

PLASMA ARC TORCH

ABSTRACT

A plasma torch comprises a tubular nozzle having an end wall and an electrode in the nozzle having a nose end facing the end wall. The nose end and end wall provide a plasma gas chamber, and the end wall has a gas chamber outlet opening extending axially therethrough. The gas chamber has an entrance radially outwardly of the outlet opening and the end wall has a plurality of arcuate ribs thereon circumferentially spaced apart about said outlet opening and providing a plurality of arcuate gas directing channels for radially guiding the flow of plasma gas in a swirling flow pattern from the entrance to the outlet opening. The nozzle and nozzle mounting components provide an improved arrangement for cooling the torch tip and producing a gas shield about the plasma jet.

(Figure 2)