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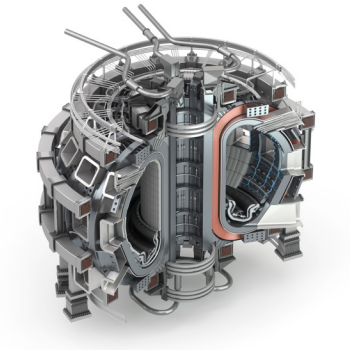
Quick Reference Guide

Vacuum for Nuclear Fusion Technology



Why you need vacuum	To create the right environment for atoms fusion, requiring a confined overheated and ultra-clean plasma.
Typical vacuum level	From 10^{-8} and 10^{-11} mbar
Typical gases	Hydrogen, tritium and deuterium
Suitable vacuum technologies	Ion pumps, Titanium sublimation combination pumps, turbomolecular pumps, scroll pump, leak detectors
Products	– **Turbomolecular pumps and turbo pumping systems:** TwisTorr 84FS, TwisTorr 305FS, TwisTorr 704FS, Turbo-V 2300, TPS-mobile, TPS-flexy. – **Ion and getter pumps:** VacIon Plus Pumps from 150 to 1000 L/s, Titanium Sublimation Combination Ion Pumps (TSP), Non-Evaporable Getter (NEG) Combination Ion Pumps. – **Leak detection:** Helium Mass Spectrometers HLD. – **Vacuum measurement:** Inverted Magnetron & Bayard Alpert Ion Gauge tubes.
Vacuum solutions	Multiple pumping stations along the vacuum chamber.
Typical requirements	– High Pumping speed for light gases – Pump remote operation (up to 100m) – Long lifetime – Resistance to mag-field up to 100 Gauss (10 mT) for turbomolecular pumps – Resistance to radiation up to $5x10^5$ Gray for turbomolecular pumps

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