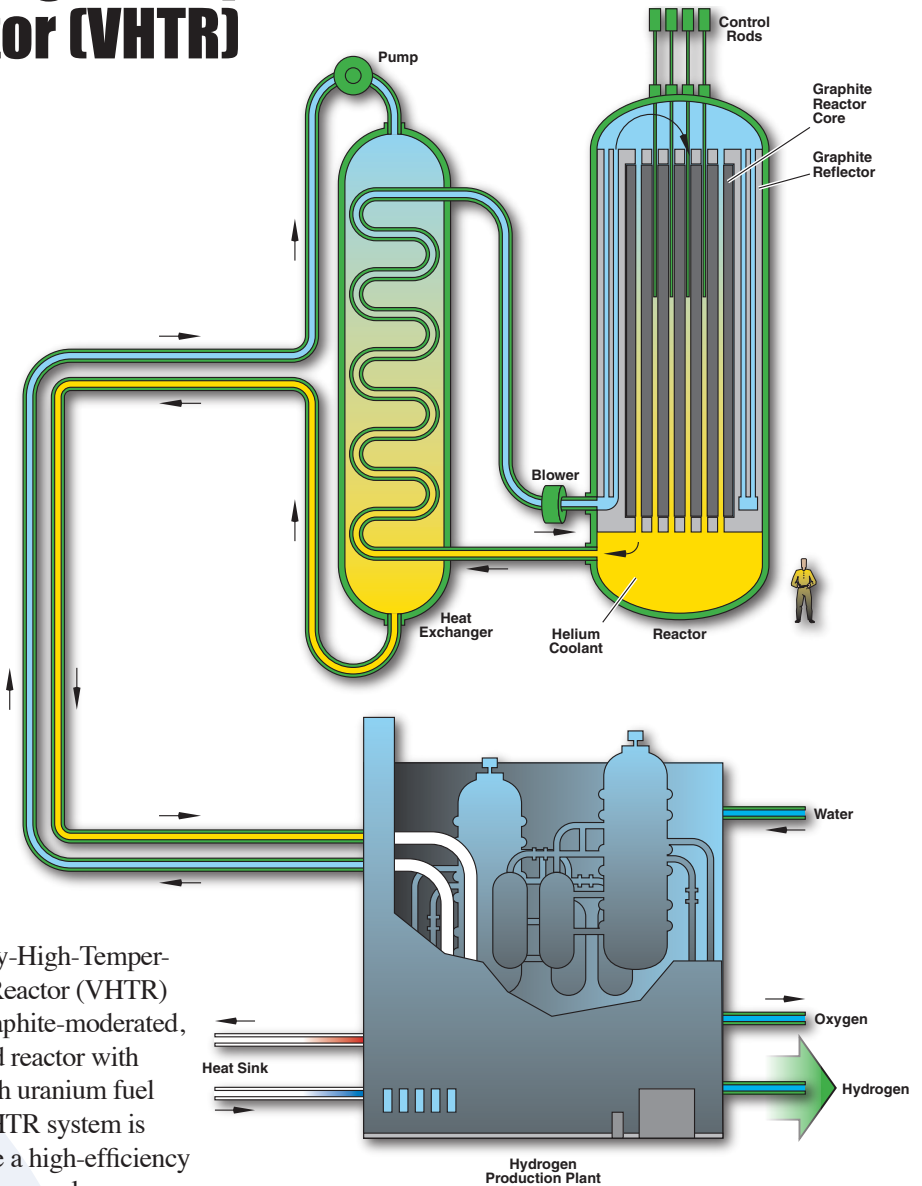


Very High Temperature Reactor (VHTR)

The VHTR offers a broad range of process heat applications and an option for high-efficiency electricity production.



The Very-High-Temperature Reactor (VHTR) is a graphite-moderated, helium-cooled reactor with a once-through uranium fuel cycle. The VHTR system is designed to be a high-efficiency system that can supply process heat to a broad spectrum of high-temperature and energy-intensive, nonelectric processes. The system may incorporate electricity generating equipment to meet cogeneration needs. The system also has the flexibility to adopt uranium/plutonium fuel cycles and offer enhanced waste minimization. Thus, the VHTR offers a broad

range of process heat applications and an option for high-efficiency electricity production, while retaining the desirable safety characteristics offered by modular high-temperature gas-cooled reactors. The reference reactor is a 600 MWth core connected to an intermediate heat exchanger for the delivery

of process heat. The reactor core can be a prismatic block core such as the operating Japanese HTTR, or a pebble-bed core such as the operating Chinese HTR-10. For hydrogen production, the system supplies heat that could be used efficiently by the thermochemical sulfur-iodine process.

The Energy of Innovation



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