

Title (en)

Method and apparatus for producing a plasma flow having a heated and broadened plasma jet.

Title (de)

Verfahren und Vorrichtung zur Erzeugung einer Plasmaströmung mit einem geheizten und erweiterten Plasmastrahl.

Title (fr)

Méthode et appareil pour produire un flux de plasma avec un jet de plasma chauffé et chargé.

Publication

EP 0157407 A2 19851009 (EN)

Application

EP 85103923 A 19850401

Priority

US 59679284 A 19840404

Abstract (en)

A method for heating and broadening the plasma jet exhausting from a plasma gun includes directing the jet along the central axis of a downstream induction coil and passing a high frequency alternating current through the coil, so that the outer layers of the plasma jet are heated more than the center thereof, and the average temperature of the jet is increased. A preferred method for producing the plasma jet includes establishing a plasma discharge in a gas flowing along the central axis of a separate, upstream induction coil, by passing a high frequency alternating current through the coil, and directing the gas flow and at least a portion of the plasma discharge through a throated passage to form a plasma jet. In accordance with a preferred embodiment, an apparatus for carrying out the invention includes a housing having a flow channel with an inlet opening and an outlet opening, a throat region between the inlet and outlet openings, first and second induction coils disposed around the inlet and outlet ends, respectively, of the channel, means for introducing a high velocity flow of gas into the channel, and means for passing high frequency alternating currents through each of the induction coils.

IPC 1-7

H05H 1/34; **H05H 1/46**

IPC 8 full level

H05H 1/42 (2006.01); **H05H 1/34** (2006.01); **H05H 1/46** (2006.01); **H05H 1/40** (2006.01)

CPC (source: EP US)

H05H 1/30 (2013.01 - EP); **H05H 1/34** (2013.01 - EP US); **H05H 1/3484** (2021.05 - EP); **H05H 1/46** (2013.01 - EP); **H05H 1/40** (2013.01 - EP)

Cited by

CN108534549A; EP1734360A4; CN102271452A; DE10140298A1; DE10140298B4; EP0673186A1; US5680014A; EP0977470A3; EP0500491A1; DE4105408C1; EP3374088A4; EP3374087A4; WO9612390A1; US6808755B2; US6913207B2; WO2017083464A1; US11224884B2; US11383252B2; US11911784B2

Designated contracting state (EPC)

CH DE FR GB IT LI NL

DOCDB simple family (publication)

EP 0157407 A2 19851009; **EP 0157407 A3 19861203**; JP S60249300 A 19851209; NO 851357 L 19851007

DOCDB simple family (application)

EP 85103923 A 19850401; JP 7012685 A 19850404; NO 851357 A 19850402