

System for injecting an air/fuel mixture into a turbomachine combustion chamber, comprising a hollow tubular structure for the flow of the air/fuel mixture into the combustion chamber fuel injection means placed at an upstream end of the hollow tubular structure air injection means placed downstream of the fuel injection means cold plasma generating means placed downstream of the air injection means so as to generate active species in the flow of the air/fuel mixture and to cause prefragmentation of the molecules of the air/fuel mixture and, means for controlling the said cold plasma generating means depending on the speed of operation of the turbomachine.