

Device and method for the flexible use of electricity**Abstract:**

An apparatus for chlor-alkali electrolysis, comprising a cathode half-cell, an oxygen-consuming electrode arranged
5 therein, a conduit for supply of gaseous oxygen to the cathode half-cell and a conduit for purging the cathode half-cell with inert gas, enables the flexible use of power by a method in which chlorine is produced in the apparatus by chlor-alkali electrolysis, wherein, when power supply is
10 low, the oxygen-consuming electrode is supplied with gaseous oxygen, and oxygen is reduced at the oxygen-consuming electrode at a first cell voltage, and when power supply is high, the oxygen-consuming electrode is not supplied with any oxygen, and hydrogen is generated at the
15 cathode at a second cell voltage which is higher than the first cell voltage.