

**Cathode:**  
Cylindrical, lanthanated tungsten.

**Constrictor:**  
Enhances the heat transfer.  
Provides cold-wall stabilization.

**Anode:**  
Annular, copper/TZM.

**Plenum chamber:**  
Low speed region where thermodynamic equilibrium is reached

**Vacuum I/F:**  
Mechanical interface to the test section

**Argon/Nitrogen inlet:**  
 $N_2$  is injected in the arc chamber, the discharge is initially ignited in Argon flow.

**Oxygen inlet:**  
 $O_2$  is injected downstream of the arc to prevent erosion of the electrodes

**Mixing screens:**  
Provide mixing between hot  $N_2$  and cold  $O_2$

**C/D nozzle:**  
Expands the flow to hypersonic speed (Mach 4.5)

60 mm

