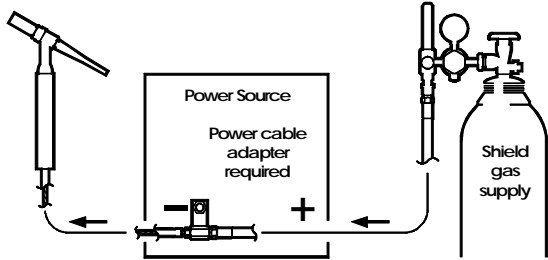


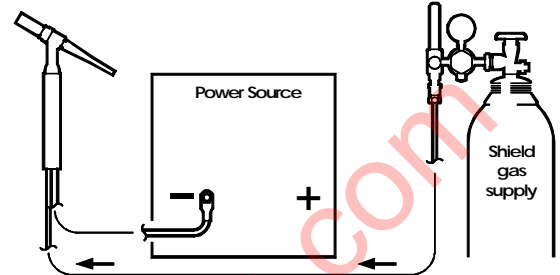


CONNECTION DIAGRAMS FOR GAS COOLED TORCHES

1 PIECE CABLE ASSEMBLY



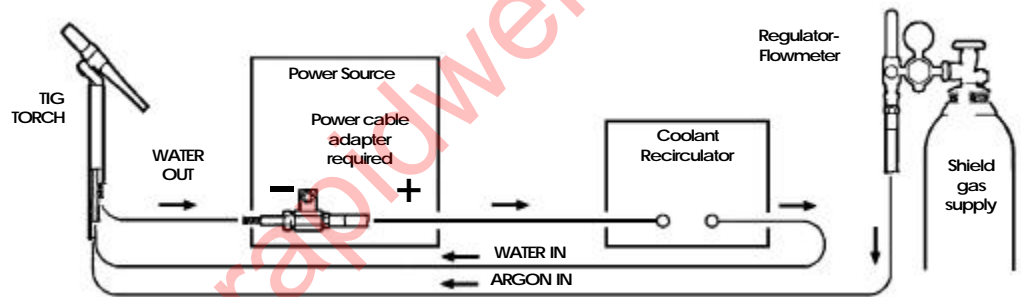
2 PIECE CABLE ASSEMBLY



CONNECTION DIAGRAM FOR WATER COOLED TORCHES

NOTE:

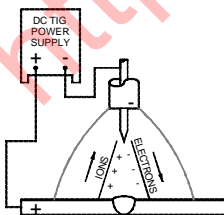
- 1 Quart (1 liter) per min. flow rate
- Water in though water line
- Water out though power cable



CHARACTERISTICS OF CURRENT TYPES FOR GAS TUNGSTEN ARC WELDING

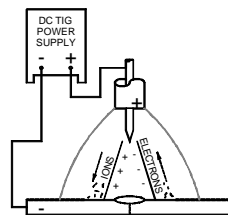
When TIG welding, there are three choices of welding current. They are: **Direct Current Straight Polarity**, **Direct Current Reverse Polarity**, and **Alternating Current with High Frequency** stabilization. Each of these has its applications, advantages, and disadvantages. A look at each type and its uses will help the operator select the best current type for the job. The type of current used will have a great effect on the penetration pattern as well as the bead configuration. The diagrams below, show arc characteristics of each current polarity type.

TIG welding with **DCSP** (direct current straight polarity) produces deep penetration because it concentrates the heat in the joint area. No cleaning action occurs with this polarity.



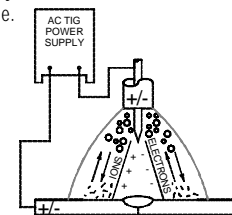
CURRENT TYPE	DCSP
ELECTRODE POLARITY	Electrode Negative
OXIDE CLEANING ACTION	No
HEAT BALANCE IN THE ARC	70% at work end 30% at electrode end
PENETRATION PROFILE	Deep, narrow
ELECTRODE CAPACITY	Excellent

TIG welding with **DCRP** (direct current reverse polarity) produces good cleaning action as the argon ions flowing towards the work strike with sufficient force to break up oxides on the surface.



CURRENT TYPE	DCRP
ELECTRODE POLARITY	Electrode positive
OXIDE CLEANING ACTION	Yes
HEAT BALANCE IN THE ARC	30% at work end 70% at electrode end
PENETRATION PROFILE	Shallow, wide
ELECTRODE CAPACITY	Poor

TIG welding with **ACHF** (alternating current high frequency) combines the good weld penetration on the negative half cycle with the desired cleaning action of the positive half cycle. High frequency reestablishes the arc which breaks each half cycle.



CURRENT TYPE	ACHF
ELECTRODE POLARITY	Alternating
OXIDE CLEANING ACTION	Yes (once every half cycle)
HEAT BALANCE IN THE ARC	50% at work end 50% at electrode end
PENETRATION PROFILE	Medium
ELECTRODE CAPACITY	Good