

Explora H₂O

The Siemens Explora® family of radiochemistry modules offers a comprehensive line of products for efficient PET compound preparation. All modules are computer controlled using a Windows®-based graphical user interface, offering both convenience and flexibility.

The Explora H₂O module and corresponding targetry permit partial target unloading allowing for inexpensive production of ¹⁵O-H₂O. Partial unloading of the ¹⁵O-O₂ target (~10% of target volume) produces 70-80 mCi (2.59 GBq – 2.96 GBq) of ¹⁵O-H₂O.

The Explora H₂O module is available as a shelf-shielded unit. This allows the module to be placed adjacent to the scanner bed, making the short-lived product (T_{1/2} = 2 min) easier to handle. A unique disposable cassette contains the tubing and vials needed to produce multiple batches of ¹⁵O-H₂O.

Process Description

The Explora H₂O module contains a catalytic converter with pellets of 0.5% palladium deposited on alumina. A stream of helium gas carrying ¹⁵O-O₂ from the target is mixed with hydrogen and air before passing through the converter. ¹⁵O-H₂O is then collected in a vial and automatically dispensed into a syringe or other container after collection.

Typical System Performance

Yield of synthesis (decay corrected to EOB)	70%
Setup time	≤ 5 minutes
Production time (including target unload)	≤ 2 minutes
Clean-up time	≤ 5 minutes
Minimum time between each series of production runs	≤ 10 minutes

Dimensions

Width	19 in (48 cm)
Depth	17 in (43 cm)
Height	10 in (25 cm)
Weight (shielded)	400 lbs (181 kg)



Automated Radiochemistry

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The automated chemistry modules are delivered as laboratory equipment for the production of radiochemicals. No claim is made as to the suitability for human use of the products made with these modules. It is the exclusive responsibility of the user to determine if such products can be used for human subjects according to local and federal regulations, and Siemens disclaims all responsibility in this respect.

ISO 13485 certified, meeting internationally recognized quality standards for good manufacturing practices.

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