RF Guns

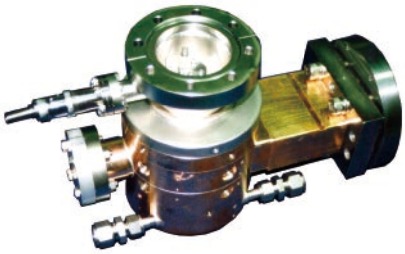
AET has successfully developed various microwave/RF electron guns in the past. They are high gradient RF guns with a thermionic cathode, a triode type microwave electron gun and a micro-miniature microwave/RF electron gun using a coaxial resonator. The triode type microwave electron gun is an epoch-making product which is able to simultaneously eliminate the back bombardment phenomenon, reduce emittance of the electron beam and enables excellent control of the pulse width. While the novel micro-miniature microwave/RF electron gun with a diameter of only 5mm can be used as a electron or X-ray source for industrial and medical applications.

π /2 Mode Side Coupled RF Gun

Structure	Side Coupled Standing Wave
Frequency	2856MHz
RF coupling	β=3.0±0.5
Shunt impedance	90MΩ/m
Beam Energy	2MeV
Beam Current	500mA

To : Argonne National Laboratory / Stanford University

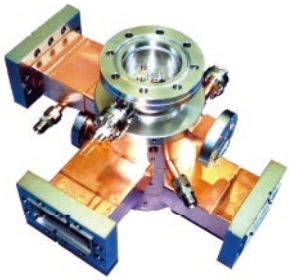
π /2 Mode On-Axis Coupled RF Gun



Structure	On-Axis Coupled Standing Wave
Frequency	2856MHz
RF coupling	β=2.5±0.5
Shunt impedance	60MΩ/m
Beam Energy	2MeV
Beam Current	1A

To : Kawasaki Heavy Industries,Ltd.

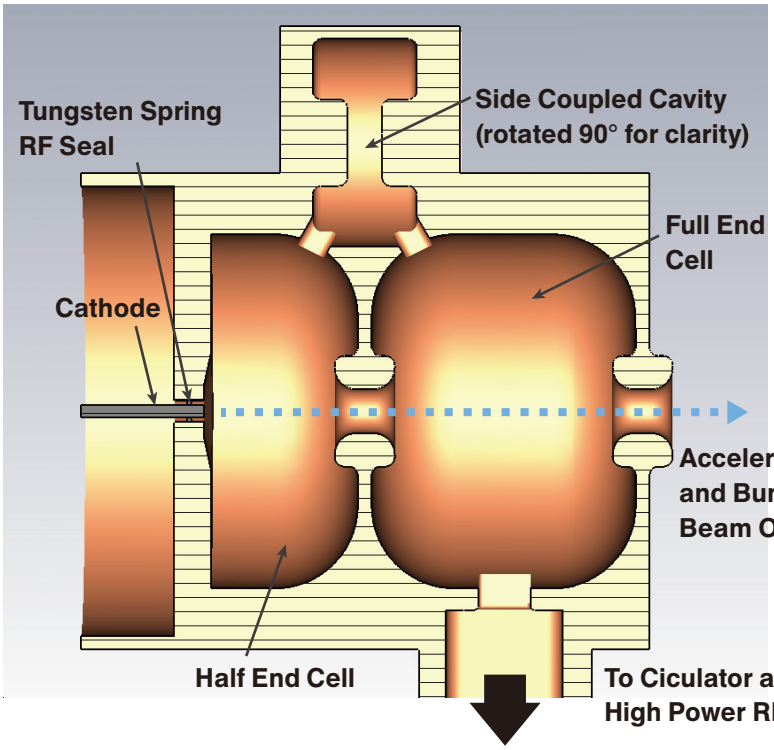
Multi Feed Multi Cavity RF Gun



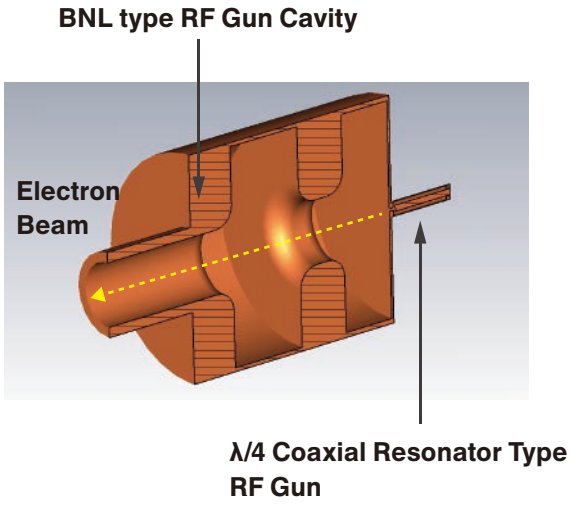
Structure	Multi Feed Multi Cavity
Frequency	2856MHz
RF coupling	β=2.0～4.0
Shunt impedance	55MΩ/m
Beam Energy	3MeV
Beam Current	500mA

To : Argonne National Laboratory

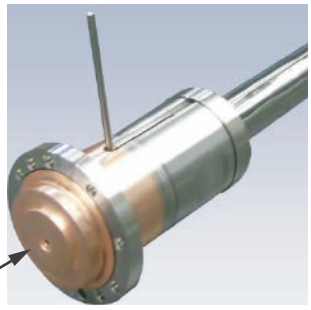
Side coupled RF Gun Structure

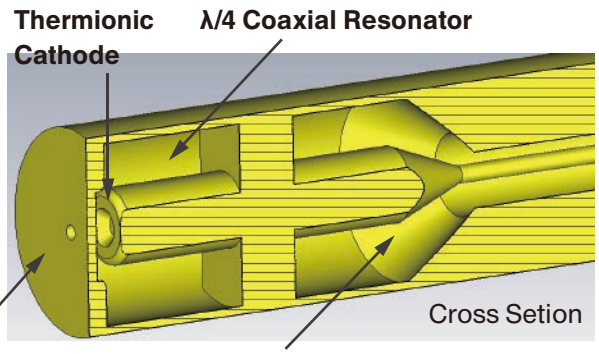


Triode Type RF Gun

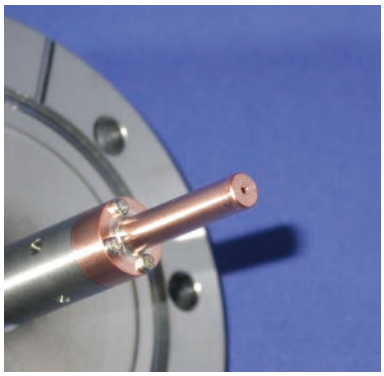


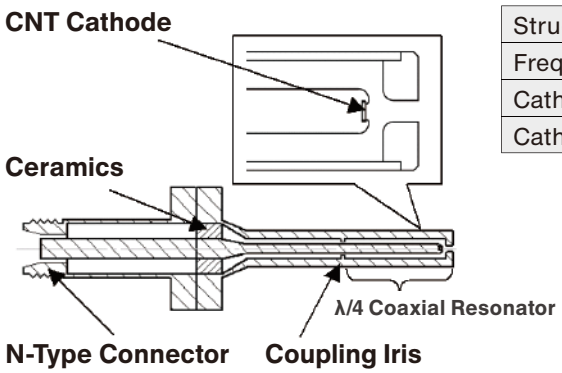
λ/4 Coaxial Resonator Type RF Gun





Micro-Miniature RF Gun





Structure	λ/4 Coaxial Resonator
Frequency	2856MHz
Cathode Diameter	1mm
Cathode Material	CNT

AET, Inc. https://www.aetjapan.com
2-7-6 Kurigi, Asaoku, Kawasaki-city, Kanagawa, Japan
Tel : +81-44-980-0505 Fax : +81-44-980-1515
e-mail : info@aetjapan.com

AET Associates, Inc. https://www.aetassociates.com
20326 Via Volante, Cupertino, CA 95014, U.S.A.
e-mail : info@aetassociates.com

 C-HA111EN-005