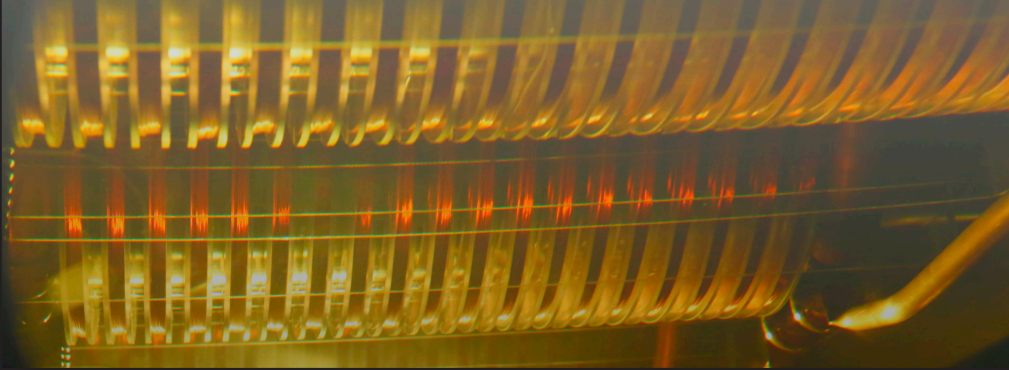


HIGH YIELD NEUTRON GENERATOR

PROVIDING MORE THAN 1×10^{11} DD N/S



PROVIDING NUCLEAR TECHNOLOGY FOR THE BETTERMENT OF HUMANITY



WORLD'S STRONGEST COMMERCIAL NEUTRON GENERATORS

10³ Higher Neutron Yields

10 Years of System Lifetime

300 kV DC High Voltage Power Supply

Applicable in Medical, Defense, and
Energy Industries

100% Computer-Controlled
via User-Friendly Graphical
User Interface

Emergency Shutdown

1-Year Warranty Included

Key Specifications:

Max. Neutron Output:	5×10 ¹¹ n/s
Min. Neutron Output:	1×10 ¹¹ n/s
Lifetime:	10 Years
Neutron Energy:	2.5 MeV
Fusion Reaction Type:	DD
Max. Deuterium Ion Beam:	50 mA
Max. Accelerating Voltage:	300 kV
Generator Dimensions:	4×2×1 m
Generator Weight:	2000 kg

The High Yield Neutron Generator is the highest yield deuterium-deuterium (DD) compact Neutron Generator in the World. The development of PNL's highest intensity Neutron Generator has been funded by venture capital investment and by contracts with the U.S. Army, the Air Force, and the Department of Energy's National Nuclear Security Administration (NNSA).

We have measured greater than 3×10¹¹ DD n/s, and products are available with variable neutron output between 1×10¹¹ and 5×10¹¹ n/s. The system does not use tritium, making the regulatory burden and required shielding significantly reduced.

The High Yield Neutron Generator utilizes a gaseous deuterium target to maximize neutron yield and system lifetime. Because it does not utilize a solid target, the system lifetime is measured in years rather than hours. Our Neutron Generator has demonstrated stable operation in the field for thousands of hours with no degradation of any critical system components.

PNL's Neutron Generator is inherently a continuous output (CW) neutron generator. Pulsing options are available per special request. The system utilizes a deuterium microwave ion source that can generate ion beam currents as high as 50 mA. The ion accelerator is powered by a 300 kV DC high voltage power supply. After acceleration, the beam is focused and transported into the gaseous deuterium target, which measures 100 cm in length and 15 cm in diameter. The neutron source is effectively a line source running down the central axis of the target.

For customers that need an even higher neutron yield, the system can quickly be reconfigured to operate with tritium if the appropriate licenses and shielding are in place. With tritium fuel, this generator will yield 1×10¹³ to 5×10¹³ DT n/s.



Call us to discuss your specific needs.