

The ITER Torus Vacuum Pumping System / TORUS, le système de pompage sous vide d'ITER

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The plasma in the ITER Torus is pumped by six similar cryogenic pumps. Each cryopump has a 1.8 m diameter and a length of about 3 m and contains cryogenic pressure equipment with a charcoal coated adsorption stage. The cryogenic assemblies are integrated in a casing combined with a large all-metal vacuum valve resulting in an overall weight of 8 tons per pump. ITER is a Nuclear Facility, INB-174, and requirements for the operation in the primary vacuum and the nuclear confinement function demand a high level of quality control and inspection needs during all manufacturing stages.

The presentation gives an overview on the ITER torus vacuum system and duties for pumping the ITER plasma operations. The first torus cryopump has been successfully built and delivered to ITER. The experience gained during the manufacture of the cryopumps together with more than 27 suppliers in the European industry will be a further topic of the talk.