Title (en)

ELECTROLYZER

Title (de)

ELEKTROLYSATOR

Title (fr)

ÉLECTROLYSEUR

Publication

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Application

EP 16710518 A 20160211

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- US 2016017596 W 20160211

Abstract (en)

[origin: WO2016153624A1] The electrolytic production of high purity hydrogen and oxygen may include regulating gas pressure in the cathode and anode compartments of the electrolysis apparatus. The supply of water to the apparatus may be through at least one opening on the surface of the apparatus. High pressure hydrogen and oxygen gas may be produced without subjecting the electrolysis apparatus to large pressure differences between the interior and exterior of the apparatus. This may be accomplished by substantially immersing the entire electrolysis apparatus in a high pressure fluid thus making the interior and exterior pressures of the apparatus substantially equal. Two example structures for accomplishing this goal are disclosed. First, the apparatus may be placed in and encapsulated by a fluid-containing vessel that is itself pressurized. Second, the apparatus may be immersed in a deep water environment. Part of the electrical energy used to perform electrolysis may be recovered by capturing the kinetic energy and momentum in high pressure gas flowing in a tube, oxygen for example, and converting it to electricity by causing it to rotate an impeller that is coupled to an electric generator.

IPC 8 full level

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CPC (source: EP)

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