GOUGING TORCHES
FEATURES & BENEFITS

IMPROVED TORCH AIR FLOW
- More efficient use of air supply. Improved metal removal.

FOUR HOLE HEAD ASSEMBLY
- Optimizes air flow to the arc. Efficiently cleans slag from groove edge.

AIR ASSIST POSITIVE AIR SHUT-OFF
- Minimizes air supply unit cycling on and off. Allows torch usage when air supply is marginal.

IMPROVED CABLE ELECTRICAL CONDUCTION
- Improves cable service life. Decreases heat build up in cable and torch.

SUPERIOR OUTER CABLE COVER
- Durable cover for improved cable life in a harsh environment. Resists breakdown due to exposure to heat produced by gouging.

INSULATED CONNECTION BOOT & HOOK-UP KIT
- Makes for easy torch hook-up. Virtually eliminates the possibility of arcing when contacting electrically hot parts.

Angle-Arc®
Gouging Torches

Straight Handle
Gouging Torches

Tri-Arc®
Gouging Torches

THE NEW CARBON-ARC TORCH CABLE "BOOT" DESIGN

FEATURES & BENEFITS

- **Patented two-piece boot design**
  Molded from a hard nylon reinforced fiber polymer made to withstand the substantial abuse in shop and field applications
- **Helps prevent accidental arcing**
  No chance of the “boot” pulling away from the power connection as seen with prior “boot” design
- **Ease of replacement in the field**
  Threaded screws holds the two halves together and can be loosened with a standard straight blade screwdriver
- **Available in two (2) different molded “boot” housing configurations**
  - **Conventional Boot (Part No. 94105032)**
    – Accepts one 120 mm² welding cable from the power supply and one 19 mm diameter air hose assembly providing current and compressed air
  - **Quick-Connect Hook-Up Kit (Part No. 94463046)**
    – Twist lock-style power connection and air hose extending from the rear of the torch cable. This option allows the operator to connect or disconnect the incoming power lead and air line quickly and easily

Patent No. D708,240 S

THE “BEST” JUST GOT BETTER

Help prevent accidental arcing in your workplace

Conventional
Replacement Part No. 94105032

Quick-Connect Hook-Up Kit
Replacement Part No. 94463046

NOTE: Replacement Boots will fit onto all Arcair® manual hand torch cable assemblies having an amperage range of 1000 Amps or less.

GOUGING TECHNIQUES FOR SPECIFIC MATERIALS

CARBON STEEL & LOW ALLOY STEEL, SUCH AS ASTM A514 & A517
Use DC electrodes with DCEP (electrode positive). AC electrodes with an AC transformer can be used, but for this application, AC is only half as efficient as DC.

STAINLESS STEEL
Use DC electrodes with DCEP (electrode positive). AC electrodes with an AC transformer can be used, but for this application, AC is only half as efficient as DC.

CAST IRON INCLUDING MALLEABLE AND DUCTILE IRON (NODULAR)
Use 12.7 mm or larger diameter CCDC electrodes at the highest rated amperage. Use an angle of 70° off the orkpiece and the depth of gouge should not exceed 12.7 mm per pass.

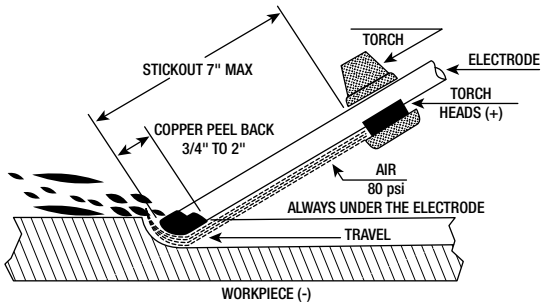
COPPER ALLOYS (COPPER CONTENT 60% AND UNDER)
Use CCDC electrodes with DCEN (electrode negative) at the electrode's highest amperage rating.

ALUMINIUM BRONZE AND ALUMINIUM NICKEL BRONZE (NAVAL PROPELLER ALLOY)
Use CCDC electrodes with DCEN (electrode negative) at the electrode's highest amperage rating.

NICKEL ALLOYS (NICKEL CONTENT OVER 80% OF MASS)
Use CCAC electrodes with AC current.

NICKEL ALLOYS (NICKEL CONTENT UNDER 80% OF MASS)
Use CCDC electrodes with DCEP (electrode positive) at the electrode's highest amperage rating.

PRINCIPLES OF AIR CARBON ARC



MAGNESIUM ALLOYS
Use CCDC electrodes with DCEP (electrode positive) and prior to welding, wire brush the groove.

ALUMINIUM
Use CCDC electrodes with DCEP (electrode positive). You must brush with a stainless wire brush before welding. Electrode stick-out (length of electrode between torch and workpiece) should not exceed 76.2 mm.

TITANIUM, ZIRCONIUM, HAFNIUM, AND THEIR ALLOYS
Do not cut or gouge to prepare for welding or remelting unless you mechanically remove the surface layer from the cut/gouge surface.

NOTE – If you preheat for welding, preheat for gouging

CURRENT REQUIREMENTS

Electrode diameter	3.2 mm	4.0 mm	4.8 mm	6.4 mm	7.9 mm	9.5 mm	13 mm	16 mm	19 mm	25 mm	9.5 mm Flat	16 mm Flat
Minimum Amps DC	60	90	200	300	350	450	800	1000	1250	1600	250	300
Maximum Amps DC	90	150	250	400	450	600	1000	1250	1600	2200	450	500
Minimum Amps AC	--	--	200	300	--	350	--	--	--	--	--	--
Maximum Amps AC	--	--	250	400	--	450	--	--	--	--	--	--

GOUGING TORCH SELECTION GUIDE

Copperclad Electrodes	Amperage Range (A) 90 - 450	450 - 1000	1000 -1400	1400 - 2000	2000 - 2400	Recommended	Alternate
Round 3.2 mm - 9.5 mm Flats 9.5 mm & 15.9 mm						K3000™	
Round 4.0 mm - 12.7 mm Flats 9.5 mm & 15.9 mm						K4000®	K3000™
Round 7.9 mm - 15.9 mm						K-5	K4000®, Tri-Arc®
Round 7.9 mm - 25.4 mm						Tri-Arc®	

WHICH TORCH IS RIGHT FOR YOU?

Torch Model	Amperage (Maximum)	Swivel Cable	Swivel Cable Lengths (m)	Cooling method	Handle Design	Body/Upper Arm Construction	Application	Special Features
K3000™	600	360°	2.1 & 3 m	Air-Cooled	Small & Ergonomic	Brass	Medium Duty	All brass torch parts with a copper head assembly having 4-hole design
K4000®	1000	360°	2.1 & 3 m	Air-Cooled	Small & Ergonomic	Brass	Heavy Duty	All brass torch parts with a copper head assembly having 4-hole design
K-5	1250	340°	2.1 & 3 m	Air-Cooled	Straight	Brass	Heavy Duty	All brass torch parts with a copper head assembly having 4-hole design
Tri-Arc®	2200	340°	2.1 & 3 m	Air- & Water-Cooled	Straight	Copper	Heavy Duty	Versatility with three (3) different head assemblies to choose from to meet any metal removal application

ANGLE-ARC® MANUAL GOUGING TORCHES

FEATURES & BENEFITS

NATURAL 15° TORCH ANGLE
- Greater operator comfort

DURABLE FRONT INSULATORS
- High impact and heat resistant protecting the torch metal parts

360° SWIVEL CABLE
- Less cable twist
- Less strain on operator

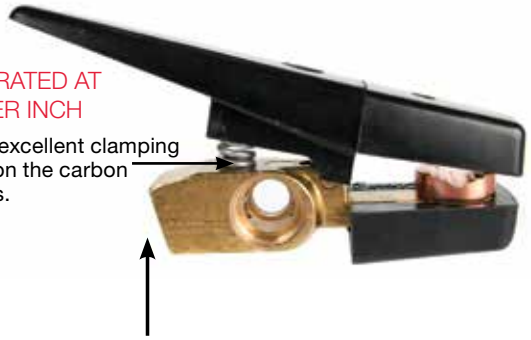
NEW TWO-PIECE BOOT DESIGN
- Prevents the chance of accidental arcing
- Made to withstand substantial abuse from typical applications

POSITIVE GRIP HANDLE
- Greater operator feel and ease in positioning the torch

REDUCED WEIGHT
- Optimum cable and torch weight to minimize fatigue

HIGH QUALITY CABLE HOSE
- Best quality cable hose offers high heat and abrasion resistance
- Non conductive

K3000™



SPRING RATED AT 66 KG PER INCH

providing excellent clamping pressure on the carbon electrodes.

FORGED 1-PIECE BRASS ALLOY BODY

machined to close tolerances on the valve seat and head seat.

K4000®

SPRING RATED AT 102 KG PER INCH

providing excellent clamping pressure on the carbon electrodes.

SQUARE THREADS

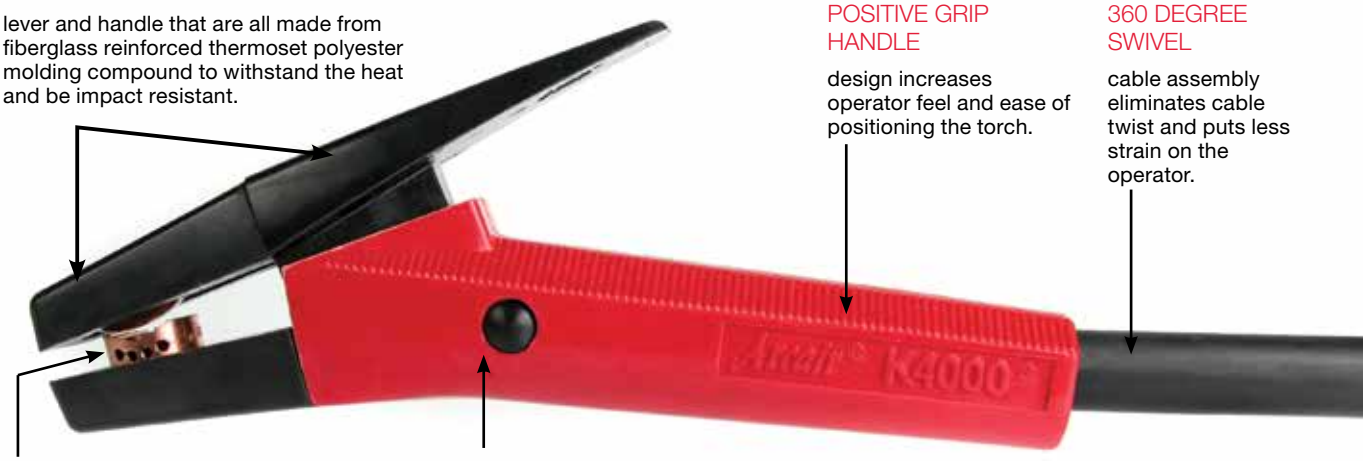
are used to attach the cable assembly to the body reducing the chance of this connection seizing together when operated at high amperage range/duty cycle.

FORGED 1-PIECE BRASS ALLOY BODY

machined to close tolerances on the valve seat and head seat.

HEAVY-DUTY INSULATORS

lever and handle that are all made from fiberglass reinforced thermoset polyester molding compound to withstand the heat and be impact resistant.



POSITIVE GRIP HANDLE

design increases operator feel and ease of positioning the torch.

360 DEGREE SWIVEL

cable assembly eliminates cable twist and puts less strain on the operator.

HEAD ASSEMBLY

machined from copper alloy having four (4) air holes optimizing the air flow to the arc.

BALANCED TO PIVOT

at the center of the handle for ease of use for all gouging positions, and thereby reduces operator fatigue.

K3000™

Medium Duty - General repair and maintenance jobs in areas as mining, construction, and all types of metal fabrication

AMPERAGE RANGE

- 90 – 600 A

ELECTRODE SIZE

- Pointed - round 3.2 mm - 9.5 mm
- Jointed - round 7.9 mm - 9.5 mm
- Flat - 9.5 mm - 15.9 mm
- Half Round - 15.9 mm

AIR REQUIREMENTS

- psi – 80
- kg/cm² – 5.6
- cfm – 22
- l/min – 624

Part No.	Description
01065001	Torch Only
61065006	Torch w/2.1 m 360° Swivel Cable
61065002	Torch w/2.1 m 360° Swivel Cable & Insulated Hook-Up Kit
61065007	Torch w/3 m 360° Swivel Cable
61065003	Torch w/3 m 360° Swivel Cable & Insulated Hook-Up Kit

K4000®

Heavy Duty - Heavy metal removal applications such as weld preparations in pressure vessel shops and shipyards

AMPERAGE RANGE

- 90 – 1000 A

ELECTRODE SIZE

- Pointed - round 4.0 mm - 12.7 mm
- Jointed - round 7.9 mm - 12.7 mm
- Flat - 9,5 mm - 15.9 mm
- Half Round - 15.9 mm

AIR REQUIREMENTS

- psi – 80
- kg/cm² – 5.6
- cfm – 25
- l/min – 708

Part No.	Description
01082002	Torch Only
61082008	Torch w/2.1 m 360° Swivel Cable
61082006	Torch w/2.1 m 360° Swivel Cable & Insulated Hook-Up Kit
61082009	Torch w/3 m 360° Swivel Cable
61082007	Torch w/3 m 360° Swivel Cable & Insulated Hook-Up Kit

SWIVEL CABLE ASSEMBLY OPTIONS

K3000 360° Swivel Cable

K4000 360° Swivel Cable

Part No.		Description
K3000	K4000	
70088107	70084207	2.1 m 360° Swivel Cable Assembly
70088110	70084210	3 m 360° Swivel Cable Assembly

TRI-ARC® FOUNDRY GOUGING TORCHES

FEATURES & BENEFITS

THREE TORCHES IN ONE
- Designed for foundry applications, defect removal, general purpose applications, and padwashing by just changing head assemblies

HIGH IMPACT, HEAT RESISTANT INSULATORS
- Provides protection for the torch metal parts

FORGED BODY
- Provides cooler operation, improved air flow and greater current ratings

POWERFUL INSULATED COIL SPRING & HIGH STRENGTH UPPER ARM
- Ensures positive electrode contact at all angles

BETTER BALANCE
- Streamline design and high strength fluted handles reduce operator fatigue

EASY CABLE INSTALLATION
- No need to disassemble the torch, just slide the sleeve from the rear of the handle

TRI-ARC TORCH HEADS

DEFECT REMOVAL HEADS
- For removal of defects and fine removal application
- Accepts electrode diameters 9.5 mm to 19.05 mm

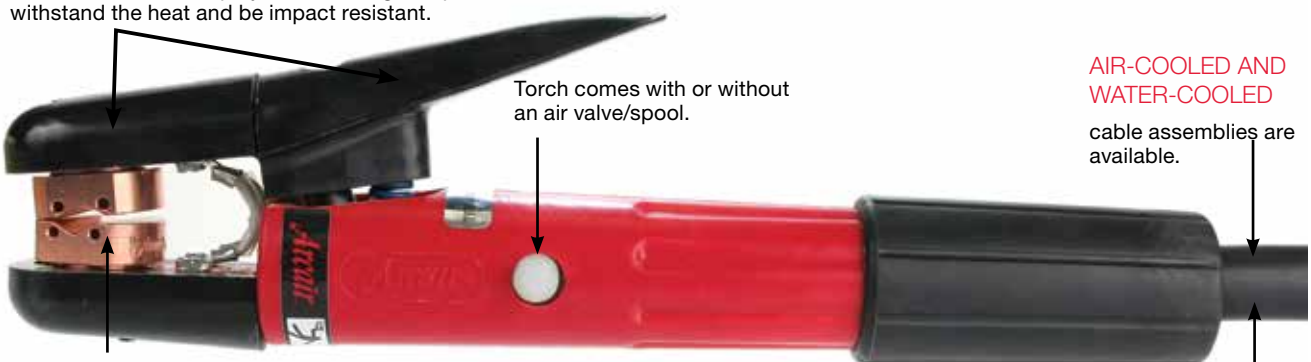
GENERAL PURPOSE CLEANING HEADS
- For removal of defects, fin removal, padwashing, and piercing applications
- Accepts electrode diameters 12.7 mm to 25.4 mm

PADWASHING HEADS
- For padwashing applications only
- Heads are fixed on a 35° work angle
- Accepts electrode diameters 12.7 mm to 19.05 mm

HEAVY-DUTY INSULATORS,
lever and handle that are all made from fiberglass reinforced thermoset polyester molding compound to withstand the heat and be impact resistant.

Torch comes with or without an air valve/spool.

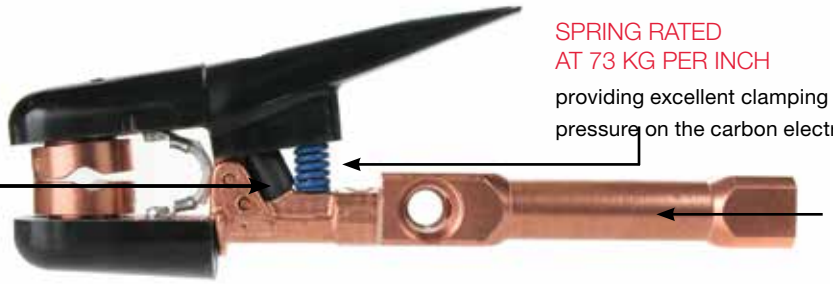
AIR-COOLED AND WATER-COOLED
cable assemblies are available.



SWITCHABLE HEAD ASSEMBLIES
machined from copper alloy designed for foundry applications - DEFECT REMOVAL - GENERAL PURPOSE - PADWASHING.

RUGGED AND DURABLE CABLE
assemblies offered for applications requiring 1600 to 2200 amps.

COMPRESSED AIR
flows through the body and upper arm increasing the metal removal capabilities on this torch.



SPRING RATED AT 73 KG PER INCH
providing excellent clamping pressure on the carbon electrodes.

FORGED 2-PIECE BRAZED COPPER ALLOY BODY
machined to close tolerances on the valve seat and head seat.

TRI-ARC®

Foundry - General foundry work, pad washing, defect, nails, sprue and interior work

AMPERAGE RANGE

- 450 – 2200 A

ELECTRODE SIZE

- Round 9.5 mm - 25.4 mm

AIR REQUIREMENTS

- psi – 80
- kg/cm² – 5.6
- cfm – 33
- l/min – 934

Part No.	Description	Electrode Size
NO HEADS IN TORCH		
02991411	Torch Only	--
62991417	Torch & 2.1 m Cable	--
NO HEADS IN TORCH - NO VALVE		
02991426	Torch Only	--
DEFECT REMOVAL HEADS		
94378298	Replacement Heads	9.5 - 19.05 mm
PADWASHING HEADS		
94378286	Replacement Heads	12.7 mm
94378289	Replacement Heads	15.9 mm
94378283	Replacement Heads	19.05 mm
GENERAL PURPOSE CLEANING HEADS		
94378267	Replacement Heads	12.7 mm
94378270	Replacement Heads	15.9 mm
94378273	Replacement Heads	19.05 mm
94378343	Replacement Heads	25.4 mm

Note: The cable assembly that comes standard on the assemblies is Part No. 74143607, 2.1 m long and rated for 1600 amperes maximum.

SWIVEL CABLE ASSEMBLY OPTIONS

Part No. 2.1 m	Part No. 3 m	Description
74143607	74143610	Std. Duty - 340° Swivel Cable Assembly
74161907	--	E-H-D 340° Swivel Cable Assembly
74085207	74085210	Water-Cooled Cable Assembly - Non-Swivel

K-5 Swivel Cable

Part No.	Description
70128507	2.1 m 340° Swivel Cable Assembly
70128510	3 m 340° Swivel Cable Assembly

STRAIGHT HANDLE MANUAL GOUGING TORCHES

FEATURES & BENEFITS

RELIABLE TORCH DESIGN
- Market leader for over 60+ years
- Greater operator comfort

ACCEPTS A WIDE RANGE OF CCDC GOUGING ELECTRODES
- 7.9 mm to 15.9 mm round

DURABLE FRONT INSULATORS
- High impact and heat resistant protecting the torch metal parts

SWIVEL CABLE
- Less cable twist
- Less strain on the operator

HIGH QUALITY CABLE HOSE
- Best quality cable hose offers high heat and abrasion resistance
- Non-conductive

RUGGED CONSTRUCTION OVERALL
- Can withstand harsh environments

K-5

Extra Heavy Duty - Heavy metal removal applications such as weld preparations in pressure vessel shops, shipyards and defect removal in foundries

AMPERAGE RANGE
- 450 - 1250 A

ELECTRODE SIZE
- Pointed - round 7.9 mm - 12.7 mm
- Jointed - round 7.9 mm - 15.9 mm
- Half Round - 15.9 mm

AIR REQUIREMENTS
- psi – 80
- kg/cm² – 5.6
- cfm – 30
- l/min – 850

Part No.	Description
01104003	Torch Only
61104007	Torch w/2.1m 360° Swivel Cable
61104008	Torch w/3m 360° Swivel Cable

CUTSKILL MANUAL GOUGING TORCHES

FEATURES & BENEFITS

NATURAL 15° TORCH ANGLE
- Greater operator comfort

DURABLE FRONT INSULATORS
- High impact and heat resistant protecting the torch metal parts

360° SWIVEL CABLE
- Less cable twist
- Less strain on operator

POSITIVE GRIP HANDLE
- Greater operator feel and ease in positioning the torch

REDUCED WEIGHT
- Optimum cable and torch weight to minimize fatigue

HIGH QUALITY CABLE HOSE
- Best quality cable hose offers high heat and abrasion resistance
- Non conductive

CSK4000

Heavy Duty - Heavy metal removal applications such as weld preparations in pressure vessel shops and shipyards

ELECTRODE SIZE
- Pointed - round 4.0 mm - 12.7 mm
- Jointed - round 7.9 mm - 12.7 mm
- Flat - 9.5 mm - 15.9 mm
- Half Round -15.9 mm

AIR REQUIREMENTS
- Maximum Amperage – 1000 amps
- Compressed Air – 80 psi (5.6 kg/cm²)
- Compressed Air Flow Rate – 0.79 m³/min
- Torch and Cable Weight: 2.4 kg

Part No.	Description
01088000	Torch Only
61088007	Torch & 2.1 m Cable Assembly
61088010	Torch & 3 m Cable Assembly
70088007	2.1 m Cable Assembly
70088010	3 m Cable Assembly