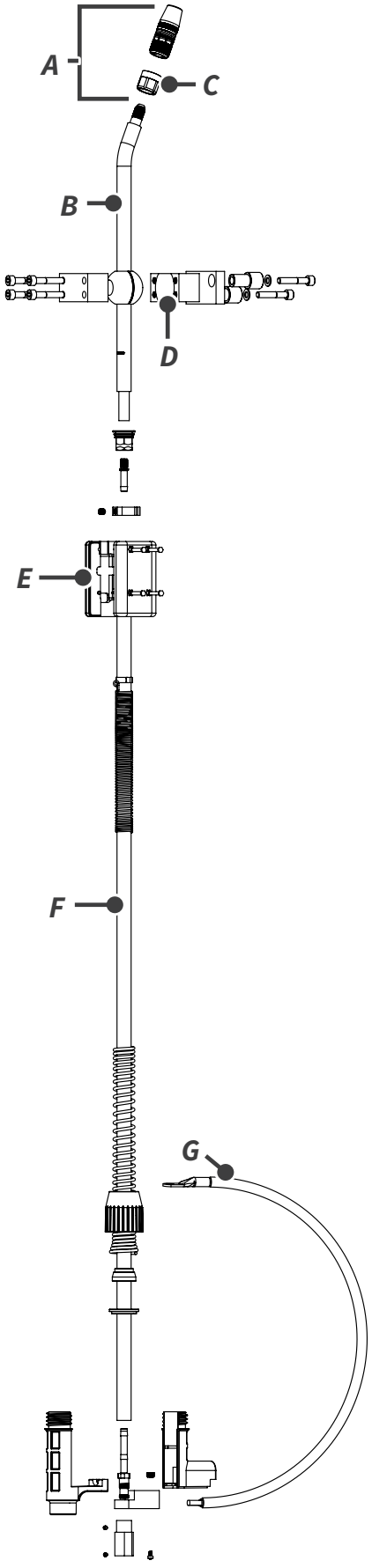


5.0 TROUBLESHOOTING

Problem	Potential Causes	Solutions
Wire will not feed or feeds erratically	► Poor connection to wire feeder ► Feeder drive roll problem ► Worn torch liner ► Burn back in contact tip ► Wrong size torch liner or tip	Inspect all cables connected to wire feeder and ensure they are secure and in good condition. Check drive rolls for proper size and tension. Inspect torch liner for wear and build-up, replace as needed. Replace contact tip if a burn back has occurred.
Burn-back at contact tip	► Improper wire feed speed ► Improper voltage for application ► Poor wire feed ► Improper wire stick-out ► Bad ground	Check welding parameters and ensure feed speed and voltage are set properly for your welding application. Adjust wire stick-out if necessary. Inspect cables to ensure proper grounding. Ensure wire delivery path does not have excess friction.
Erratic arc	► Bad contact tip ► Poor wire feed ► Build-up in liner	Inspect contact tip for wear and replace as needed. Check liner and wire delivery path for any build-up or wear. Replace liner or conduit as needed.
Weld porosity	► Plugged or damaged diffuser ► Poor gas flow ► Bad nozzle/insulator	Inspect diffuser for damage or debris, replace as needed. Check gas supply and gas lines for proper gas flow. If nozzle is badly worn, replace as needed.
Excess spatter	► Improper welding/gas parameters ► Tip not installed properly ► Bad nozzle/insulator ► Poor anti-spatter performance	Adjust welding parameters and gas mixture so it is optimized for your welding application. Check tip for proper installation and torque (see section 5.0). Replace nozzle as needed. Try a different anti-spatter — Blue Magic® Anti-Spatter from Wire Wizard® is recommended for best performance.

6.0 REPLACEMENT PARTS

Item	Description	Part Numbers
A	Consumables — tip, nozzle, liner and diffuser	See section 7.0 on next page
B	Gooseneck — includes insulator for nozzle and torch connection. Other angles may be available by request.	22° Standard: WTP-NS-S22 22° Long: WTP-NS-L22 22° Extra Long: WTP-NS-XL22 45° Standard: WTP-NS-S45 45° Long: WTP-NS-L45 45° Extra Long: WTP-NS-XL45 Straight Standard: WTP-NS-S180 Straight Long: WTP-NS-L180 Straight Extra Long: WTP-NS-XL180
C	Neck Insulator (also included on replacement goosenecks)	Neck Insulator: WTP-ELI-T
D	Optional Fixed Torch Mount	WTP-FAM
E	Enclosure and Internal Components	Enclosure Housing: WTP-ST-036 6-32 Pan Head Screws: 48801 Attachment Pins: WTP-ST-009 Power Block: WTP-SA-05 Power Block 5/16-18 x .312 Set Screw: 25436 Gas Fitting: WTP-ST-026 Bushing: WTP-ST-029 Cable Pinch Clamp: 54285K34
F	Power Cable (replacing cable requires WTP-TRK repair kit)	300-400 A Torches: 300 TORCH CABLE 400-500 A Torches: 400 TORCH CABLE *Available in 4', 6', 8', 10', 12', 15', 20'+ Add suffix on part number to specify length (-8 for 8', -10 for 10', etc.)
G	Power Jumper Cable	WTP-ST-CABLE
H	Field Repair Kit (not shown) Required for field repairs on the torch cable	WTP-TRK
I	Feeder Adapter (not shown) Specify Feeder Model/Series when Ordering	Miller®: WTP-FA-M-3 Lincoln Electric®: WTP-FA-LN-7 Tweco® #4: WTP-FA-TW-4 Tweco® #5: WTP-FA-TW-5 OTC/Daihen®: WTP-FA-OT Panasonic®: WTP-FA-PA



Contact customer service if other replacement parts are required.

7.0 CONSUMABLES & TORCH ACCESSORIES

7 mm PowerBall® Tips

Part #	Wire Size	Wire Type	Qty/Pack
WTP-035-PB-2-7MM	.035 (0.9 mm)	Steel	10
WTP-035-PB-2-7MM-BULK	.035 (0.9 mm)	Steel	500
WTP-040-PB-2-7MM	.040 (1.0 mm)	Steel	10
WTP-040-PB-2-7MM-BULK	.040 (1.0 mm)	Steel	500
WTP-045-PB-2-7MM	.045 (1.2 mm)	Steel	10
WTP-045-PB-2-7MM-BULK	.045 (1.2 mm)	Steel	500
WTP-052-PB-2-7MM	.052 (1.3 mm)	Steel	10
WTP-052-PB-2-7MM-BULK	.052 (1.3 mm)	Steel	500
WTP-062-PB-2-7MM	.062 (1.6 mm)	Steel	10
WTP-062-PB-2-7MM-BULK	.062 (1.6 mm)	Steel	500
WTP-3/64A-PB-2-7MM	3/64 (1.2 mm)	Aluminum	10
WTP-3/64A-PB-2-7MM-BULK	3/64 (1.2 mm)	Aluminum	500

9 mm PowerBall® Tips

Part #	Wire Size	Wire Type	Qty/Pack
WTP-035-PB-2	.035 (0.9 mm)	Steel	10
WTP-035-PB-2-BULK	.035 (0.9 mm)	Steel	500
WTP-040-PB-2	.040 (1.0 mm)	Steel	10
WTP-040-PB-2-BULK	.040 (1.0 mm)	Steel	500
WTP-045-PB-2	.045 (1.2 mm)	Steel	10
WTP-045-PB-2-BULK	.045 (1.2 mm)	Steel	500
WTP-052-PB-2	.052 (1.3 mm)	Steel	10
WTP-052-PB-2-BULK	.052 (1.3 mm)	Steel	500
WTP-062-PB-2	.062 (1.6 mm)	Steel	10
WTP-062-PB-2-BULK	.062 (1.6 mm)	Steel	500
WTP-3/64A-PB-2	3/64 (1.2 mm)	Aluminum	10
WTP-3/64A-PB-2-BULK	3/64 (1.2 mm)	Aluminum	500

PowerBall® Diffusers

Part #	Nozzle Style	Tip Outer Diameter	Qty/Pack
WTP-ELD-PB-1B-C-7MM	PowerBall® Thread-on	7 mm	5
WTP-ELD-PB-1B-C	PowerBall® Thread-on	9 mm	5
WTP-ELD-PB-2C-C	PowerBall® Slip-on	9 mm	5

PowerBall® Torch Liners

Liners for Steel Wire

Part #	Wire Size Range	Length
WTP-ELL-3545-6	.035-.045 (0.9-1.2 mm)	6' (1.8 m)
WTP-ELL-3545-10	.035-.045 (0.9-1.2 mm)	10' (3 m)
WTP-ELL-3545-15	.035-.045 (0.9-1.2 mm)	15' (4.6 m)
WTP-ELL-3545-25	.035-.045 (0.9-1.2 mm)	25' (7.6 m)
WTP-ELL-45116-6	.045-1/16 (1.2-1.6 mm)	6' (1.8 m)
WTP-ELL-45116-10	.045-1/16 (1.2-1.6 mm)	10' (3 m)
WTP-ELL-45116-15	.045-1/16 (1.2-1.6 mm)	15' (4.6 m)
WTP-ELL-45116-25	.045-1/16 (1.2-1.6 mm)	25' (7.6 m)
WTP-ELL-564-6	5/64 (2 mm)	6' (1.8 m)
WTP-ELL-564-10	5/64 (2 mm)	10' (3 m)
WTP-ELL-564-15	5/64 (2 mm)	15' (4.6 m)
WTP-ELL-564-25	5/64 (2 mm)	25' (7.6 m)
WTP-ELL-332-6	3/32 (2.4 mm)	6' (1.8 m)
WTP-ELL-332-10	3/32 (2.4 mm)	10' (3 m)
WTP-ELL-332-15	3/32 (2.4 mm)	15' (4.6 m)
WTP-ELL-332-25	3/32 (2.4 mm)	25' (7.6 m)

Polymer Liners for Aluminum/Non-Ferrous Wire

Part #	Wire Size Range	Length
WTP-ELL-45116A-15	.045-1/16 (1.2-1.6 mm)	15' (4.6 m)

TIP & DIFFUSER SOCKETS AND CALIBRATED WRENCHES

The 9mm Quick-Grip Torch Tip socket (1/4") features an innovative design with grippers that easily installs and removes 9mm PowerBall® torch tips. The 15mm Diffuser Socket (3/8") is compatible with all Diffusers with 15mm wrench flats. Saves time and allows for an accurate torque setting for consistent contact. Consistent contact = consistent welds!

WTP-TTW
Calibrated Tip Wrench
9mm tips only (40 in/lbs)

WTP-TS
Tip Socket

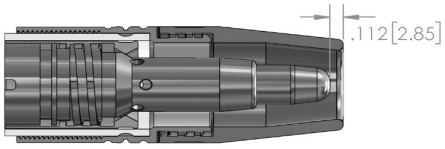
WTP-DTW
Calibrated Diffuser Wrench *(140 in/lbs)*

WTP-TS
Diffuser Socket

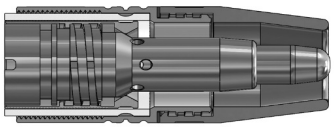
BLUE MAGIC® ANTI-SPATTER

Blue Magic® Anti-spatter from Wire Wizard® Welding Products is highly recommended for reduced spatter build-up and adhesion. Specially formulated for industrial use, this premium anti-spatter is trusted by top manufacturers around the globe! Available through your local welding product distributor.

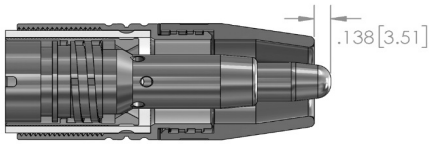
NOZZLE TO TIP RELATIONSHIP



RECESSED TIP (TSRC & THRC SUFFIX)



FLUSH TIP (TSFC & THFC SUFFIX)



STICK-OUT TIP (TSSC & THSC SUFFIX)

2-pc. Tapered Nozzle

2-pc. Bottle Nose Nozzle

Insulator for 2-piece Nozzles

Full Size Tapered Nozzle

Full Size Bottle Nose Nozzle

2-Piece Thread-On Nozzles *PowerBall® Insulator Required*

Part #	Bore Diameter	Material	Geometry	Workload	Tip Relationship	Tip Compatibility	Qty/Pack
WTP-ELN-2-50B-THRC	1/2" (12.7 mm)	Copper	Bottle Nose	Heavy Duty	Recessed	7 mm or 9 mm*	10
WTP-ELN-2-50B-THFC	1/2" (12.7 mm)	Copper	Bottle Nose	Heavy Duty	Flush	7 mm or 9 mm*	10
WTP-ELN-2-50B-THSC	1/2" (12.7 mm)	Copper	Bottle Nose	Heavy Duty	Stick-out	7 mm or 9 mm*	10
WTP-ELN-2-15T-THRC	15 mm (0.6")	Copper	Tapered	Heavy Duty	Recessed	7 mm or 9 mm	10
WTP-ELN-2-15T-THSC	15 mm (0.6")	Copper	Tapered	Heavy Duty	Stick-out	7 mm or 9 mm	10
WTP-ELN-2-62B-THRC	5/8" (15.9 mm)	Copper	Bottle Nose	Heavy Duty	Recessed	7 mm or 9 mm	10
WTP-ELN-2-62B-THFC	5/8" (15.9 mm)	Copper	Bottle Nose	Heavy Duty	Flush	7 mm or 9 mm	10
WTP-ELN-2-62B-THSC	5/8" (15.9 mm)	Copper	Bottle Nose	Heavy Duty	Stick-out	7 mm or 9 mm	10
WTP-ELN-2-62T-THRC	5/8" (15.9 mm)	Copper	Tapered	Heavy Duty	Recessed	7 mm or 9 mm	10
WTP-ELN-2-62T-THFC	5/8" (15.9 mm)	Copper	Tapered	Heavy Duty	Flush	7 mm or 9 mm	10
WTP-ELN-2-62T-THSC	5/8" (15.9 mm)	Copper	Tapered	Heavy Duty	Stick-out	7 mm or 9 mm	10
WTP-ELN-2-75T-THRC	3/4" (19 mm)	Copper	Tapered	Heavy Duty	Stick-out	7 mm or 9 mm	10

Insulators for 2-Piece Nozzles

Part #	Workload	Material	Diffuser Style	Qty/Pack
WTP-ELN-4	Heavy Duty	Brass	PowerBall® Threaded Diffuser	5
WTP-ELN-4-C	Heavy Duty	Chromed	PowerBall® Threaded Diffuser	5

Full Size Thread-On Nozzles

Part #	Bore Diameter	Material	Geometry	Workload	Tip Relationship	Tip Compatibility	Qty/Pack
WTP-ELN-50B-TSRC	1/2" (12.7 mm)	Copper	Bottle Nose	Standard Duty	Recessed	7 mm or 9 mm*	10
WTP-ELN-50B-TSSC	1/2" (12.7 mm)	Copper	Bottle Nose	Standard Duty	Stick-out	7 mm or 9 mm*	10
WTP-ELN-50B-TSRB	1/2" (12.7 mm)	Brass	Bottle Nose	Standard Duty	Recessed	7 mm or 9 mm*	10
WTP-ELN-50B-TSSB	1/2" (12.7 mm)	Brass	Bottle Nose	Standard Duty	Stick-out	7 mm or 9 mm*	10
WTP-ELN-50T-TSRC	1/2" (12.7 mm)	Copper	Tapered	Standard Duty	Recessed	7 mm or 9 mm*	10
WTP-ELN-50T-TSRB	1/2" (12.7 mm)	Brass	Tapered	Standard Duty	Recessed	7 mm or 9 mm*	10
WTP-ELN-62B-THFC	5/8" (15.9 mm)	Copper	Bottle Nose	Heavy Duty	Flush	7 mm or 9 mm	10
WTP-ELN-62B-THFB	5/8" (15.9 mm)	Brass	Bottle Nose	Heavy Duty	Flush	7 mm or 9 mm	10
WTP-ELN-62T-TSRC	5/8" (15.9 mm)	Copper	Tapered	Standard Duty	Recessed	7 mm or 9 mm	10
WTP-ELN-62T-TSSC	5/8" (15.9 mm)	Copper	Tapered	Standard Duty	Stick-out	7 mm or 9 mm	10
WTP-ELN-62T-THRC	5/8" (15.9 mm)	Copper	Tapered	Heavy Duty	Recessed	7 mm or 9 mm	10
WTP-ELN-62T-THFC	5/8" (15.9 mm)	Copper	Tapered	Heavy Duty	Flush	7 mm or 9 mm	10
WTP-ELN-62T-THSC	5/8" (15.9 mm)	Copper	Tapered	Heavy Duty	Stick-out	7 mm or 9 mm	10
WTP-ELN-62T-TSRB	5/8" (15.9 mm)	Brass	Tapered	Standard Duty	Recessed	7 mm or 9 mm	10
WTP-ELN-62T-THRB	5/8" (15.9 mm)	Brass	Tapered	Heavy Duty	Recessed	7 mm or 9 mm	10
WTP-ELN-62T-THFB	5/8" (15.9 mm)	Brass	Tapered	Heavy Duty	Flush	7 mm or 9 mm	10
WTP-ELN-75T-THRC	3/4" (19 mm)	Copper	Tapered	Heavy Duty	Recessed	7 mm or 9 mm	10

Slip-On Nozzles *Slip-On Diffuser Required*

Part #	Bore Diameter	Material	Geometry	Workload	Tip Relationship	Tip Compatibility	Qty/Pack
WTP-TRN-401-40-38	3/8" (9.5 mm)	Brass	Bottle Nose	Standard Duty	1/16" Recessed	7 mm	10
WTP-TRN-401-4-38	3/8" (9.5 mm)	Copper	Tapered	Standard Duty	Flush	7 mm	10
WTP-TRN-401-48-50	1/2" (12.7 mm)	Brass	Bottle Nose	Standard Duty	Stick-out	7 mm or 9 mm*	10
WTP-TRN-401-42-50	1/2" (12.7 mm)	Copper	Bottle Nose	Standard Duty	Recessed	7 mm or 9 mm*	10
WTP-TRN-401-4-50	1/2" (12.7 mm)	Copper	Tapered	Standard Duty	Recessed	7 mm or 9 mm*	10
WTP-TRN-401-48-62	5/8" (15.9 mm)	Copper	Bottle Nose	Standard Duty	Flush	7 mm or 9 mm	10
WTP-TRN-401-49-62	5/8" (15.9 mm)	Copper	Bottle Nose	Standard Duty	Stick-out	7 mm or 9 mm	10
WTP-TRN-401-4-62	5/8" (15.9 mm)	Copper	Tapered	Standard Duty	Recessed	7 mm or 9 mm	10
WTP-TRN-401-8-62	5/8" (15.9 mm)	Copper	Tapered	Standard Duty	Stick-out	7 mm or 9 mm	10
WTP-TRN-401-71-62	5/8" (15.9 mm)	Brass	Tapered	Heavy Duty	Recessed	7 mm or 9 mm	10
WTP-TRN-401-6-62	5/8" (15.9 mm)	Copper	Tapered	Heavy Duty	Recessed	7 mm or 9 mm	10
WTP-TRN-401-81-62	5/8" (15.9 mm)	Copper	Tapered	Heavy Duty	Stick-out	7 mm or 9 mm	10

** 7 mm contact tips are recommended for use with ½" (12.7 mm) torch nozzles and smaller*

SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE

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