



KOOL RUN®

Driven by Performance



Air-Cooled MIG Torch for
External Arm Robots

(Replacement for Tregaskiss™ G1 Series)

Operating Manual and Parts List

***DO NOT INSTALL, OPERATE, OR REPAIR THIS EQUIPMENT
WITHOUT READING THIS OPERATING MANUAL***

MADE IN USA

CM INDUSTRIES
INC.

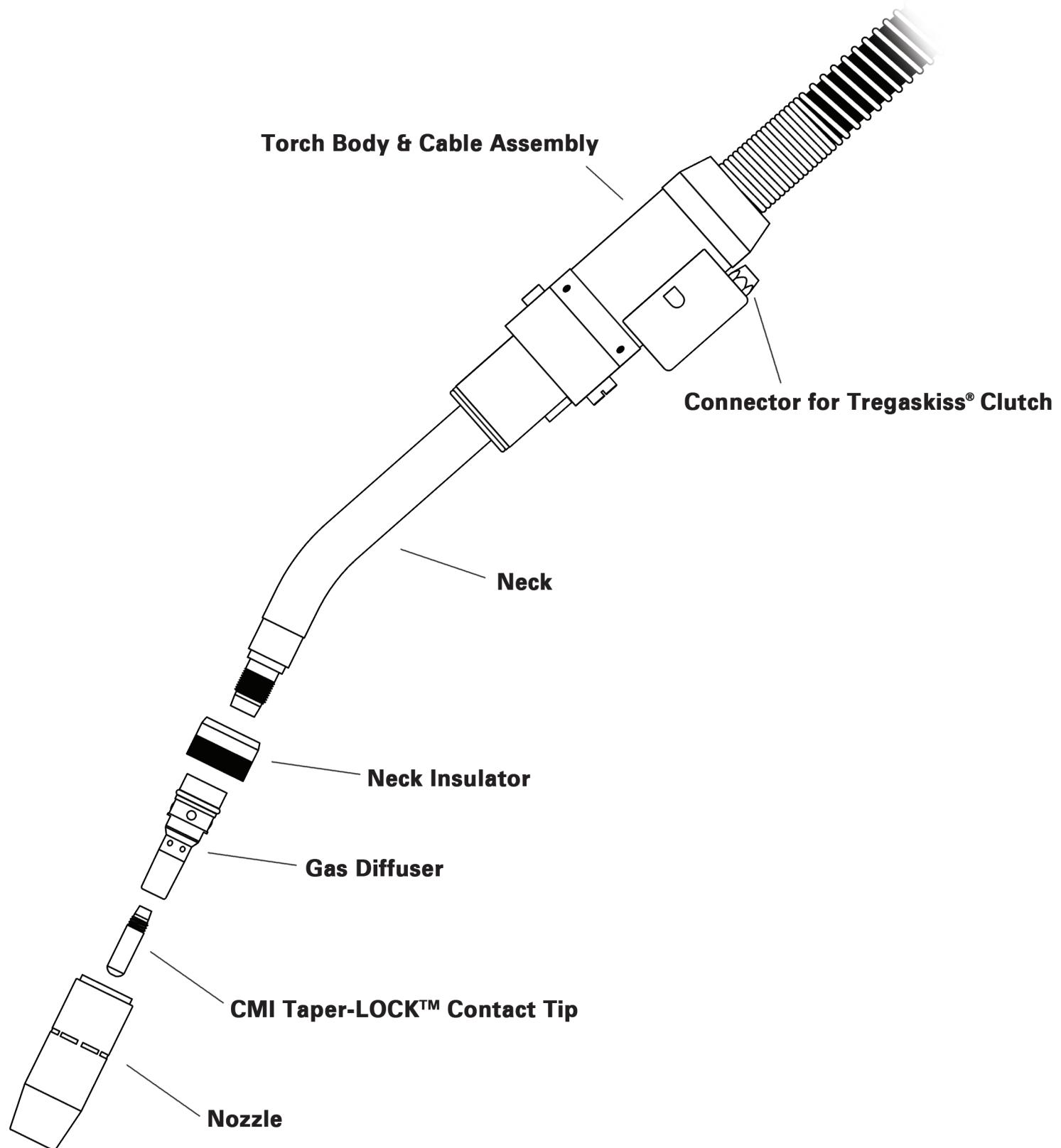
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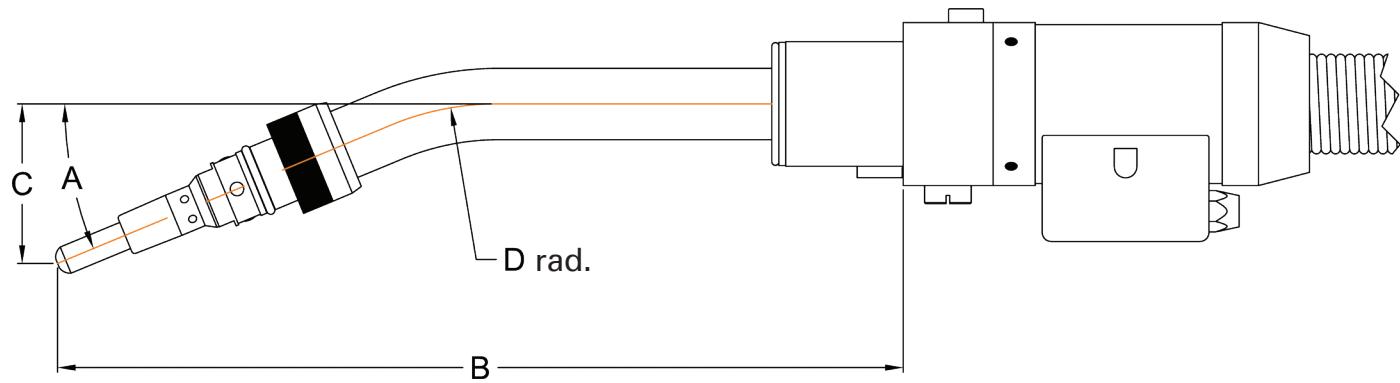
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Front-End Assembly Overview



Technical Data

-Neck Dimensions-



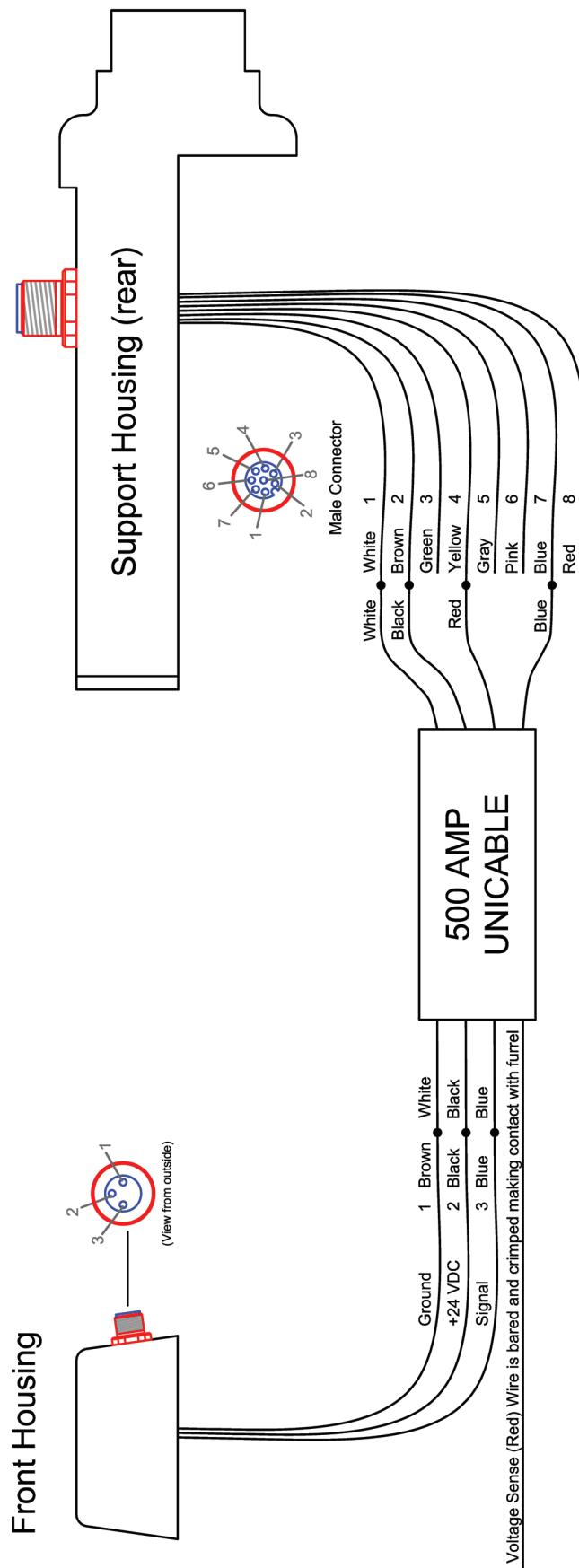
Neck	A	B	C	D
405-22QC	22°	9.355" (237.6mm)	1.623" (41.2mm)	3.00" (76.2mm)
405-45QC	45°	7.607" (193.6mm)	3.530" (89.7mm)	3.00" (76.2mm)
405-180QC	180°	8.816" (223.9mm)	-	-

-Gun Amperage Ratings-

Kool Run Torch Model	100% Duty Cycle		60% Duty Cycle	
	CO2	Mixed Gas	CO2	Mixed Gas
KR502	500 AMP	350 AMP	600 AMP	500 AMP

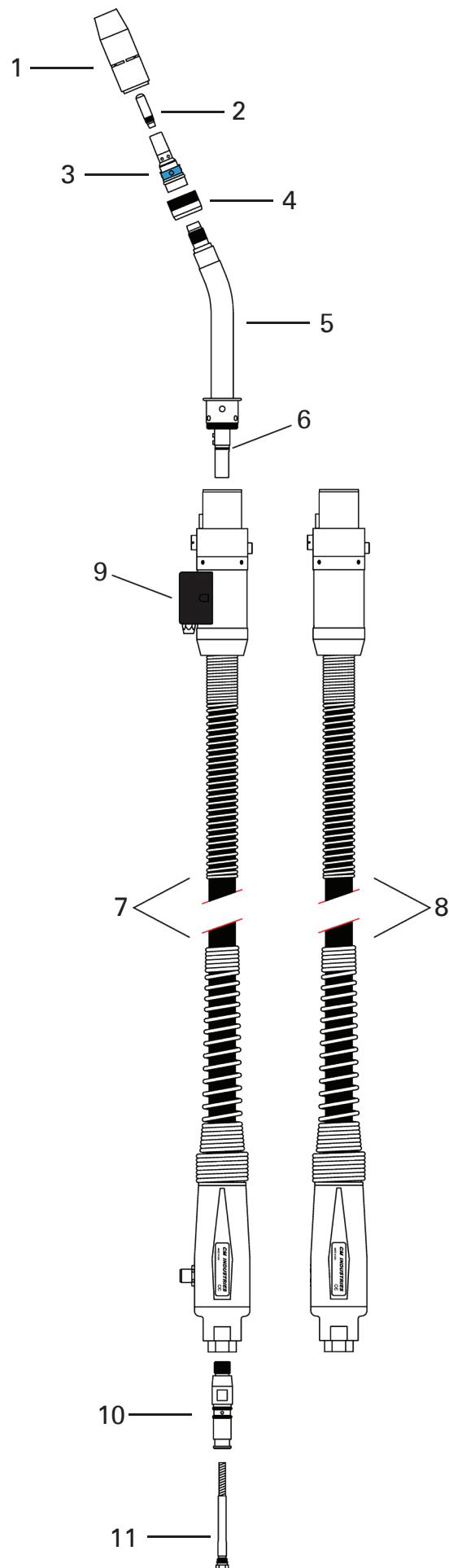
NOTE: Ratings are based on tests that comply with NEMA ARC Welding Section Standard 11-6-1975 for Duty Cycle. The time period of one complete cycle shall be 10 minutes (60% = 6 minutes) National Electrical Manufacturers Association 2101 L Street N.W. Washington D.C. 20037.

Wiring Diagram for Clutch Assembly



Exploded View & Parts List

ITEM	PART #	DESCRIPTION
1.	152-xx-xxC	See Page 6 "Nozzle Selection"
2.	155-1-030 155-1-035 155-1-040 155-1-045 155-1-364 155-1-052 155-1-062 155-1-564 155-1-332 155-2-xxx 155-3-xxx 155-7-xxx	CMI Taper-LOCK™ Contact Tip Heavy Duty, .030" (0.8mm) Heavy Duty, .035" (0.9mm) Heavy Duty, .040" (1.0mm) Heavy Duty, .045" (1.2mm) Heavy Duty, 3/64" (1.3mm) Heavy Duty, .052" (1.4mm) Heavy Duty, .062" (1.6mm) Heavy Duty, 5/64" (2.0mm) Heavy Duty, 3/32" (2.4mm) Heavy Duty Tapered Contact Tip Extra Heavy Duty Tapered Contact Tip Heavy Duty CrZr Contact Tip
3.	154-R505 154-R506 154-R507 154-R508	Gas Diffuser, H.D. for Slip-On Nozzles Gas Diffuser, S.D. for Slip-On Nozzles Gas Diffuser, H.D. for Thread-On Nozzles Gas Diffuser, S.D. for Thread-On Nozzles
4.	KR50-2	Neck Insulator
5.	405-22QC 405-45QC 405-180QC	Neck, 22° Neck, 45° Neck, 180°
6.	405-1QC	O-Ring
7.	513-203 513-203.5 513-204 513-204.5 513-205 513-2xx	Unicable Assembly - Complete 500A Unicable for Clutch Mount, 3' 500A Unicable for Clutch Mount, 3.5' 500A Unicable for Clutch Mount, 4' 500A Unicable for Clutch Mount, 4.5' 500A Unicable for Clutch Mount, 5' 500A Unicable for Clutch Mount, up to 15'
8.	513-203S 513-203.5S 513-204S 513-204.5S 513-205S 513-2xxS	500A Unicable for Solid Mount, 3' 500A Unicable for Solid Mount, 3.5' 500A Unicable for Solid Mount, 4' 500A Unicable for Solid Mount, 4.5' 500A Unicable for Solid Mount, 5' 500A Unicable for Solid Mount, up to 15'
9.	510-200-2	Housing
10.	214 214-1 214-2 214-7 214-30 214-39 214-40 214-41	Power Pin, Tweco® #4 Power Pin, Miller® Power Pin, Lincoln® "LN" Power Pin, Lincoln® "LN" (short) Power Pin, Panasonic® Power Pin, OTC Daihen® Power Pin, Lincoln® "4R" Power Pin, Fronius®
11.	415-30-6 415-30-15 415-35-6 415-35-10 415-35-15 415-116-6 415-116-10 415-116-15 415-332-6 415-332-15 415-35-2 415-116-2	Liner Assembly, .030", 6' Liner Assembly, .030", 15' Liner Assembly .035"-.045", 6' Liner Assembly .035"-.045", 10' Liner Assembly .035"-.045", 15' Liner Assembly .045"-1/16", 6' Liner Assembly .045"-1/16", 10' Liner Assembly .045"-1/16", 15' Liner Assembly, 5/64-3/32", 6' Liner Assembly, 5/64-3/32", 15' Liner Assembly .035"-3/64", 15' Aluminum Liner Assembly 3/64"-1/16", 15' Aluminum



Nozzle Selection

<u>Description</u>	<u>Part #</u> Slip-On Nozzle	<u>Part #</u> Thread-On Nozzle
Light Duty Conical Nozzles		
1/2" Bore, 1/8" Tip Recess	152-10-50*	152-60-50*
5/8" Bore, 1/8" Tip Recess	152-10-62*	152-60-62*
1/2" Bore, 1/4" Tip Recess	152-11-50*	152-61-50*
1/2" Bore, Flush Tip	152-12-50*	152-62-50*
1/2" Bore, 1/8" Tip Stickout	152-13-50*	152-63-50*
5/8" Bore, 1/8" Tip Stickout	152-13-62*	152-63-62*
1/2" Bore, 1/4" Tip Stickout	152-14-50*	152-64-50*
Light Duty Bottleneck Nozzles		
1/2" Bore, 1/8" Tip Recess	152-15-50*	152-65-50*
1/2" Bore, Flush Tip	152-16-50*	152-66-50*
1/2" Bore, 1/8" Tip Stickout	152-17-50*	152-67-50*
1/2" Bore, 1/4" Tip Stickout	152-18-50*	152-68-50*
These nozzles are available in brass upon request]		
Heavy Duty Conical Nozzles		
1/2" Bore, 1/8" Tip Recess	152-30-50*	152-70-50*
5/8" Bore, 1/8" Tip Recess	152-30-62*	152-70-62*
5/8" Bore, 1/4" Tip Recess	152-31-62*	152-71-62*
5/8" Bore, Flush Tip	152-32-62*	152-72-62*
5/8" Bore, 1/8" Tip Stickout	152-33-62*	152-73-62*
5/8" Bore, 1/4" Tip Stickout	152-34-62*	152-74-62*
Heavy Duty Bottleneck Nozzles		
5/8" Bore, 1/8" Tip Recess	152-35-62*	152-75-62*
5/8" Bore, Flush Tip	152-36-62*	152-76-62*
5/8" Bore, 1/8" Tip Stickout	152-37-62*	152-77-62*

Custom Nozzle - Call for availability on special requested bore and tip recess

*All nozzles available in non-plated material upon request

Gas Diffuser Selection



Ordering Information

Custom Part#

M5406-45-5-445-S

Power Pin _____

(blank) - Tweco #4
M - Miller
LN - Lincoln "LN"
PA - Panasonic
TW - Tweco #5
OX - OXO
D - OTC / Daihen
F - Fronius
E - Euro

Torch Model _____

Standard Torch Model
500 Amp Robotic A/C

Length _____

03 - 3 ft
03.5 - 3.5 ft
04 - 4 ft
04.5 - 4.5 ft
up to
15 - 15 ft

Wiring

(blank) - Wired for Clutch
S - No Wiring

Neck

(blank) - 180° Straight
422 - 22° Bend
445 - 45° Bend

Nozzle

(blank) - 401-6-62
3 - 401-6-50
5 - 401-5-62
7 - 401-42-50

Wire Size

30 - .030"
35 - .035"
1.0 - .040"
45 - .045"
364 - 3/64"
52 - .052"
116 - 1/16"
1.8 - 1.8mm
564 - 5/64"
332 - 3/32"

Example of Standard Part#

5404-45

Wire Size

500 Amp Robotic Torch, 4'

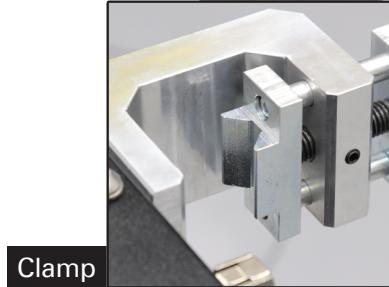
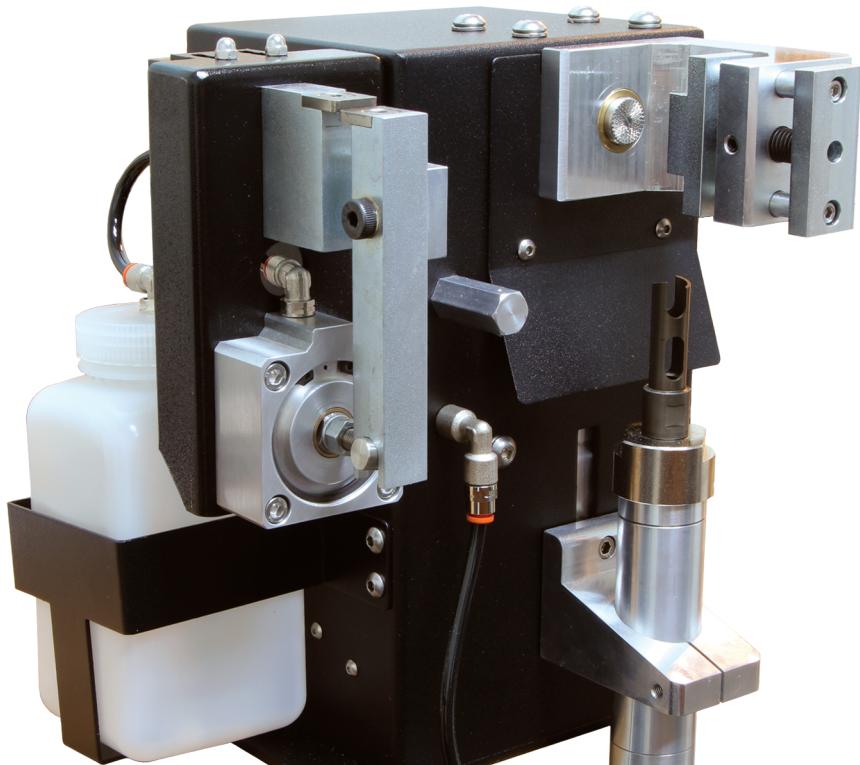
Standard Torch Components

Standard Models are shipped with the following parts:

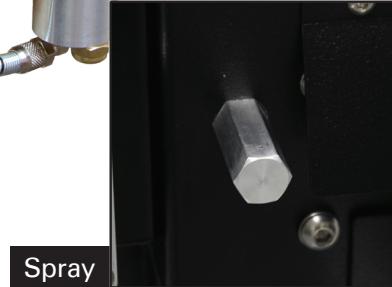
MODEL	NECK	NOZZLE	DIFFUSER	CONTACT TIP
500 Amp	405-180QC	401-6-62	154-R506	155-1-XXX

Nozzle Cleaning Station

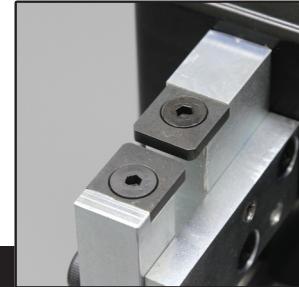
CM Industries Nozzle Cleaning Stations clean the nozzle and sprays anti-spatter. Increase your productivity by providing better gas flow, extending consumable life, and decreasing down-time. An optional Wire Cutter ensures a precise cut for optimum arc-start and an exact TCP.



Clamp



Spray



Cut

Key Features

- Easy to set up.
- External momentary switches for testing cycle and spray.
- Adjustable V-block designed to hold just about any nozzle.
- All pneumatic and electronic valves are located internally.
- Optional Wire Cutter can be attached to the unit.

Nozzle Cleaning Stations	Part #
Model 2100E2	650-25-580
Model 2100E2 w/ WC-95E	650-25-584

Specifications

AIR REQUIREMENT:

80-120 PSI @ 8 S.C.F.M. (MIN) CLEAN SHOP AIR

REAMER STROKE: 2"

DIMENSIONS: 6-1/2" X 6" X 12"

WEIGHT: 27 LBS. 2100E2

31 LBS. 2100E2 w/ WC-95E

ELECTRICAL REQUIREMENTS:

(4) ROBOT OUTPUTS AND (1) ROBOT INPUT

OUTPUT: 0V DC SWITCHABLE GROUND

OUTPUT: 24V DC CONTINUOUS SUPPLY

INPUT: 24V DC SIGNAL RETURN

NOTE: WIRED FOR STANDARD "SINKING" LOGIC



WARNING

Read and follow the manufacturer's instructions, employer's safety practices, and Material Safety Data Sheets (MSDSs).

Only qualified personnel should install, use, or service this material and/or equipment.



WELDING SPARKS can cause fire or explosion

- Do not weld near flammable material
- Do not weld on closed containers.
- Remove combustibles from the work area and/or provide a fire watch.
- Avoid oily or greasy clothing as a spark may ignite them.



ARC RAYS can injure eyes and burn skin

- Always wear correct eye, ear, and body protection
- Always wear a welding helmet with the proper grade filter lens. Protect yourself and others from spatter arc flash rays by using protective screens, barriers and welding curtains.
- Always wear protective gloves and clothing to cover exposed skin. This will aid in the prevention of arc and spatter burns.



ELECTRIC SHOCK can kill.

- Always wear dry installing gloves
- Do not touch live electrical parts.
- Always disconnect power source before hooking up or changing electrodes, nozzles and other parts.



FUMES AND GASES can be hazardous to your health.

- Keep your head out of the fumes
- Use enough ventilation or exhaust at the arc to keep fumes and gases from your breathing zone, and general area.
- Fumes from cutting and welding can deplete air quality, causing injury or death. Always wear an air supplied respirator in confined areas, or if breathing air is not safe.



LOUD NOISE can damage hearing.

- Always wear protective hearing devices to ensure protection when noise levels exceed OSHA standards

CALIFORNIA PROPOSITION 65 WARNING

This product contains chemicals, including lead, known to the State of California to cause cancer, birth defects, or other reproductive harm. *Wash hands after use.*

(California Health & Safety Code Section 25249.5)