

Abstract Submitted  
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**Construction of a Full-size Component of the ICRH System<sup>1</sup>** S. MANTOVANI, CIFS, Italy, M. SASSI, CREATE, Italy, B. COPPI, M.I.T. — The ICRH system is an important component of the Ignitor project and all efforts have been made to ensure that its design takes into account the construction experience gained in the most advanced laboratories. The system is designed to operate over a frequency range 80-120 MHz, which is consistent with the use of magnetic fields in the range 9-13 T. The maximum delivered power ranges from 8 MW (at 80 MHz) to 6 MW (at 120 MHz) distributed over 4 ports. Since the transition from a detailed design to the actual construction is not without surprises we have constructed a full size prototype of the VTL between the port flange and the antenna straps, with the external support and precise guiding system. The innovative quick latching system located at the end of the coaxial cable was successfully tested, providing perfect interference with the spring Be-Cu electrical contacts. Special care was given to the finishing of the inox surfaces, and to the TIG welds. Vacuum levels of  $10^{-6}$ , compatible with the limit of material degassing, and electrical tests up to 12 kV without discharges have been obtained. A revision of the other key components of the Ignitor machine has been undertaken, taking into account the experience gained in the fabrication of the corresponding prototypes.

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