

Title (en)

METHOD AND DEVICE FOR STORING AND RELEASING ENERGY

Title (de)

VERFAHREN UND VORRICHTUNG ZUR SPEICHERUNG UND ABGABE VON ENERGIE

Title (fr)

PROCÉDÉ ET DISPOSITIF DE STOCKAGE ET DE DISTRIBUTION D'ÉNERGIE

Publication

**EP 2577002 B1 20161019 (DE)**

Application

**EP 11758090 A 20110531**

Priority

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Abstract (en)

[origin: WO2012048670A2] Excess energy is used to compress a gas in a closed gas circuit in a gas compressor unit. The gas compressor unit is cooled by means of water in a cooling circuit, wherein the water of the cooling circuit absorbs and stores the thermal energy that arises during the gas compression. The water of the cooling circuit is collected in pressure vessels, to which part of the compressed gas from the closed gas circuit is admitted. In addition, compressed gas is stored in a pressure-accumulating and equalizing vessel. In order to withdraw energy, the hot water from the pressure vessels is supplied, for example, to a turbine as steam and depressurized and can thus do work as steam, wherein said work can be used to generate electricity. The method according to the invention offers the advantage that the temperature and the pressure of the hot water are held constant during the draining process over the complete content of the pressurized water vessels. For this purpose, in addition to the compressed gas already present in the accumulating vessels containing water (steam), compressed gas is conducted from the pressure-equalizing vessels into the accumulating vessels for hot water via a controllable pressure-reducing valve, which is set to the desired working pressure.

IPC 8 full level

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